ENTREPRENEURIAL COMPETENCIES, ORGANIZATIONAL STRUCTURE AND SMEs PERFORMANCE IN MALAYSIA: THE ROLE OF INNOVATION AS A MODERATOR

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Abstract

Small and Medium Enterprises (SMEs) receive great attention on its contributions in the policies of economic and social development either in the developed or in developing countries like Malaysia. However, there has not been much research focuses on performance of SMEs in Malaysia especially in manufacturing sector. This study investigates the factors that affect performance of manufacturing SMEs in the Malaysian economy. Specifically, the purpose of this study is to examine moderating effect of innovation on SMEs performance and its relationship with traits competencies, skills competencies and organization structure in Northern Malaysia. A survey methodology has been employed to collect the data. SMEs owners and managers throughout the northern states of Malaysia are chosen as the samples for this study. A disproportionate simple stratified random sampling method was used to select respondents from the respective owners and managers. Seven hypotheses were proposed regarding SMEs performance. Structured questionnaires were used to measure five variables; SMEs performance, traits competencies, skills competencies, organization structure and innovation are adopted in this study. Out of 800 questionnaires that were filled by respondents on the "drop and collect" basis, only 314 were usable, yielding a response rate of 39.25%. The findings revealed that significant relationships exist among variables (traits competencies, skills competencies, organization structure and innovation with SME performance. The findings also revealed that innovation moderates the relationships between traits competencies, skills competencies and organization structure on SME performance. The study concludes with a discussion on theoretical and practical implications and suggestions for future research.

Keywords: SMEs performance, innovation, entrepreneurial competencies, organization structure

Abstrak

Perniagaan Kecil dan Sederhana (PKS) mendapat perhatian utama dari segi sumbangannya dalam dasar-dasar pembangunan ekonomi dan sosial sama ada di negara yang telah maju mahupun di negara membangun seperti Malaysia. Walau bagaimanapun, tidak banyak kajian yang menumpukan kepada prestasi PKS di Malaysia terutamanya dalam sektor pembuatan. Kajian ini menyiasat faktor-faktor yang mempengaruhi prestasi sektor pembuatan PKS dalam ekonomi Malaysia. Khususnya, tujuan kajian ini adalah untuk menyelidik kesan penyederhanaan inovasi ke atas prestasi PKS dan hubungannya dengan kompetensi trait, kompetensi kemahiran dan struktur organisasi di negeri-negeri utara Malaysia. Satu metodologi kaji selidik telah digunakan untuk mengumpulkan data. Pemilik dan pengurus PKS di negeri-negeri utara Semenanjung Malaysia telah dipilih sebagai sampel kajian. Selain itu, satu prosedur persampelan rawak mudah berstrata tidak berkadaran telah digunakan untuk memilih responden yang terdiri daripada pemilik dan pengurus. Sebanyak tujuh hipotesis mengenai penentu prestasi PKS dicadangkan. Sementara itu, kaji selidik berstruktur telah digunakan untuk mengukur lima pemboleh ubah iaitu prestasi PKS, kompetensi trait, kompetensi kemahiran, struktur organisasi dan inovasi. Sebanyak 800 soal selidik telah diedarkan secara "hantar dan kutip". Namun, hanya 314 boleh digunakan yang menghasilkan kadar maklum balas sebanyak 39.25 peratus. Hasil kajian menunjukkan bahawa wujud hubungan yang signifikan di antara pemboleh ubah-pemboleh ubah (kompetensi trait, kompetensi kemahiran, struktur organisasi dan inovasi) dengan prestasi PKS. Di samping itu, hasil kajian juga menunjukkan bahawa inovasi adalah penyederhana yang signifikan bagi hubungan antara kompetensi trait, kompetensi kemahiran dan struktur organisasi terhadap prestasi PKS. Kajian ini diakhiri dengan perbincangan mengenai implikasi teori dan praktikal serta cadangan untuk kajian pada masa hadapan.

