THE MEDIATING ROLE OF AIS SOPHISTICATION ON THE RELATIONSHIP BETWEEN THE ORGANIZATIONAL ATTRIBUTES, IT INVESTMENT, ENVIRONMENTAL CONDITIONS AND ORGANIZATIONAL PERFORMANCE IN SMEs OF SAUDI ARABIA

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ABSTRACT

Accounting Information Systems (AIS) sophistication in Saudi Arabia is not well managed, which leads to sub-optimal organizational performance. From the previous studies, it was obvious that the organizational, technological and environmental context limits the AIS sophistication of SMEs. This study investigated the influence of the organizational factors (importance of IT, owner or manager knowledge, owner or manager education, and owner or manager experience), IT investment and environmental conditions on AIS sophistication and the impact of those factors on the organizational performance of SMEs in Saudi Arabia. This study also investigated AIS sophistication as a mediating variable between the independent variables and the organizational performance of SMEs as a dependent variable in Saudi Arabia. Data were collected in a survey in which 384 questionnaires were distributed to the owners or managers of SMEs in Saudi Arabia, with a 59.6% response rate. Multiple regression analysis was carried out to test the relationships between organizational, technological and environmental contexts and the organizational performance of SMEs. The results of multiple regressions between independent variables and organizational performance indicated that the independent variables had a significant impact on organizational performance. Excluding the relationship of importance of IT and the organizational performance, and the relationship between environmental conditions and the organizational performance. The results revealed that AIS sophistication had a partial mediation association between the independent variables i.e. (owner or manager's knowledge, education and experience), IT investment, and the dependent variable i.e. organizational performance of SMEs in Saudi Arabia. Researchers might adopt future longitudinal studies to investigate and evaluate the extent of the changes at the level of AIS sophistication that influence the organizational performance of SMEs.

Keywords: owner or manager knowledge, IT investment, environmental conditions, accounting information system (AIS) sophistication, organizational performance of SMEs

ABSTRAK

Kecanggihan Sistem Maklumat Perakaunan (AIS) di negara Arab Saudi tidak diurus dengan baik, yang membawa kepada prestasi organisasi yang kurang optimum. Daripada kajian terdahulu atau lepas, jelas bahawa faktor konteks organisasi, teknologi dan alam sekitar mengehadkan kecanggihan AIS PKS. Kajian ini menyiasat pengaruh faktor-faktor organisasi (Kepentingan IT, pemilik atau pengetahuan pengurus, pendidikan pemilik atau pengurus, dan pengalaman pemilik atau pengurus), pelaburan IT dan keadaan persekitaran terhadap kecanggihan AIS dan kesan faktor-faktor tersebut terhadap prestasi organisasi PKS di negara Arab Saudi. kajian ini juga menyiasat kecanggihan AIS sebagai pemboleh ubah pengantara antara pembolehubah bebas dan prestasi organisasi PKS sebagai pemboleh ubah bergantung di negara Arab Saudi. Data dikumpulkan dalam satu instrumen tinjauan di mana 384 soal selidik diedarkan kepada pemilik atau pengurus PKS di negara Arab Saudi, dengan kadar maklum balas atau response sebanyak 59.6%. Analisis regresi berganda telah dijalankan untuk menguji hubungan antara konteks organisasi, teknologi dan persekitaran dan prestasi organisasi PKS. Hasil daripada regresi pelbagai pembolehubah antara pembolehubah bebas dan prestasi organisasi menunjukkan bahawa pembolehubah bebas mempunyai kesan yang signifikan terhadap prestasi organisasi.Tidak termasuk hubungan kepentingan IT dan prestasi organisasi,dan juga hubungan antara keadaan persekitaran dan prestasi organisasi.Keputusan menunjukkan bahawa kecanggihan AIS mempunyai hubungan pengantaraan separa antara pembolehubah bebas iaitu pemilik atau pengetahuan pengurus, pendidikan dan pengalaman, pelaburan IT, dan pemboleh ubah yang bergantung kepada prestasi organisasi PKS di negara Arab Saudi. Para penyelidik mungkin boleh mengamalkan kajian data membujur di masa depan untuk menyiasat dan menilai sejauh mana perubahan pada tahap kecanggihan AIS yang mempengaruhi prestasi organisasi PKS.

Kata kunci: pengetahuan pemilik atau pengurus, pelaburan IT, keadaan alam sekitar, kecanggihan sistem maklumat perakaunan (AIS), prestasi organisasi PKS

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDCIES

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Small and Medium Enterprises (SMEs) have a crucial role in the improvement of the economy (Sitharam & Hoque, 2016). As a strong sector of industrial economy, SMEs contributes to the growth of the economy and to the Gross Demotic Product (GDP) by reducing the level of unemployment rate and poverty rate, and promoting entrepreneurship activity.

For SMEs to perform effectively in developing countries, they must adopt modern technology (Berisha-Namani, 2009; Ongori, 2009). In spite of their important role in these countries, SMEs still encounter many challenges, such as lack of effective human resources, widespread competition, inadequate managerial skills, insufficient use of technology and lack of knowledge; these challenges may negatively influence their performance (Hussain, Farooq & Akhtar, 2012). In this regard, technology can assist in creating substitutes that will help to fill the missing links; using Accounting Information System (AIS) is essential for all organizations generally and in particular for SMEs. Importantly, information is essential for SMEs, in order to cope with the many challenges related to the high level of risk and uncertainty in contemporary competitive markets. Therefore, SMEs must develop AIS and hire well-trained staff with adequate skills and knowledge if they are to perform effectively (Grande, Estebanez & Colomina, 2011). Following this, Sahawneh, Hayek, and Bshayreh (2016) asserted that the AIS contributes to the amount of knowledge and develops the experience which ultimately

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College of Business

Universiti Utara Malaysia

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Kedah DarulAman

Appendix (A)

English Questionnaires

QUESTIONNAIRE

The Factors Influence Organizational Performance: Testing the Mediating Effect of Accounting Information System (AIS) Sophistication of SMEs in Saudi Arabia

Dear Sir / Madam,

This questionnaire was designed to identify the factors that influence on the Accounting Information System sophistication (AIS) and its impact on the organizational performance of SMEs in Saudi Arabia in partial fulfilment of the requirements for the degree of doctoral of philosophy in accounting information systems at University Utara Malaysia (UUM). It is hoped that the results will contribute to knowledge available to technical and accounting departments' owners or managers of SMEs. Therefore, we would like you to spend a little time answering questions related to mentioned title above. Your answers are very important to the accuracy of our study.

If you would like to receive a copy of the summary of the research results, Please write your email address below (or attach a business card):

Email……

INFORMATION GATHERED WILL BE KEPT STRICTLY CONFIDENTIAL

Please return the completed questionnaire using the self-addressed envelope enclosed at your earliest possible convenience.

Thank you for your help.

Mohsen Ali Muthanna Al-Adhreai
E-mail: almuhsen2009@yahoo.com

PART 1:
Demographic

1. Please specify your position: Owner ☐ Manager ☐
2. Gender Male ☐ female ☐
3. Age: ……years.
4. Years of operations / business
   - 1-3 years ◯
   - 4-10 years ◯
   - More than 10 years ◯

Personal information

5. Manufacturing activities sectors
   Please indicate which type of activities that your company involves by choosing from the list below: (just put the symbol tick (✔) :

Furniture	
Rubber and plastic	
Food and beverage	
Chemicals & chemical products	
Non-metallic mineral products	
Basic Metals	
Others (please specify)	

6. Number of employees :
   less than5 ☐ 5 to 50 ☐
   51 to 150 ☐ 151 to 250 ☐

7. Annual sales turnover :
   Less than SR 250, 000 …… ☐
   SR 250, 000 to SR 1.0 million …… ☐
   SR 1.0 million to SR 5.0 million …… ☐
   SR 5.0 million to SR 10.0 million …… ☐
   SR 10.0 million to SR 25.0 million …… ☐
   More than SR 25.0 million…… ☐

PART 2:
Independent variables contains six section

- **Section A:**

Importance of IT

The following statements will help us understand more about Saudi's owners or managers self- perceived information technology importance level of IT. In this section 5 point scale is used to measure your perceptions toward the importance of each

technology identified in your current working environment. Please circle an appropriate number for each statement:

Not Important 1	Less Important 2	Moderate Important 3	Important 4	Very Important 5

Word processing: Computer program that facilitates entry and preparation of documents such as letters or reports.	1	2	3	4	5
Electronic Spreadsheets: software which allows entering either alphanumeric or numeric data and manipulating it either via standard functions or auditor programmed functions.	1	2	3	4	5
Electronic Presentations: software that facilitates the organization and use of text, voice, and/or images to communicate concepts e.g. PowerPoint	1	2	3	4	5
E-Mail: exchange of mail messages via Intranet and/or Internet	1	2	3	4	5
Internet search & retrieval: permit user to search text that is in electronic format and retrieve, view, and print desired text.					
Image processing: conversion of paper documents into electronic from through scanning and the subsequent storage and retrieval of the electronic image.	1	2	3	4	5
Electronic working papers: software which generates at trail balance, lead schedules, and other schedules useful for the recording of evidence in assurance engagement.	1	2	3	4	5
Generalized accounting software: computer program which helps the accountant access client computer data files, extract relevant data, and perform some particular function such as addition or comparison.	1	2	3	4	5
Expert systems: computer software that provides relevant information and / or decision models to assist a human in	1	2	3	4	5

making a decision or accomplishing some task.					
Embedded accounting models / real-time accounting modules: programmed routines incorporated into application program which are designed to perform accounting function.	1	2	3	4	5
Database search & retrieval: software uses relational structures between data files and facilitates varying data retrieval and use.	1	2	3	4	5
Simulation software: abstraction of some aspect of real system which is based on using a model to evaluate the reliability of information from real world sources. This may be thought of as a very high-level analytical review of a company's data.	1	2	3	4	5
Flowcharting / Data modeling: software using the source code version of programs to produce flowcharts program logic.	1	2	3	4	5
Computer- Aided Systems Engineering (CASE) Tools: integrated package of computer tools that automate important aspects of the software development process to increase software development and quality of developed t systems.	1	2	3	4	5
Cooperative Client/ Server Environment: distribution of processing functions between two or more computers as in a local area network.	1	2	3	4	5
Workflow technology: software and hardware that facilitates the capture of data in the workplace to improve management of the business. For example, using an electronic scanner to record the movement of materials in a warehouse based on the barcodes on the materials.	1	2	3	4	5
Groupware: software that permits users to categorize, store, and share data among themselves as well as communication with each other about that data, preferably in a real-time mode.	1	2	3	4	5