Kata kunci: Prestasi PKS, inovasi, kompetensi keusahawanan, struktur organisasi

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List of Abbreviations

AJDF	Asean Japan Development Fund
APEC	Asia Pacicfic Economic Corporation
BNM	Bank Negara Malaysia
EU	European Union
FDI	Foreign Direct Investment
GDP	gross domestic product
MIDA	Malaysian Industrial Development Authority
MNCs	multinational companies
MPC	Malaysia Productivity Corporation
NSDC	National SME Development Council
OECD	Organization for Economic Cooperation and Development
RBV	Resource Based View
SHTFs	Small Firms Based on High Technology
SMB	Small and Medium Business
SMEs	Small and Medium Enterprises
UK	United Kingdom
USA	United States of America
WEF	World Economic Forum
WTO	World Trade Organization

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The importance and contributions of Small and Medium Enterprises (SMEs) to the world's economy has been proven in several researches. Berthon, Ewing, and Napoli (2008) noted that just in the United Stated alone about 5.7 million businesses exist of which only 14,000 large organizations employing more than 500 employees. Looking at the European industrial system, SMEs are supplying labour to about 100 million citizens, this makes reason of the importance of SMEs, the real backbone of the European economy (Villa & Bruno, 2013).

Matt and Ohlhausen (2011) found that SMEs are the engine of the European economy, being the 99% of all European businesses, and have been the target of several policies implemented by European Union (E.U) institutions, which indicates the significance of SMEs to the European economy. SMEs are important in most countries' national employment, domestic services and products, and overall economic performance (Gilmore, Galbraith, & Mulvenna, 2013; Zhu, Wittmann & Peng, 2012; Berthon, Ewing & Napoli, 2008).

In the policies of economic and social development, Small and Medium Enterprises (SMEs) received great attention neither in the developed countries nor in the developing countries. Many researchers have acknowledged the important role played by the SMEs (Love & Roper, 2015; Brambilla, Lederman, & Porto, 2012; Berthon et al., 2008; Nijhawan & Dubas, 2007; Robson & Bennett, 2000; Rasiah,

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APPENDIX A:

RESEARCH QUESTİONNAIRE

TINJAUAN TENTANG PRESTASI PERUSAHAAN KECIL DAN SEDERHANA DI MALAYSIA.

Tuan pengurus/pemilik perniagaan yang dihormati,

Dalam abad ke 21 ini, perusahaan kecil dan sederhana (PKS) masih kekal menjadi tunggak kepada ekonomi di Malaysia. Dalam usaha untuk memahami dengan lebih mendalam lagi situasi PKS ini, saya pelajar Program Doktor Falsafah dari Universiti Utara Malaysia ingin untuk menjalankan satu tinjauan tentang prestasi mereka. Terdapat empat bahagian utama didalam soalselidik ini iaitu: 1) kompetensi keusahawanan tuan sendiri,2) inovasi, 3) struktur organisasi tuan dan 4) prestasi perniagaan tuan.

Saya berharap agar pihak tuan dapat juga mengisi dibahagian maklumat peribadi dan syarikat pada penghujung soal selidik ini untuk membolehkan kerja-kerja analisis yang lebih tepat dapat dilakukan. Jika tuan merasakan terdapat item-item tertentu tidak berkaitan dengan tuan, saya juga berharap agar tuan dapat cuba memberi pilihan terbaik terhadap item-item tersebut.

Sungguhpun ia hanya mengambil beberapa minit sahaja dari masa tuan untuk melengkapkan soal selidik ini, pandangan tuan ini amatlah bernilai kepada saya untuk menilai kedudukan prestasi keseluruhan PKS di Utara Semenanjung Malaysia ini. Selepas sahaja tuan melengkapi soal selidik ini, diharapkan tuan dapat memulangkannya dengan menggunakan sampul surat yang disertakan (bersetem) atau fax kepada saya 04-7752377. Saya akan pastikan maklumat yang tuan berikan ini amatlah sulit dan akan digunakan untuk tujuan penyelidikan akademik sahaja.

Terima kasih kerana tuan sudi memberi kerjasama serta meluangkan masa. Saya berharap semoga perniagaan tuan mencapai kejayaan yang gemilang.