Database design & installation: software that permits the creation and use of relational structures between data files.	1	2	3	4	5
Time Management & billing systems: computer program which assists in capturing, managing, billing, and reporting time sent on professional activities	1	2	3	4	5
Test data: a set of transactions that processed to test the programmed or procedural operations of computer applications.	1	2	3	4	5
Small business accounting Software: accounting software package used to record transactions, maintain general and subsidiary ledgers, and generate financial statements.	1	2	3	4	5
Tax return preparation software: software perhaps incorporating expert knowledge, which assists the accounting in identifying relevant information, capturing and recording it in a manner that can be filed with tax authorities.	1	2	3	4	5
Digital communications: bandwidth-telecommunications devices used to facilitate the rapid and undeterred transfer of data.	1	2	3	4	5
EDI-Traditional: transfer of data or payments electronically between computers using software.	1	2	3	4	5
EDI-Web Based: the extension to XML-based EDI.	1	2	3	4	5
Wireless communications: the ability to transfer digital data without the use of cables, twisted-pair, or fibre optics.	1	2	3	4	5
Agent technologies: programmed modules that are given certain levels of authority and autonomy to act on behalf of their '' supervisor'', such as to decide whether to order more inventory and from which supplier.	1	2	3	4	5
Encryption software: changing data using some type of encoding/ decoding algorithm so that unauthorized persons who can access the encrypted data will not be able to read it or use it.	1	2	3	4	5

Firewall software/ hardware: part of '' security technology'' that enforces an access control policy between two networks.	1	2	3	4	5
User authentication systems: devices used to verify that a system user is who he/ she claim to be.	1	2	3	4	5
Intrusion detection & monitoring: part of '' security technology'' that identifies unauthorized requests or services.	1	2	3	4	5
Internal network configurations: linkage of individuals and data through hardware and software systems that permits the exchange of various types of data.	1	2	3	4	5
External network configurations: intranet, extranet, and internet access devices that enable users physically separated from the server to access it.	1	2	3	4	5
Enterprise resource planning: business-wide information systems that cross boundaries.	1	2	3	4	5
Application service providers: companies which host (provide hardware, software and connectivity) for specific business applications.	1	2	3	4	5

- **Section B:**

Owner or Manager Knowledge:

Please indicate the level of your knowledge of the following accounting techniques and IT applications, using a five-point scale from 1 = no knowledge to 5 = extensive knowledge.

Financial accounting techniques	1	2	3	4	5
Management accounting techniques	1	2	3	4	5
Word-processing package	1	2	3	4	5
Spreadsheet package	1	2	3	4	5

Database package	1	2	3	4	5
Accounting-based applications	1	2	3	4	5
Computer-assisted production management	1	2	3	4	5
E-mail	1	2	3	4	5
Internet searching	1	2	3	4	5

- **Section C1:**

Owner or Manager Education

1. What is your Highest Education Level?

- High School/GED …….……. ☐
- Doploma…….…….. ☐
- Graduate Degree…….. ☐
- Master Degree…….….. ☐
- Other (please specify) …..…….. ☐

2. Please choose one category that best describes your area of education:

- Other qualification (please describe) …… ☐
- Science and Mathematics (biology, chemistry, applied mathematics)... ☐
- Humanities (art, sociology, history, languages) …….……... ☐
- Computer Science (information systems or technology) …….. ☐
- Business (accounting, finance, management, marketing)…….. ☐

- **Section C 2:**

Owner or Manager Experience

1. Please choose one category that describes your previous work experience before you became the owner or manager of this organization.

- No previous experience …….……. ☐
- Other, please specify…… ☐
- Craftsman…….…….. ☐
- Retailing …….…….…… ☐
- Accounting/Finance/Banking/Management… ☐

2. How many years of previous work experience did you have before you became the owner or manager of this organization?

- Less than 1 year …….. ☐
- 1 to 5 years …….…… ☐
- More than 5 years up to 10 years ☐
- More than 10 years up to 15 years ☐
- More than 15 years…… ☐

- **Section C3:**

IT investment objectives

What is your opinion on the contribution of IT in achieving the following objectives? Please allocate a total of 100 points to indicate the relative degree of contribution, making sure that each column adds up to 100.

Objectives	**Contribution of Information Technology**		
	3 years ago	Present	3 years later
Cut operating costs.			
Gain competitive advantage and increase sales/ market share.			
Invest in information infrastructure (e.g. website, e-commerce, and e-mail systems) to facilitate information access and communication.			
Invest just to compete, simply because other competitors are doing it.			
Total	**100**	**100**	**100**

- **Section C 4:**

Environmental Condition

❖ We are interested in your company's relationship to its external environment. Please rate the characteristics or behavior of various sectors on the following 5-point scale.

	Unpredictable			Easy to predict	
The actions of your competitors are…	1	2	3	4	5
	Unpredictable			Easy to predict	
The demand for your product is…	1	2	3	4	5
	Very Frequently			Very rarely	
To remain competitive, your firm must					

change its marketing practices…	1	2	3	4	5
	Very rapid			Very slow	
The rate of technological evolution in your industryis…	1	2	3	4	5
	Very dissatisfied			Very satisfied	
Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company...	1	2	3	4	5
	Strongly disagree			Strongly agree	
The legal, economical, and political constraints surrounding your company have remained about the same…	1	2	3	4	5

Part 3:

Mediator Variable AIS Sophistication:

Among the following AIS applications, please tick the applications presently implemented in your firm. (You may tick one or more boxes if appropriate).

☐	General ledger	☐	Cost accounting
☐	Account receivable	☐	Financial accounting
☐	Accounts payable	☐	Financial analysis
☐	Billing	☐	Budgeting
☐	Order entry	☐	Project management
☐	Purchasing	☐	Production variance
☐	Inventory	☐	Budget variance
☐	Production planning and control	☐	Modeling
☐	Payroll	☐	Personnel management

Part 4:

Organizational Performance of SMEs

During the last three years, please to give your opinion the following statements:

Decreased Significantly	Decreased	No Change	Increased	Increased significantly
1	2	3	4	5

Level of the productivity	1	2	3	4	5
Product quality	1	2	3	4	5
Number of deliveries on time	1	2	3	4	5
Sales growth rate	1	2	3	4	5
Operating profit growth rate	1	2	3	4	5
Cash flow growth rate	1	2	3	4	5

Please use this space to write any comments you wish to make

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Thank you for spending your precious time answering the questionnaire. Your contribution to this study is highly appreciated.

Appendix (B)
Arabic Questionnaires

Universiti Utara Malaysia
College of Business
Accountancy Department

جامعة الشمال الماليزية
كلية التجارة
قسم المحاسبة

بسم الله الرحمن الرحيم

استبيان

العوامل التي تؤثر على تطور نظام المعلومات المحاسبي وتأثيرها على الأداء التنظيمي للشركات الصغيرة و المتوسطة في المملكة العربية السعودية.

السلام عليكم ورحمة الله وبركاته
عزيزي المالك أو عزيزي مدير الشركة

لقد صمم هذا الاستبيان للتعرف على العوامل التي تؤثر على تطور نظام المعلومات المحاسبي وتأثيرها على الأداء التنظيمي للشركات الصغيرة و المتوسطة في المملكة العربية السعودية. وذلك من أجل إكمال المتطلبات اللازمة لنيل درجة الدكتوراه في نظم المعلومات المحاسبية في جامعة الشمال الماليزية. على أمل أن تساهم نتائج هذا البحث في الجانب المعرفي التطبيقي بتطوير نظم المعلومات وأقسام المحاسبة في الشركات الصغيرة و المتوسطة. لذلك فإنني أرغب من حضرتكم أن تمنحوني قليلا من وقتكم الثمين للإجابة على أسئلة الاستبيان المتعلق بعنوان البحث أعلاه، إجابتكم مهمة جدا و ذلك من أجل دقة دراستنا.

إذا كنت ترغب في الحصول على نسخة من ملخص نتائج البحث فضلا اكتب عنوان بريدك الالكتروني أسفل هذا ،) أو ارفق كرت العمل الخاص بك (:

البريد الالكتروني:...

البيانات التي سيدلي بها المتعلقة بهذا الاستبيان ستكون محاطة بالسرية التامة .

لطفاً إعادة الاستبيان المرفق بعد تعبئته في أقرب وقت ممكن و ذلك باستخدام الظرف المرفق بوضعه داخل الظرف و إغلاق الظرف.

شكرا جزيلا لمساعدتكم .

اسم الباحث: محسن علي مثنى الضرعي
البريد الالكتروني: almuhsen2009@yahoo.com
الهاتف المحمول:

القسم الأول

المعلومات الشخصية :

8. لطفاً تحديد منصبك في الشركة مالك ☐ مدير ☐

9. الجنس : ذكر ☐ أنثى ☐

10. العمر : ....سنة .

11. عدد السنوات من العمل التجاري

- من سنة الى 3 سنوات. ☐
- من 4 إلى 10 سنوات. ☐
- أكثر من عشر سنوات. ☐

بيانات عامة عن الشركة :

12. قطاعات الأنشطة الصناعية

يرجى تحديد أي من الأنشطة التي تمارسها شركتك و ذلك باختيارك من القائمة التالية بوضع إشارة (✓) امامها :

أثاث ومواد مكتبية	
مطاط وب	
مشروبات (مرطبات) و أغذية	
مواد كيميائية أو منتجات كيميائية	
المنتجات معدنية	
معادن أساسية	
أنشطة أخرى (حدد فضلاً ذكرها)	

13. عدد الموظفين :

- أقل من 5 ☐ من 5 إلى 50 ☐
- من 51 إلى 150 ☐ من 151 الى 250 ☐

14. المعدل السنوي لدوران المبيعات :

- أقل من 25,000 ريال سعودي .... ☐
- من 25,000 ريال سعودي و حتى 1 مليون ريال سعودي....... ☐
- من 1 مليون ريال سعودي و حتى 5 مليون ريال سعودي...... ☐
- من 5 مليون ريال سعودي و حتى 10 مليون ريال سعودي .... ☐
- من 10 مليون ريال سعودي و حتى 25 مليون ريال سعودي... . ☐
- أكثر من 25 مليون ريال سعودي.................................... ☐

القسم الثاني

المتغيرات المستقلة تحتوي أو تتضمن ستة أسئلة على النحو الآتي :

- **فقرة أ :**

أهمية تكنولوجيا المعلومات

الفقرات التي سوف تستفسر عن الفهم المكثف فيما يتعلق بإدراك المحاسبين أو المدراء في المملكة العربية السعودية لتكنولوجيا المعلومات والمستوى المطلوب لتكنولوجيا المعلومات .

لطفاً حدد مدى أهمية تكنولوجيا المعلومات باختيار الرقم المناسب حسب الترتيب من 1-5 وذلك بوضع دائرة كما هو موضح أدناه :

1	2	3	4	5
ليست مهمة	قليلة الأهمية	متوسطة الأهمية	مهمة	مهمة جدا

معالجة الكلمات (Word Processing) وهو برنامج حاسوبي يسهل إدخال وإعداد المستندات مثل الرسائل والتقارير , مثال على ذلك برنامج معالج المستندات مايكروسوفت وورد.	5 4 3 2 1
الجداول الإلكترونية (Electronic, Spreadsheets) وهو برنامج يمكن من إدخال البيانات الحسابية والكتابية ومعالجتها بالطرق الرياضية أو بالطرق المحاسبية أو الإحصائية، مثال على ذلك برنامج معالج البيانات الحسابية (Microsoft Excel)	5 4 3 2 1
برنامج العرض الإلكتروني (Electronic Presentation) وهو برنامج يسهل تنظيم واستخدام الألوان والصوت وكذلك الصور لتوصيل الأفكار والمفاهيم. مثال على ذلك برنامج (PowerPoint)	5 4 3 2 1
البريد الإلكتروني (E-mail) وهو عبارة عن وسيلة لتبادل الرسائل الإلكترونية من خلال الشبكة العنكبوتية (الإنترنت) أو شبكة محلية (إنترانت).	5 4 3 2 1
البحث في الإنترنت والتصفح (Internet search & retrieval) يسمح للمستخدم بالبحث عن نص ومعلومات ووثائق في الشبكة الإلكترونية ، مثال على ذلك التصفح الإلكتروني والعرض والطباعة للنص المراد طباعته .	5 4 3 2 1
معالجة الصور (Image processing) وهي تلك التقنية التي تسمح بتحويل المستندات الورقية إلى مستندات إلكترونية وذلك من خلال التصوير بواسطة آلة الماسح الضوئي (scanner) والتي تسمح بتخزين وحفظ وتصفح الصورة على هيئة صورة إلكترونية.	5 4 3 2 1
أوراق العمل الإلكترونية (Electronic working papers)	5 4 3 2 1

	وهي برامج تنظم ارصدة المراجعة السابقة وتلك التي تداول اخرى المؤيدة لتسجيل العمل في المراجع بصورة دقيقة وآمنة .
5 4 3 2 1	**برمجيات المحاسبة العامة (Generalized accounting software)** وهي عبارة عن برامج حاسوب تساعد المحاسب على القيام بعمليات التحليل من خلال الحاسوب واخذ البيانات المتعلقة به والقيام ببعض العمليات كالاضافة والمقارنة.
5 4 3 2 1	**انظمة الخبيرة (Expert systems)** وهي برامج حاسوبية تعمل على توفير المعلومات ذات الصلة أو اتخاذ القرار من قاعدة المعرفة في اتخاذ القرار أو انجاز بعض المهام.
5 4 3 2 1	**نماذج المحاسبة المعتادة / الوقت الحقيقي اصدارات المحاسبة** **(Embedded accounting models / real-time accounting modules)** برامج روتينية تعمل جنبا الى جنب مع برامج التطبيق مصممة لاجل الرقابة والعمل المحاسبي.
5 4 3 2 1	**البحث في قاعدة البيانات واسترجاعها (Database search & retrieval)** وهي برامج تستخدم تركيب مترابط من ملفات البيانات المختلفة والتي تسهل استرجاع البيانات واستخدامها.
5 4 3 2 1	**برامج المحاكاة (Simulation software)** وهو خصائص بعض مزايا النظام الاصلي الذي يعتمد على استخدام نموذج معين للتقييم مثل قيمة المعلومة ولكن بالرجوع الى المصادر العلمية ونماذج تتوفر في أخرى مستويات التحليل ومراجعة بيانات الشركة .
5 4 3 2 1	**نمذجة البيانات (Flowcharting / Data modeling)** وهي برامج حاسوبية تستخدم لاصدار رسوم خرائط البرامج وتمثيل سلوك البرامج بطريقة منطقية ومعبرة.
5 4 3 2 1	**أدوات هندسة أنظمة الحاسوب المساعدة** **(Computer- Aided Systems Engineering (CASE) Tools)** وهي مجموعة متكاملة من الأدوات الحاسوبية التي تؤتمت جوانب هامة من عمليات تطوير البرمجيات التي تهدف الى تطوير برامج التي في الانظمة الحاجة وتطوير نظم الجودة والنظم المستخدمة.
5 4 3 2 1	**العميل او الزبون التعاون والبيئة المتعاونة.** **Cooperative Client/ Server Environment** وهي عبارة عن عمليات تجهيز تتوزع بين حاسوبين او جهازي كمبيوتر او اكثر في الشركة العامة تتصل .

5 4 3 2 1	**التدفق التكنولوجي (Workflow technology)** برامج وجهاز الكتروني يقوم بتسهيل النقاط البيانات في مكان العمل لتطوير العمل الاداري على سبيل المثال :- استخدام الة المسح الضوئي (scanner) الالكترونية لتسجيل الحركات المالية في المخزن بالاعتماد على الرقم التسلسلي لهذه المواد.
5 4 3 2 1	**مجموعة البرامج الالكترونية (Groupware)** برامج حاسوبية صممت لمستخدمين متعددين لتنظيم وتخزين ومشاركة البيانات والمعلومات مع بعضهم البعض ولكي يتمكنوا من التواصل والاتصال مع بعضهم البعض وارسال واستقبال الملفات البيانات وذلك في الوقت المحدد والمناسب.
5 4 3 2 1	**تصميم قواعد البيانات وتركيبها (Database design & installation)** البرمجيات التي تستخدم في انشاء واستخدام تركيب ترابط بين ملفات البيانات.
5 4 3 2 1	**إدارة الوقت وأنظمة الفوترة (Time Management & billing systems)** برامج حاسوبية تساعد في تخطيط وإدارة وتقدير وتبويب الوقت الذي يقضى في الانشطة المهنية.
5 4 3 2 1	**اختبار البيانات (Test data)** مجموعة من المهام التي يتم معالجتها بواسطة مدقق حسابات لاختبار العمليات البرمجية او اجرائية استعمال الحاسوب.
5 4 3 2 1	**برامج حاسوبية صغيرة للعمل المحاسبي (Small business accounting Software)** وهو عبارة عن برامج حاسوبية صدرت محاسبيا يستخدم لتسجيل العمليات والحفاظ على سجل الاستاذ العام وتوفير عنه وكذلك تحقيق واعداد البيانات المالية.
5 4 3 2 1	**برمجيات اعداد الاقرار الضريبي (Tax return preparation software)** وهو عبارة عن برامج بسيطة تساعد في دمج المعرفة التخصصية والتي تساعد المحاسب او الموظف في تمييز المعلومات ذات العلاقة لحصرها وتسجيلها بطريقة تؤدي الى تحفظها بالتزامن مع صلاحية الضرائب.
5 4 3 2 1	**الاتصالات الرقمية (Digital communications)** هي أجهزة اتصال تستخدم لتسهيل وصول البيانات بسرعة فائقة.
5 4 3 2 1	**التبادل الالكتروني للبيانات (EDI-Traditional)** هي عملية نقل البيانات أو المدفوعات بين أجهزة الكمبيوتر باستخدام برامج الحاسوب.
5 4 3 2 1	**التبادل الالكتروني للبيانات عبر الانترنت (EDI-Web Based)** هي عملية تستوعب وسائط نظام (XML) معتمدة على التبادل الالكتروني للبيانات.
5 4 3 2 1	**الاتصالات اللاسلكية (Wireless communications)**

المقدرة على ارسال وتحويل البيانات الرقمية من دون استخدام أي اسلاك او وصلات معدنية او سلكية.	
تكنولوجيا الوكيل (Agent technologies) برامج وإصدارات تعطي مستوى معين من الصلاحية للمستخدم من القيام بالعمل نيابة عن رئيس عمله. مثال: في اتخاذ قرار الربط الأتوماتيكي للشراء للمخزون ومن أي مورد يطلب ذلك.	1 2 3 4 5
برامج التشفير او الترميز (Encryption software) تغيير المعلومات او البيانات وذلك باستخدام نوع معين من الترميز او التشفير وذلك لمنع الشخص غير المخول له أو الذي ليس لديه صلاحية من إختراق البيانات وبالتالي لن يستطيع ذلك الشخص أن يقرأ او يستخدم تلك البيانات.	1 2 3 4 5
برامج وأجهزة الجدار الناري (Firewall software/ hardware) هي جزء من أمن المعلومات التي تفرض باستخدام سياسة التحكم بين شبكتين.	1 2 3 4 5
نظم التحقق من المستخدم (User authentication systems) أجهزة تستخدم للتأكد من أن مستخدمي تلك الانظمة هم المخولون باستخدام.	1 2 3 4 5
كشف التسلل والمراقبة (Intrusion detection & monitoring) جزء من أمن المعلومات التي تقوم بالتعرف على الطلبات أو الخدمات غير المصرح بها.	1 2 3 4 5
مكونات الشبكة الداخلية (Internal network configurations) هي ربط افراد والبيانات من خلال الاجهزة والبرامج الالكترونية التي تسمح بتبادل أنواع متعددة من البيانات.	1 2 3 4 5
مكونات الشبكة الخارجية (External network configurations) شبكة محلية، شبكة خارجية، أجهزة شبكة الانترنت مفعلة تسمح للمستخدمين ما بين الشركات بغض النظر عن السيطرة الفعلية للدخول الى تلك الشبكات.	1 2 3 4 5
نظام تخطيط موارد المؤسسات (Enterprise resource planning) عبارة عن أنظمة معلومات أعمال واسعة تتجاوز حدود الشركة.	1 2 3 4 5
مزودي خدمة التطبيق (Application service providers) هي شركات تقوم بتوفير الاجهزة الالكترونية والبرامج الالكترونية وخدمة الاتصال من أجل تطبيقات أعمال محددة.	1 2 3 4 5

- **الفقرة ب :**

<u>المعرفة للمالك أو المدير :</u>

لطفاً تحديد مستواك المعرفي للتقنيات وتطبيقات تكنولوجيا المعلومات الآتية بحسب الترتيب من 1- 5 بحيث تتدرج من الرقم (1) يعني عدم وجود معرفة إلى الرقم (5) يعني معرفة شاملة، وذلك بوضع دائرة على الرقم الذي يتناسب مع

معرفتكم:

تقنيات المحاسبة المالية	**5 4 3 2 1**
تقنيات المحاسبة الإدارية	**5 4 3 2 1**
تطبيق معالج الكلمات	**5 4 3 2 1**
حزم برنامج الجدولة	**5 4 3 2 1**
حزم قاعدة البيانات	**5 4 3 2 1**
تطبيقات تعتمد على المحاسبة	**5 4 3 2 1**
إدارة حسابات بمساعدة الحاسوب	**5 4 3 2 1**
البريد الإلكتروني	**5 4 3 2 1**
البحث بالإنترنت	**5 4 3 2 1**

- **فقرة ج 1 :**

<u>المستوى التعليمي للمالك أو المدير</u>

1. ما هو أعلى مستوى تعليمي لك؟ ضع إشارة ✓ أمام الجواب المناسب:

– ثانوية عامة.. ☐
– دبلوم.. ☐
– خريج درجة البكالوريوس.. ☐
– خريج درجة الماجستير.. ☐
– أخرى (لطفاً حدد ذلك...).

2. لطفاً اختيار الفئة المناسبة التي تحدد مجال تعليمك :-

مؤهلات أخرى (لطفاً اذكرها...).
العلوم والرياضيات (علم الأحياء، الكيمياء، الرياضيات التطبيقية) ☐
العلوم الإنسانية (فن، علم الاجتماع، تاريخ، لغات) ☐
علوم الكمبيوتر (نظم معلومات أو تكنولوجيا) ☐
أعمال (محاسبة، مالية، إدارة، تسويق) ☐

- **فقرة ج 2 :**

<u>خبرة المالك أو المدير :</u>

1. لطفاً اختيار فئة واحدة التي تبين خبرتك السابقة قبل أن تصبح مالكاً أو مديراً للمنشأة أو المنظمة التي تعمل فيها:-

- يوجد خبرات سابقة .... ☐
- أخرى ، من فضلك حددها .... ☐
- المهن الحرفية .... ☐
- البيع بالتجزئة .... ☐
- محاسبة / مالية/ الأعمال المصرفية/ إدارة .... ☐

2. لطفاً حدد عدد السنوات في خبرتك السابقة قبل أن تصبح مالكاً أو مدير الشركة او مؤسستك :-

- أقل من سنة واحدة .... ☐
- من سنة واحدة إلى 5 سنوات .... ☐
- أكثر من 5 سنوات وحتى 10 سنوات .... ☐
- أكثر من 10 سنوات وحتى 15 سنه .... ☐
- أكثر من 15 سنه .... ☐

- **الفقرة ج 3 :**

<u>أهداف استثمار في تكنولوجيا المعلومات :</u>

ما هو رأيك في ما يتعلق بمستوى أهمية تكنولوجيا المعلومات لتحقيق الأهداف التالية ؟
لطفاً القيام بتوزيع ما جملته مائة نقطة على سلسلة لتحقيق استثمار في تكنولوجيا المعلومات في تحقيق تلك الأهداف :
يجب عليك التأكد من ان كل عمود من الإجابات يتصل جملته الى 100 نقطة .

الأهداف	مستوى أهمية تكنولوجيا المعلومات		
	بعد 3 سنوات قادمة	أو الوقت الحاضر	3 سنوات مضت
تخفيض التكاليف التشغيلية.			
الحصول على ميزة تنافسية لزيادة المبيعات /لزيادة حصة السوق.			
الاستثمار في البنية التحتية لتكنولوجيا المعلومات)على سبيل المثال : الموقع الالكتروني ، التجارة الالكترونية ، وأنظمة البريد الالكتروني(وذلك لتسهيل الحصول على المعلومات والاتصالات.			
الاستثمار في مراقبة المنافس ببساطة لأن المنافسون الآخرون يقومون بذلك.			
إجمالي	100	100	100

- **الفقرة ج 4 :**

<u>الوضع الحالي :</u>

❖ نحن مهتمون بمعرفة علاقة شركتك بالبيئة الخارجية ، من فضلك حدد معدل الخصائص أو التصرفات و السلوكيات للقطاعات المختلفة حسب الترتيب الآتي من 1 الى 5 (وذلك بوضع دائرة على الاختيار المناسب) :

	غير متوقع			من السهل التنبؤ به	
ردود فعل المنافسين لديك هي	1	2	3	4	5
	غير متوقع			من السهل التنبؤ به	
الطلب على منتجات الشركة هو ...	1	2	3	4	5
	متكرر جداً			نادر جداً	
لا يتوقع المنافسون , على شركتك أن تغير ممارساتها التسويقية.	1	2	3	4	5
	سريع جداً			بطيء جداً	
إن نسبة التطور التقني في صناعتك.	1	2	3	4	5
	غير راض جداً			راض جداً	
رضا عملائك فيما يتعلق بعدد المنتجات و الخدمات التي تم تسويقها خلال الخمس السنوات الماضية في شركتك.	1	2	3	4	5
	غير موافق بشدة			موافق بشدة	
القوانين القانونية و الاقتصادية و السياسية المحيطة بشركتك قوية كما هي ...	1	2	3	4	5

القسم الثالث:

المتغير المستقل تطور نظام المعلومات المحاسبي:

في ما يلي تطبيقات نظام المعلومات المحاسبي

لطفاً ضع علامة صح (✔) أمام التطبيقات المطبقة أو المستخدمة في شركتك :-

محاسبة التكاليف	
محاسبة مالية	
التحليل المالي	
وضع الميزانية	
إدارة المشاريع	
تقارير الانتاج	
تقارير الميزانية	
العرض	
إدارة شؤون الموظفين	

سجل الاستاذ العام	
حسابات الدائنين أو المدينين	
الحسابات المستحقة	
الفوترة	
ادخال الطلب	
المشتريات	
المخزون	
تخطيط الانتاج و التحكم	
قائمة الرواتب	

القسم الرابع :

الأداء التنظيمي للشركات الصغيرة والمتوسطة

من خلال الثلاث السنوات الأخيرة من فضلك أعطنا رأيك في التغيير في الشركة (بوضع دائرة على الخيار الذي يتناسب مع شركتكم):

1	2	3	4	5
نقص بشكل ملحوظ	نقص	لا تغيير	ازدياد	ازدياد بشكل ملحوظ

مستوى الإنتاجية	5 4 3 2 1
جودة المنتج	5 4 3 2 1
عدد التوصيات أو التسليمات في الوقت المناسب	5 4 3 2 1
معدل نمو المبيعات	5 4 3 2 1
معدل نمو الربح التشغيلي	5 4 3 2 1
معدل نمو تدفق السيولة النقدية	5 4 3 2 1

من فضلك استخدم هذه المساحة للكتابة تعليقك التي تريدها

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شكراً جزيلاً لكم على منحكم الوقت الغالي والثمين في الإجابة على أسئلة الاستبيان

خالص تحياتي ،،،

Appendix (C)

Correlation

Correlations

Notes

Output Created		AST 18:28:58 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=IIT OMK OMX OME IN EC AIS OP /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00 00:00:00.062
	Elapsed Time	00 00:00:00.100

[DataSet1] C:\Users\aziz\Desktop\Orginal Data (4) -.sav

Correlations

		IIT	OMK	OMX	OME	IN	EC	AIS	OP
IIT	Pearson Correlation	1	.365**	.178**	.053	.222**	.127	.282**	.198**
	Sig. (2-tailed)		.000	.007	.424	.001	.056	.000	.003
	N	229	229	229	229	229	229	229	229
OMK	Pearson Correlation	.365**	1	.356**	.284**	.166*	.073	.345**	.381**
	Sig. (2-tailed)	.000		.000	.000	.012	.273	.000	.000
	N	229	229	229	229	229	229	229	229
OMX	Pearson Correlation	.178**	.356**	1	.331**	.183**	.006	.368**	.517**
	Sig. (2-tailed)	.007	.000		.000	.005	.924	.000	.000
	N	229	229	229	229	229	229	229	229
OME	Pearson Correlation	.053	.284**	.331**	1	.183**	.058	.321**	.408**
	Sig. (2-tailed)	.424	.000	.000		.006	.381	.000	.000
	N	229	229	229	229	229	229	229	229
IN	Pearson Correlation	.222**	.166*	.183**	.183**	1	-.005-	.554**	.418**
	Sig. (2-tailed)	.001	.012	.005	.006		.934	.000	.000
	N	229	229	229	229	229	229	229	229
EC	Pearson Correlation	.127	.073	.006	.058	-.005-	1	-.008-	.014
	Sig. (2-tailed)	.056	.273	.924	.381	.934		.902	.829
	N	229	229	229	229	229	229	229	229
AIS	Pearson Correlation	.282**	.345**	.368**	.321**	.554**	-.008-	1	.590**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.902		.000
	N	229	229	229	229	229	229	229	229

OP	Pearson Correlation	.198**	.381**	.517**	.408**	.418**	.014	.590**	1
	Sig. (2-tailed)	.003	.000	.000	.000	.000	.829	.000	
	N	229	229	229	229	229	229	229	229

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT OP
  /METHOD=ENTER IIT OMK OMX OME IN EC
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS DURBIN
  /SAVE PRED DFBETA.
```

Regression

Notes

Output Created		AST 18:29:29 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT OP /METHOD=ENTER IIT OMK OMX OME IN EC /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS DURBIN /SAVE PRED DFBETA.
Resources	Processor Time	00 00:00:00.375
	Elapsed Time	00 00:00:00.540
	Memory Required	5076 bytes
	Additional Memory Required for Residual Plots	200 bytes
Variables Created or Modified	PRE_1	Unstandardized Predicted Value
	DFB0_1	DFBETA for (Constant)
	DFB1_1	DFBETA for IIT
	DFB2_1	DFBETA for OMK
	DFB3_1	DFBETA for OMX
	DFB4_1	DFBETA for OME
	DFB5_1	DFBETA for IN
	DFB6_1	DFBETA for EC


```
[DataSet1] C:\Users\aziz\Desktop\Orginal Data (4)  -.sav
```

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	EC, IN, OMK, OME, IIT, OMX	.	Enter

a. All requested variables entered.

b. Dependent Variable: OP

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.663[a]	.439	.424	.52423	1.857

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Dependent Variable: OP

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.811	6	7.968	28.995	.000[a]
	Residual	61.011	222	.275		
	Total	108.821	228			

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Dependent Variable: OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.661	.308		2.144	.033
	IIT	.007	.052	.007	.126	.899
	OMK	.124	.047	.152	2.615	.010
	OMX	.293	.048	.342	6.104	.000
	OME	.162	.045	.199	3.617	.000
	IN	.244	.044	.292	5.551	.000
	EC	-.010-	.052	-.010-	-.192-	.848

a. Dependent Variable: OP

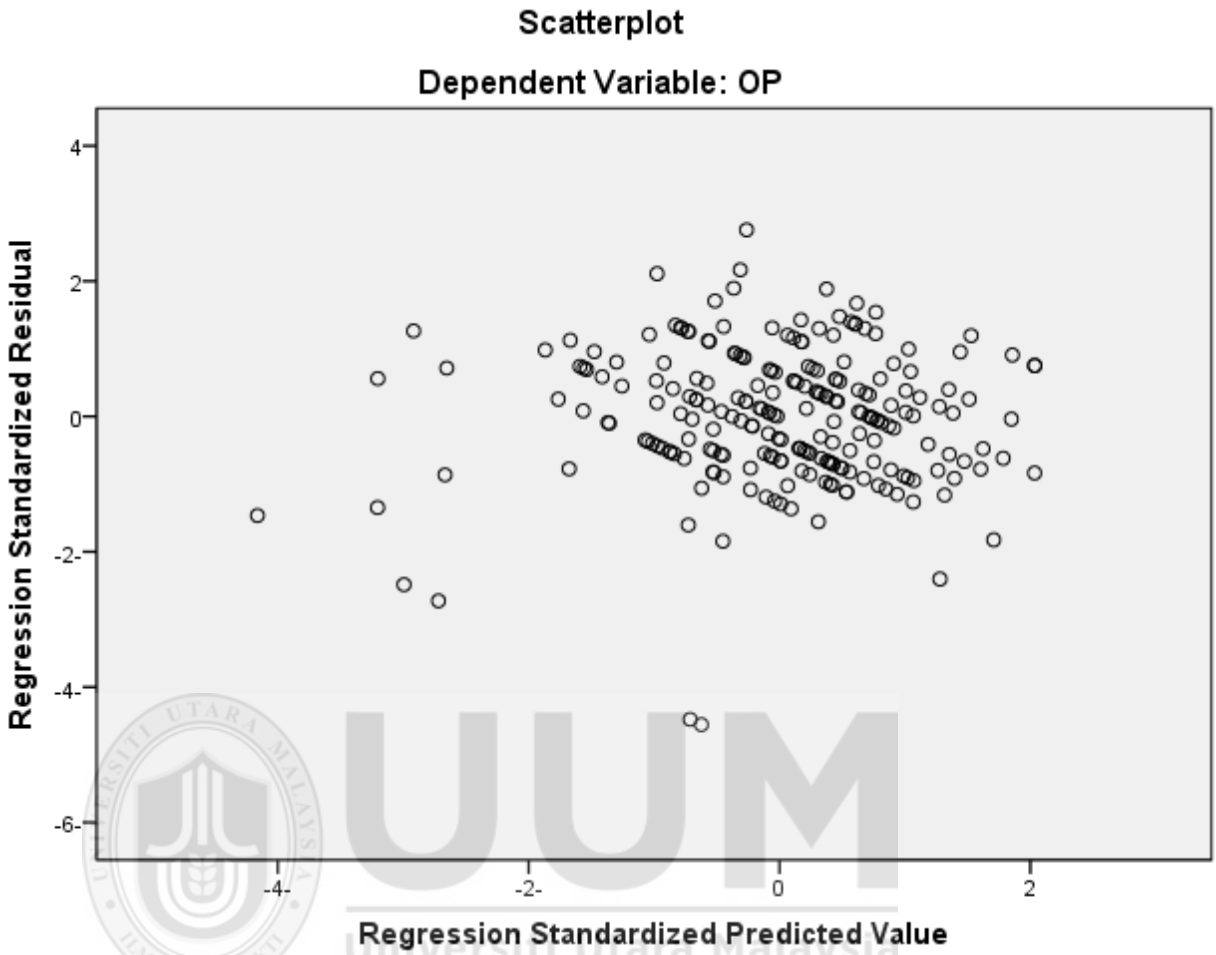
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N

Predicted Value	1.7676	4.6062	3.6739	.45793	229
Std. Predicted Value	-4.163-	2.036	.000	1.000	229
Standard Error of Predicted Value	.042	.170	.088	.027	229
Adjusted Predicted Value	1.8486	4.6198	3.6760	.45450	229
Residual	-2.38847-	1.44622	.00000	.51729	229
Std. Residual	-4.556-	2.759	.000	.987	229
Stud. Residual	-4.769-	2.780	-.002-	1.011	229
Deleted Residual	-2.61732-	1.46824	-.00206-	.54327	229
Stud. Deleted Residual	-5.023-	2.823	-.004-	1.024	229
Mahal. Distance	.466	23.093	5.974	4.390	229
Cook's Distance	.000	.333	.007	.032	229
Centered Leverage Value	.002	.101	.026	.019	229

a. Dependent Variable: OP

Charts




```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT AIS
  /METHOD=ENTER IIT OMK OMX OME IN EC
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS DURBIN
  /SAVE PRED DFBETA.
```

Regression

Notes

Output Created		AST 18:31:14 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT AIS /METHOD=ENTER IIT OMK OMX OME IN EC /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS DURBIN /SAVE PRED DFBETA.
Resources	Processor Time	00 00:00:00.329
	Elapsed Time	00 00:00:00.540
	Memory Required	5236 bytes
	Additional Memory Required for Residual Plots	200 bytes
Variables Created or Modified	PRE_2	Unstandardized Predicted Value
	DFB0_2	DFBETA for (Constant)
	DFB1_2	DFBETA for IIT
	DFB2_2	DFBETA for OMK
	DFB3_2	DFBETA for OMX
	DFB4_2	DFBETA for OME
	DFB5_2	DFBETA for IN
	DFB6_2	DFBETA for EC

[DataSet1] C:\Users\aziz\Desktop\Orginal Data (4) -.sav

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	EC, IN, OMK, OME, IIT, OMX	.	Enter

a. All requested variables entered.

b. Dependent Variable: AIS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.659[a]	.434	.419	.77379	1.812

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Dependent Variable: AIS

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.002	6	17.000	28.393	.000[a]
	Residual	132.924	222	.599		
	Total	234.926	228			

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Dependent Variable: AIS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.264-	.455		-2.777-	.006
	IIT	.135	.076	.099	1.771	.078

OMK	.162	.070	.136	2.321	.021
OMX	.219	.071	.173	3.081	.002
OME	.166	.066	.139	2.518	.012
IN	.554	.065	.453	8.553	.000
EC	-.056-	.077	-.037-	-.730-	.466

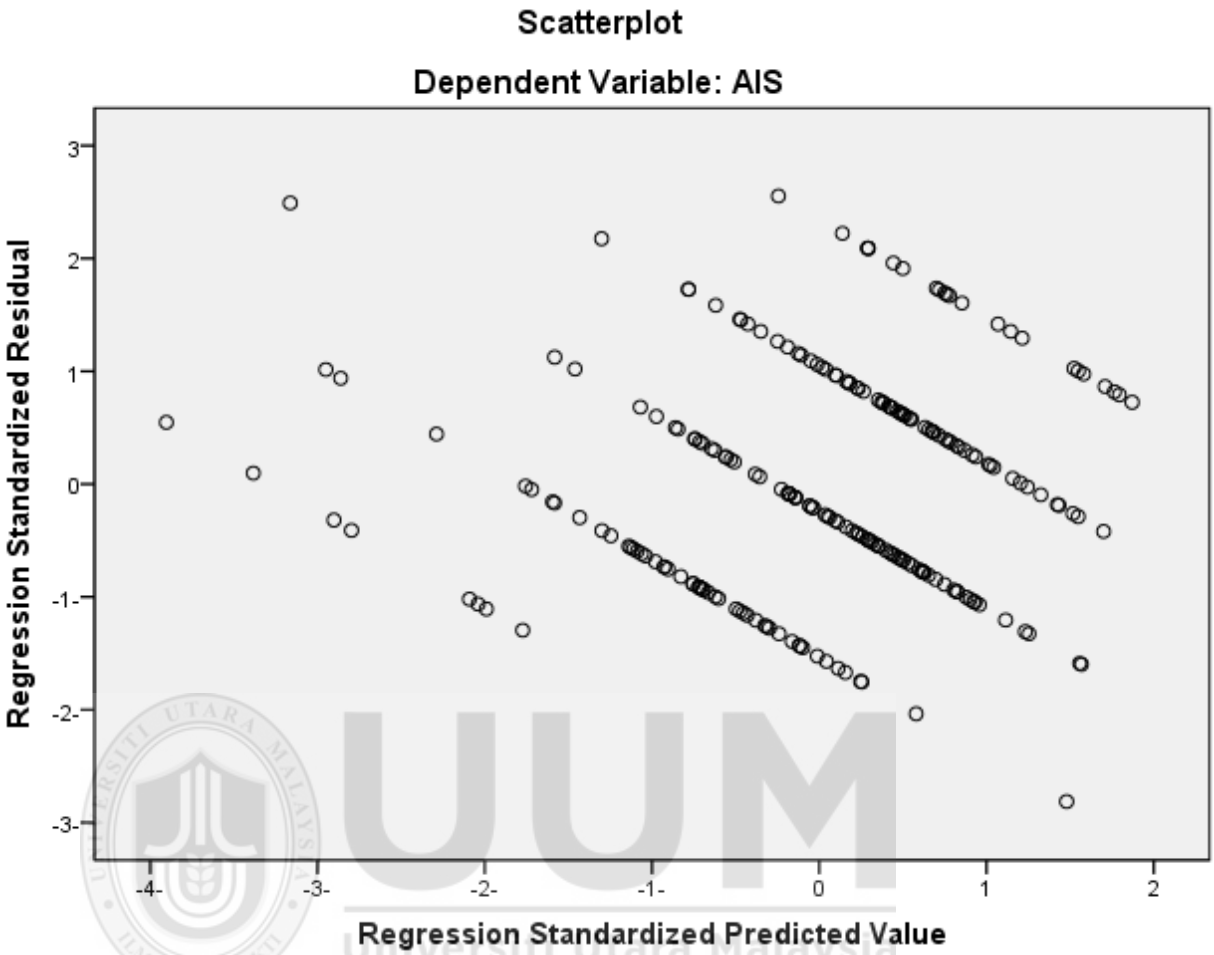
a. Dependent Variable: AIS

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.5766	4.4389	3.1878	.66886	229
Std. Predicted Value	-3.904-	1.870	.000	1.000	229
Standard Error of Predicted Value	.062	.252	.130	.039	229
Adjusted Predicted Value	.5319	4.4220	3.1858	.66857	229
Residual	-2.17689-	1.97554	.00000	.76354	229
Std. Residual	-2.813-	2.553	.000	.987	229
Stud. Residual	-2.846-	2.619	.001	1.003	229
Deleted Residual	-2.22765-	2.07945	.00200	.78973	229
Stud. Deleted Residual	-2.893-	2.655	.002	1.007	229
Mahal. Distance	.466	23.093	5.974	4.390	229
Cook's Distance	.000	.065	.005	.009	229
Centered Leverage Value	.002	.101	.026	.019	229

a. Dependent Variable: AIS

Charts



Appendix (D)

Factor analysis for OMK

Factor Analysis

Notes

Output Created		AST 19:14:36 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES OMKq43 OMKq44 OMKq45 OMKq46 OMKq47 OMKq48 OMKq50 OMKq51 OMKq49 /MISSING LISTWISE /ANALYSIS OMKq43 OMKq44 OMKq45 OMKq46 OMKq47 OMKq48 OMKq50 OMKq51 OMKq49 /PRINT INITIAL CORRELATION KMO AIC EXTRACTION ROTATION /FORMAT BLANK(.4) /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /METHOD=CORRELATION.
Resources	Processor Time	00 00:00:00.046
	Elapsed Time	00 00:00:00.154
	Maximum Memory Required	11172 (10.910K) bytes

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Correlation Matrix

		Financial accounting techniques	Management accounting techniques	Word-processing package	Spreadsheet package	Database package	Accounting-based applications	E-mail	Internet searching	Computer-assisted production management
Correlation	Financial accounting techniques	1.000	.794	.734	.696	.669	.718	.572	.587	.609
	Management accounting techniques	.794	1.000	.746	.703	.687	.725	.578	.616	.669
	Word-processing package	.734	.746	1.000	.780	.721	.709	.601	.644	.694
	Spreadsheet package	.696	.703	.780	1.000	.773	.732	.614	.648	.651
	Database package	.669	.687	.721	.773	1.000	.708	.610	.628	.646
	Accounting-based applications	.718	.725	.709	.732	.708	1.000	.639	.684	.671
	E-mail	.572	.578	.601	.614	.610	.639	1.000	.876	.651
	Internet searching	.587	.616	.644	.648	.628	.684	.876	1.000	.630
	Computer-assisted production management	.609	.669	.694	.651	.646	.671	.651	.630	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.924
Bartlett's Test of Sphericity	Approx. Chi-Square	1870.789
	df	36
	Sig.	.000

Anti-image Matrices

		Financial accounting techniques	Management accounting techniques	Word-processing package	Spreadsheet package	Database package	Accounting-based applications	E-mail	Internet searching	Computer-assisted production management
Anti-image Covariance	Financial accounting techniques	.299	-.124-	-.055-	-.019-	-.016-	-.058-	-.023	.017	.020
	Management accounting techniques	-.124-	.277	-.043-	-.009-	-.025-	-.039-	.015	-.017-	-.056-
	Word-processing package	-.055-	-.043-	.271	-.084-	-.031-	-.005-	.016	-.025-	-.069-
	Spreadsheet package	-.019-	-.009-	-.084-	.272	-.103-	-.048-	-.003	-.012-	-.007-
	Database package	-.016-	-.025-	-.031-	-.103-	.326	-.042-	-.017	-.002-	-.030-
	Accounting-based applications	-.058-	-.039-	-.005-	-.048-	-.042-	.308	.006	-.044-	-.050-
	E-mail	-.023-	.015	.016	-.003-	-.017-	.006	.212	-.153-	-.066-
	Internet searching	.017	-.017-	-.025-	-.012-	-.002-	-.044-	.153	.198	.015

	Computer-assisted production management	.020	-.056-	-.069-	-.007-	-.030-	-.050-	-.066-	.015	.390
Anti-image Correlation	Financial accounting techniques	.928[a]	-.432-	-.193-	-.067-	-.051-	-.191-	-.090-	.071	.058
	Management accounting techniques	-.432-	.933[a]	-.157-	-.033-	-.084-	-.132-	.063	-.074-	-.169-
	Word-processing package	-.193-	-.157-	.945[a]	-.310-	-.104-	-.017-	.069	-.109-	-.211-
	Spreadsheet package	-.067-	-.033-	-.310-	.940[a]	-.344-	-.164-	-.013-	-.053-	-.023-
	Database package	-.051-	-.084-	-.104-	-.344-	.957[a]	-.134-	-.064-	-.009-	-.084-
	Accounting-based applications	-.191-	-.132-	-.017-	-.164-	-.134-	.963[a]	.023	-.178-	-.144-
	E-mail	-.090-	.063	.069	-.013-	-.064-	.023	.843[a]	-.745-	-.230-
	Internet searching	.071	-.074-	-.109-	-.053-	-.009-	-.178-	-.745-	.854[a]	.054
	Computer-assisted production management	.058	-.169-	-.211-	-.023-	-.084-	-.144-	-.230-	.054	.955[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Financial accounting techniques	1.000	.705
Management accounting techniques	1.000	.737
Word-processing package	1.000	.764
Spreadsheet package	1.000	.756
Database package	1.000	.719
Accounting-based applications	1.000	.752
E-mail	1.000	.646
Internet searching	1.000	.685
Computer-assisted production management	1.000	.666

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.430	71.444	71.444	6.430	71.444	71.444
2	.727	8.083	79.526			
3	.402	4.472	83.998			
4	.386	4.290	88.288			
5	.290	3.219	91.507			
6	.257	2.853	94.360			
7	.203	2.250	96.610			
8	.192	2.137	98.747			
9	.113	1.253	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Financial accounting techniques	.840
Management accounting techniques	.858
Word-processing package	.874
Spreadsheet package	.870
Database package	.848
Accounting-based applications	.867

E-mail	.804
Internet searching	.828
Computer-assisted production management	.816

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Appendix (E)

Factor Analysis for EC

Factor Analysis

Notes

Output Created		AST 19:17:13 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES ECq68 ECq69 ECq70 ECq71 ECq72 ECq73 /MISSING LISTWISE /ANALYSIS ECq68 ECq69 ECq70 ECq71 ECq72 ECq73 /PRINT INITIAL CORRELATION KMO AIC EXTRACTION ROTATION /FORMAT BLANK(.4) /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /METHOD=CORRELATION.
Resources	Processor Time	00 00:00:00.031
	Elapsed Time	00 00:00:00.140
	Maximum Memory Required	5544 (5.414K) bytes

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Correlation Matrix

		The actions of your competitors are	The demand for your product is	To remain competitive, your firm must change its marketing practices	The rate of technological evolution in your industry is	Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	The legal, economical, and political constraints surrounding your company have remained about the same
Correlation	The actions of your competitors are	1.000	.625	.418	.366	.359	.421
	The demand for your product is	.625	1.000	.390	.271	.386	.433
	To remain competitive, your firm must change its marketing practices	.418	.390	1.000	.404	.354	.322
	The rate of technological evolution in your industry is	.366	.271	.404	1.000	.427	.205
	Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	.359	.386	.354	.427	1.000	.314
	The legal, economical, and political constraints surrounding your company have remained about the same	.421	.433	.322	.205	.314	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.801
Bartlett's Test of Sphericity	Approx. Chi-Square	353.610
	df	15
	Sig.	.000

Anti-image Matrices

		The actions of your competitors are	The demand for your product is	To remain competitive, your firm must change its marketing practices	The rate of technological evolution in your industry is	Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	The legal, economical, and political constraints surrounding your company have remained about the same
Anti-image Covariance	The actions of your competitors are	.534	-.254-	-.086-	-.108-	-.020-	-.106-
	The demand for your product is	-.254-	.547	-.073-	.029	-.103-	-.121-
	To remain competitive, your firm must change its marketing practices	-.086-	-.073-	.709	-.173-	-.076-	-.085-
	The rate of technological evolution in your industry is	-.108-	.029	-.173-	.721	-.211-	.022

	Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	-.020-	-.103-	-.076-	-.211-	.712	-.091-
	The legal, economical, and political constraints surrounding your company have remained about the same	-.106-	-.121-	-.085-	.022	-.091-	.748
Anti-image Correlation	The actions of your competitors are	.770[a]	-.470-	-.139-	-.174-	-.033-	-.167-
	The demand for your product is	-.470-	.760[a]	-.118-	.046	-.166-	-.189-
	To remain competitive, your firm must change its marketing practices	-.139-	-.118-	.860[a]	-.242-	-.107-	-.117-
	The rate of technological evolution in your industry is	-.174-	.046	-.242-	.769[a]	-.295-	.030
	Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	-.033-	-.166-	-.107-	-.295-	.828[a]	-.125-

	The legal, economical, and political constraints surrounding your company have remained about the same	-.167-	-.189-	-.117-	.030	-.125-	.867[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
The actions of your competitors are	1.000	.615
The demand for your product is	1.000	.583
To remain competitive, your firm must change its marketing practices	1.000	.475
The rate of technological evolution in your industry is	1.000	.386
Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	1.000	.451
The legal, economical, and political constraints surrounding your company have remained about the same	1.000	.406

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.915	48.590	48.590	2.915	48.590	48.590
2	.913	15.223	63.813			
3	.656	10.939	74.752			
4	.622	10.360	85.111			
5	.537	8.942	94.054			
6	.357	5.946	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The actions of your competitors are	.784
The demand for your product is	.763
To remain competitive, your firm must change its marketing practices	.689
The rate of technological evolution in your industry is	.621
Your satisfaction about the number of new products and services has been marketed during the past 5 years in your company	.671
The legal, economical, and political constraints surrounding your company have remained about the same	.637

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Appendix (F)

Factor Analysis for OP

Factor Analysis

Notes

Output Created		AST 19:19:18 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES OPq92 OPq93 OPq94 OPq95 OPq96 OPq97 /MISSING LISTWISE /ANALYSIS OPq92 OPq93 OPq94 OPq95 OPq96 OPq97 /PRINT INITIAL CORRELATION KMO AIC EXTRACTION ROTATION /FORMAT BLANK(.4) /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /METHOD=CORRELATION.
Resources	Processor Time	00 00:00:00.031
	Elapsed Time	00 00:00:00.152
	Maximum Memory Required	5544 (5.414K) bytes

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Correlation Matrix

		Level of the productivity	Product quality	Number of deliveries on time	Sales growth rate	Operating profit growth rate	Cash flow growth rate
Correlation	Level of the productivity	1.000	.429	.422	.510	.470	.442
	Product quality	.429	1.000	.404	.476	.322	.337
	Number of deliveries on time	.422	.404	1.000	.385	.420	.494
	Sales growth rate	.510	.476	.385	1.000	.755	.659
	Operating profit growth rate	.470	.322	.420	.755	1.000	.718
	Cash flow growth rate	.442	.337	.494	.659	.718	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.818
Bartlett's Test of Sphericity	Approx. Chi-Square	611.717
	df	15
	Sig.	.000

Anti-image Matrices

		Level of the productivity	Product quality	Number of deliveries on time	Sales growth rate	Operating profit growth rate	Cash flow growth rate
Anti-image Covariance	Level of the productivity	.646	-.132-	-.119-	-.073-	-.045-	-.021-
	Product quality	-.132-	.676	-.160-	-.150-	.062	.012
	Number of deliveries on time	-.119-	-.160-	.663	.044	-.038-	-.140-
	Sales growth rate	-.073-	-.150-	.044	.343	-.173-	-.081-
	Operating profit growth rate	-.045-	.062	-.038-	-.173-	.335	-.148-

	Cash flow growth rate	-.021-	.012	-.140-	-.081-	-.148-	.415
Anti-image Correlation	Level of the productivity	.906[a]	-.199-	-.181-	-.156-	-.097-	-.041-
	Product quality	-.199-	.789[a]	-.238-	-.312-	.131	.022
	Number of deliveries on time	-.181-	-.238-	.838[a]	.092	-.080-	-.267-
	Sales growth rate	-.156-	-.312-	.092	.789[a]	-.512-	-.215-
	Operating profit growth rate	-.097-	.131	-.080-	-.512-	.778[a]	-.396-
	Cash flow growth rate	-.041-	.022	-.267-	-.215-	-.396-	.845[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Level of the productivity	1.000	.506
Product quality	1.000	.389
Number of deliveries on time	1.000	.448
Sales growth rate	1.000	.729
Operating profit growth rate	1.000	.701
Cash flow growth rate	1.000	.679

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.451	57.517	57.517	3.451	57.517	57.517
2	.841	14.013	71.530			
3	.643	10.712	82.242			
4	.551	9.181	91.423			
5	.301	5.009	96.432			
6	.214	3.568	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Level of the productivity	.711
Product quality	.623
Number of deliveries on time	.669
Sales growth rate	.854
Operating profit growth rate	.837
Cash flow growth rate	.824

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Appendix (G)

T-test

Regression

Notes

Output Created		AST 19:26:55 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT OP /METHOD=ENTER AIS /SCATTERPLOT=(*ZRESID ,*ZPRED) /RESIDUALS DURBIN /SAVE PRED RESID DFBETA.
Resources	Processor Time	00 00:00:02.265
	Elapsed Time	00 00:00:01.926
	Memory Required	3756 bytes
	Additional Memory Required for Residual Plots	240 bytes
Variables Created or Modified	PRE_3	Unstandardized Predicted Value
	RES_1	Unstandardized Residual
	DFB0_3	DFBETA for (Constant)
	DFB1_3	DFBETA for AIS

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	AIS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: OP

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.590[a]	.348	.345	.55897	1.960

a. Predictors: (Constant), AIS

b. Dependent Variable: OP

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.895	1	37.895	121.286	.000[a]
	Residual	70.926	227	.312		
	Total	108.821	228			

a. Predictors: (Constant), AIS

b. Dependent Variable: OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.394	.122		19.623	.000

AIS	.402	.036	.590	11.013	.000

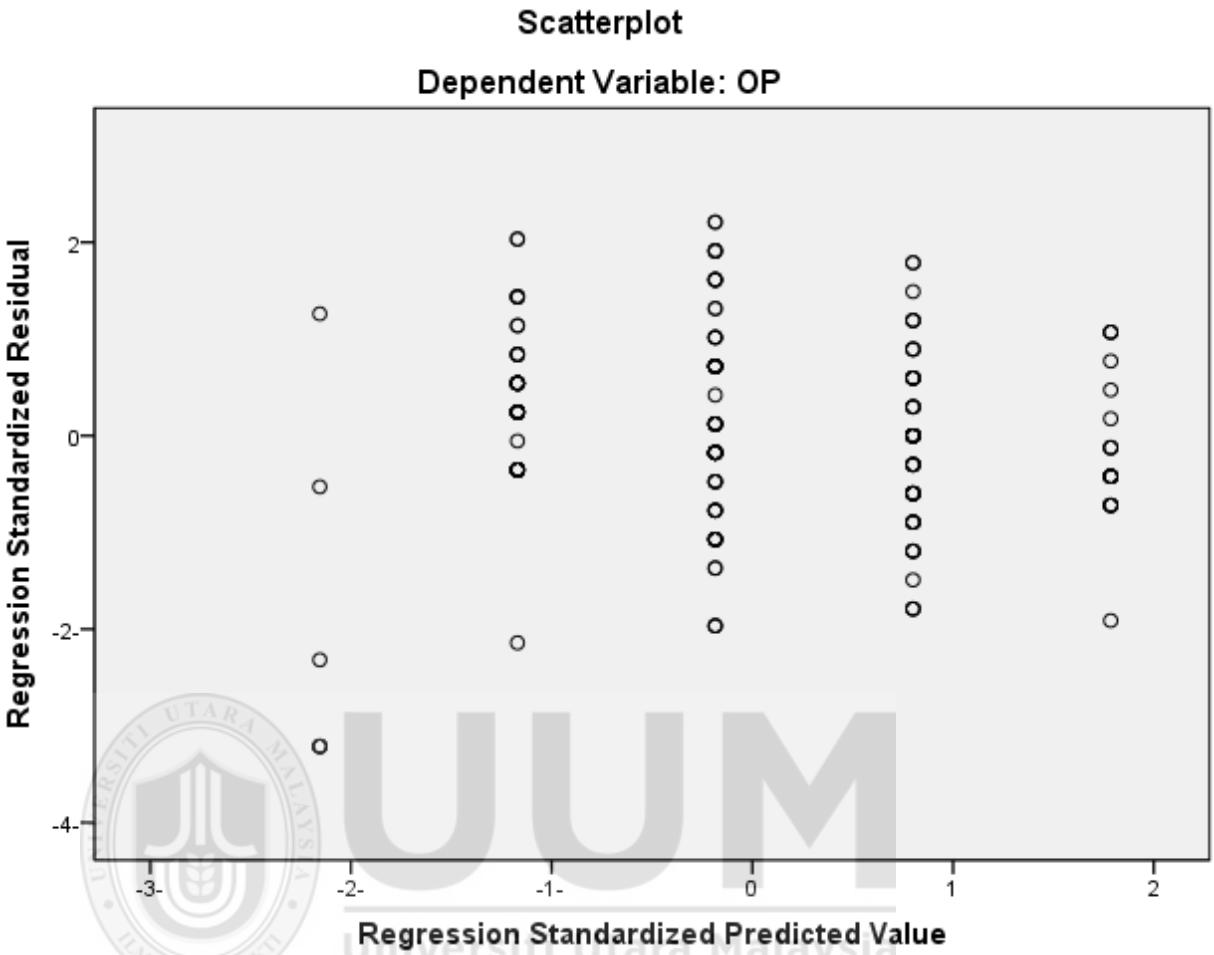
a. Dependent Variable: OP

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.7953	4.4018	3.6739	.40769	229
Std. Predicted Value	-2.155-	1.785	.000	1.000	229
Standard Error of Predicted Value	.038	.088	.050	.014	229
Adjusted Predicted Value	2.7774	4.4218	3.6748	.40647	229
Residual	-1.79526-	1.23480	.00000	.55774	229
Std. Residual	-3.212-	2.209	.000	.998	229
Stud. Residual	-3.252-	2.214	-.001-	1.004	229
Deleted Residual	-1.84081-	1.24041	-.00083-	.56448	229
Stud. Deleted Residual	-3.323-	2.233	-.002-	1.011	229
Mahal. Distance	.034	4.645	.996	1.158	229
Cook's Distance	.000	.134	.006	.020	229
Centered Leverage Value	.000	.020	.004	.005	229

a. Dependent Variable: OP

Charts



Appendix (H)

Normality

Descriptives

Notes

Output Created		AST 18:55:16 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=IIT OMK OMX OME IN EC AIS OP /STATISTICS=KURTOSIS SKEWNESS.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.006

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
IIT	229	-.769-	.161	.536	.320
OMK	229	-1.030-	.161	.536	.320
OMX	229	-.314-	.161	.155	.320
OME	229	-.281-	.161	-.290-	.320
IN	229	-1.256-	.161	1.453	.320
EC	229	-1.433-	.161	2.713	.320
AIS	229	-.004-	.161	-.641-	.320
OP	229	-1.204-	.161	3.654	.320
Valid N (listwise)	229				

Appendix (I)

Mediating

Regression

Notes

Output Created		20-May-2015 15:54:01
Comments		
Input	Data	C:\Users\aziz\Desktop\Orginal Data rev.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT OP /METHOD=ENTER IIT OMK OMX OME IN EC /METHOD=ENTER AIS.
Resources	Processor Time	00 00:00:00.078
	Elapsed Time	00 00:00:00.234
	Memory Required	6532 bytes
	Additional Memory Required for Residual Plots	0 bytes

[DataSet2] C:\Users\aziz\Desktop\Orginal Data rev.sav

Descriptive Statistics

	Mean	Std. Deviation	N
OP	3.6739	.69086	229
IIT	3.9663	.73996	229
OMK	3.8935	.84981	229
OMX	3.5437	.80585	229
OME	3.5131	.84801	229
IN	3.8253	.82893	229
EC	3.4716	.67397	229
AIS	3.1878	1.01507	229

Correlations

		OP	IIT	OMK	OMX	OME	IN	EC	AIS
Pearson Correlation	OP	1.000	.198	.381	.517	.408	.418	.014	.590
	IIT	.198	1.000	.365	.178	.053	.222	.127	.282
	OMK	.381	.365	1.000	.356	.284	.166	.073	.345
	OMX	.517	.178	.356	1.000	.331	.183	.006	.368
	OME	.408	.053	.284	.331	1.000	.183	.058	.321
	IN	.418	.222	.166	.183	.183	1.000	-.005	.554
	EC	.014	.127	.073	.006	.058	-.005	1.000	-.008
	AIS	.590	.282	.345	.368	.321	.554	-.008	1.000
Sig. (1-tailed)	OP	.	.001	.000	.000	.000	.000	.415	.000
	IIT	.001	.	.000	.003	.212	.000	.028	.000
	OMK	.000	.000	.	.000	.000	.006	.136	.000
	OMX	.000	.003	.000	.	.000	.003	.462	.000
	OME	.000	.212	.000	.000	.	.003	.190	.000
	IN	.000	.000	.006	.003	.003	.	.467	.000
	EC	.415	.028	.136	.462	.190	.467	.	.451
	AIS	.000	.000	.000	.000	.000	.000	.451	.
N	OP	229	229	229	229	229	229	229	229
	IIT	229	229	229	229	229	229	229	229
	OMK	229	229	229	229	229	229	229	229
	OMX	229	229	229	229	229	229	229	229
	OME	229	229	229	229	229	229	229	229
	IN	229	229	229	229	229	229	229	229
	EC	229	229	229	229	229	229	229	229

Correlations

		OP	IIT	OMK	OMX	OME	IN	EC	AIS
Pearson Correlation	OP	1.000	.198	.381	.517	.408	.418	.014	.590
	IIT	.198	1.000	.365	.178	.053	.222	.127	.282
	OMK	.381	.365	1.000	.356	.284	.166	.073	.345
	OMX	.517	.178	.356	1.000	.331	.183	.006	.368
	OME	.408	.053	.284	.331	1.000	.183	.058	.321
	IN	.418	.222	.166	.183	.183	1.000	-.005	.554
	EC	.014	.127	.073	.006	.058	-.005	1.000	-.008
	AIS	.590	.282	.345	.368	.321	.554	-.008	1.000
Sig. (1-tailed)	OP	.	.001	.000	.000	.000	.000	.415	.000
	IIT	.001	.	.000	.003	.212	.000	.028	.000
	OMK	.000	.000	.	.000	.000	.006	.136	.000
	OMX	.000	.003	.000	.	.000	.003	.462	.000
	OME	.000	.212	.000	.000	.	.003	.190	.000
	IN	.000	.000	.006	.003	.003	.	.467	.000
	EC	.415	.028	.136	.462	.190	.467	.	.451
	AIS	.000	.000	.000	.000	.000	.000	.451	.
N	OP	229	229	229	229	229	229	229	229
	IIT	229	229	229	229	229	229	229	229
	OMK	229	229	229	229	229	229	229	229
	OMX	229	229	229	229	229	229	229	229
	OME	229	229	229	229	229	229	229	229
	IN	229	229	229	229	229	229	229	229
	EC	229	229	229	229	229	229	229	229
	AIS	229	229	229	229	229	229	229	229

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	EC, IN, OMK, OME, IIT, OMX	.	Enter
2	AIS[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: OP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.663[a]	.439	.424	.52423	.439	28.995	6	222	.000
2	.706[b]	.499	.483	.49663	.060	26.370	1	221	.000

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX, AIS

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.811	6	7.968	28.995	.000[a]
	Residual	61.011	222	.275		
	Total	108.821	228			
2	Regression	54.314	7	7.759	31.460	.000[b]
	Residual	54.507	221	.247		
	Total	108.821	228			

a. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Predictors: (Constant), EC, IN, OMK, OME, IIT, OMX, AIS

c. Dependent Variable: OP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.661	.308		2.144	.033	.054	1.269
	IIT	.007	.052	.007	.126	.899	-.096	.109
	OMK	.124	.047	.152	2.615	.010	.030	.217
	OMX	.293	.048	.342	6.104	.000	.199	.388
	OME	.162	.045	.199	3.617	.000	.074	.250
	IN	.244	.044	.292	5.551	.000	.157	.330

	EC	-.010	.052	-.010	-.192	.848	-.113	.093
2	(Constant)	.941	.297		3.166	.002	.355	1.526
	IIT	-.023	.049	-.025	-.473	.636	-.121	.074
	OMK	.088	.045	.108	1.938	.054	-.002	.177
	OMX	.245	.046	.286	5.270	.000	.153	.337
	OME	.125	.043	.154	2.909	.004	.040	.210
	IN	.121	.048	.145	2.526	.012	.027	.216
	EC	.002	.049	.002	.049	.961	-.095	.100
	AIS	.221	.043	.325	5.135	.000	.136	.306

a. Dependent Variable: OP

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	AIS	.325[a]	5.135	.000	.326	.566

a. Predictors in the Model: (Constant), EC, IN, OMK, OME, IIT, OMX

b. Dependent Variable: OP

Appendix (J)

Mean & SD

Descriptives

Notes

Output Created		AST 18:53:00 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=IIT OMK OMX OME IN EC AIS OP /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00 00:00:00.016
	Elapsed Time	00 00:00:00.020

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
IIT	229	1.00	5.00	3.9663	.73996
OMK	229	1.00	5.00	3.8935	.84981
OMX	229	1.00	5.00	3.5437	.80585
OME	229	1.00	5.00	3.5131	.84801
IN	229	1.27	5.00	3.8253	.82893
EC	229	1.00	5.00	3.4716	.67397
AIS	229	1.00	5.00	3.1878	1.01507
OP	229	1.00	5.00	3.6739	.69086
Valid N (listwise)	229				

Appendix (K)

Reliability

```
RELIABILITY
  /VARIABLES=IITq8 IITq9 IITq10 IITq11 IITq12 IITq13 IITq14 IITq15 IITq16 IITq17 IITq18
IITq19 IITq20 IITq21 IITq22 IITq23 IITq24 IITq25 IITq26 IITq27 IITq28 IITq29 IITq30
IITq31 IITq32 IITq33 IITq34 IITq35 IITq36 IITq37 IITq38 IITq39 IITq40 IITq41 IITq42
  /SCALE('IIT (Reliability)') ALL
  /MODEL=ALPHA.
```

Reliability

Notes

Output Created		AST 19:01:52 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=IITq8 IITq9 IITq10 IITq11 IITq12 IITq13 IITq14 IITq15 IITq16 IITq17 IITq18 IITq19 IITq20 IITq21 IITq22 IITq23 IITq24 IITq25 IITq26 IITq27 IITq28 IITq29 IITq30 IITq31 IITq32 IITq33 IITq34 IITq35 IITq36 IITq37 IITq38 IITq39 IITq40 IITq41 IITq42 /SCALE('IIT (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.007


```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: IIT (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.973	35

```
RELIABILITY
  /VARIABLES=OMKq43 OMKq44 OMKq45 OMKq46 OMKq47 OMKq48 OMKq50 OMKq51 OMKq49
  /SCALE('OMK (Reliability)') ALL
  /MODEL=ALPHA.
```


Reliability

Notes

Output Created		AST 19:03:49 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	

Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=OMKq43 OMKq44 OMKq45 OMKq46 OMKq47 OMKq48 OMKq50 OMKq51 OMKq49 /SCALE('OMK (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.015
	Elapsed Time	00 00:00:00.006

```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: OMK (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.950	9

```
RELIABILITY
  /VARIABLES=OMEq52 OMEq53
  /SCALE('OME (Reliability)') ALL
  /MODEL=ALPHA.
```

Reliability

Notes

Output Created		AST 19:04:27 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=OMEq52 OMEq53 /SCALE('OME (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.003


```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: OME (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha[a]	N of Items
-.303-	2

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

```
RELIABILITY
  /VARIABLES=OMXq54 OMXq55
  /SCALE('OMX (Reliability)') ALL
  /MODEL=ALPHA.
```


Reliability

Notes

Output Created		AST 19:05:22 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=OMXq54 OMXq55 /SCALE('OMX (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.006

```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \ Data (4)  -.sav
```

Scale: OMX (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.701	2

```
RELIABILITY
  /VARIABLES=INq56a INq57a INq58a INq59a INq60b INq61b INq62b INq63b INq64c INq65c
INq66c INq67c
  /SCALE('IN (Reliability)') ALL
  /MODEL=ALPHA.
```

Reliability

Notes

Output Created		AST 19:06:25 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=INq56a INq57a INq58a INq59a INq60b INq61b INq62b INq63b INq64c INq65c INq66c INq67c /SCALE('IN (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.006


```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: IN (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.926	12

```
RELIABILITY
  /VARIABLES=ECq68 ECq69 ECq70 ECq71 ECq72 ECq73
  /SCALE('EC (Reliability)') ALL
  /MODEL=ALPHA.
```

Reliability

Notes

Output Created		AST 19:06:58 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=ECq68 ECq69 ECq70 ECq71 ECq72 ECq73 /SCALE('EC (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.004

```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: EC (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.784	6

```
RELIABILITY
  /VARIABLES=AISq74 AISq75 AISq76 AISq77 AISq78 AISq79 AISq80 AISq81 AISq82 AISq83
AISq84 AISq85 AISq86 AISq87 AISq88 AISq89 AISq90 AISq91
  /SCALE('AIS (Reliability)') ALL
  /MODEL=ALPHA.
```


Reliability

Notes

Output Created		AST 19:08:52 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) - .sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229

	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=AISq74 AISq75 AISq76 AISq77 AISq78 AISq79 AISq80 AISq81 AISq82 AISq83 AISq84 AISq85 AISq86 AISq87 AISq88 AISq89 AISq90 AISq91 /SCALE('AIS (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.010

[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav

Scale: AIS (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.843	18

RELIABILITY

```
  /VARIABLES=OPq92 OPq93 OPq94 OPq95 OPq96 OPq97
  /SCALE('OP (Reliability)') ALL
  /MODEL=ALPHA.
```

Reliability

Notes

Output Created		AST 19:10:01 2015--02
Comments		
Input	Data	C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4) -.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	229
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=OPq92 OPq93 OPq94 OPq95 OPq96 OPq97 /SCALE('OP (Reliability)') ALL /MODEL=ALPHA.
Resources	Processor Time	00 00:00:00.000
	Elapsed Time	00 00:00:00.003


```
[DataSet1] C:\Users\aziz\Desktop\ 2 4 2015 \Orginal Data (4)  -.sav
```

Scale: OP (Reliability)

Case Processing Summary

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.849	6