Ikhlas dari,

Mohd Sufli Bin Yusof
College of Business
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Tel: 04-9287518
019-5900052

A SURVEY ON THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN MALAYSIA

Dear business owner/manager,

In the 21 century, small and medium sized enterprises (SME) will still be the backbone of the Malaysian economy. In order to better understand their situation, we at University Utara Malaysia decided to carry out this survey on their performance. There are four main parts in this questionnaire: 1) your own competencies, 2) innovation, 3) your organization structure and 4) the performance of your firm. Please also fill in the personal and company information parts at the end of the questionnaire for more accurate analysis. Please try to answer every item in the questionnaire.

While it will only take you a few minutes to complete this questionnaire, your opinions will be highly valuable for us to evaluate the performance of this sector. Once you complete it, please return it with the envelope attached (postage paid). We assure you that your responses are completely confidential and will only be used for the purpose of academic research.

Thank you for your time and cooperation. We wish you every success in your business

Sincerely,

Mohd Sufli Bin Yusof
College of Business
Universiti Utara Malaysia
Tel: 04-9287518
019-5900052

BAHAGIAN A/*PART A*: KOMPETENSI DIRI/ *PERSONAL COMPETENCY*

Kenyataan-kenyataan di bawah menggambarkan tahap kompetensi tuan di dalam setiap aktiviti yang dihuraikan. Sila bulatkan satu angka yang menunjukkan persetujuan tuan terhadap setiap kenyataan mengikut skala berikut :

(1) Amat Tidak Bersetuju (2) Tidak Bersetuju (3) Agak Tidak Bersetuju (4) Berkecuali (5) Agak Bersetuju (6) Bersetuju (7) Amat Setuju

The following statements indicate how competent you are in the activities described. Please circle one number to indicate your agreement on each statement:

(1) Strongly disagree (2) Not agree (3) Not very agree (4) Neither disagree or agree (5) Quiet agree (6) Agree (7) Strongly agree

1) KOMPETENSI PELUANG

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

1	Mengenalpasti barangan dan perkhidmatan yang diperlukan oleh pengguna *(Identify goods or services customers want)*	1	2	3	4	5	6	7
2	Melihat kehendak pengguna yang masih belum dipenuhi *(Perceive unmet consumer needs)*	1	2	3	4	5	6	7
3	Mencari produk atau perkhidmatan yang dapat memberikan faedah sebenar kepada para pengguna secara aktif *(Actively look for products or services that provide a real benefit to customer)*	1	2	3	4	5	6	7
4	Merebut peluang perniagaan yang berkualiti tinggi *(Seize high-quality business opportunities)*	1	2	3	4	5	6	7
5	Menilai kelebihan dan kekurangan peluang-peluang perniagaan yang berpotensi *(Evaluate the advantages and*	1	2	3	4	5	6	7

	disadvantages of potential business opportunities)							

2) KOMPETENSI PERHUBUNGAN

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

6	Membina perhubungan kepercayaan jangka panjang dengan pihak-pihak lain *(Develop long-term trusting relationships with others)*	1	2	3	4	5	6	7
7	Berunding dengan pihak-pihak lain *(Negotiate with others)*	1	2	3	4	5	6	7
8	Berinteraksi dengan pihak-pihak lain *(Interact with others)*	1	2	3	4	5	6	7
9	Mengekalkan jaringan peribadi dalam perhubungan kerja *(Maintain a personal network of work contacts)*	1	2	3	4	5	6	7
10	Mampu memahami apa yang dimaksudkan oleh orang lain melalui perkataan dan perbuatan mereka *(Understand what others mean by their words and actions)*	1	2	3	4	5	6	7
11	Berkomunikasi dengan orang lain secara efektif *(Communicate with others effectively)*	1	2	3	4	5	6	7
12	Menyelesaikan perbalahan dengan pihak-pihak lain *(Resolve disputes among others)*	1	2	3	4	5	6	7
13	Berhadapan dengan aduan-aduan *(Deal with complaints)*	1	2	3	4	5	6	7
14	Membina dan menggunakan jaringan perhubungan tidak formal *(Build and use an informal relational network)*	1	2	3	4	5	6	7
15	Mencipta imej yang berbeza untuk firma *(Create a distinctive image for the firm)*	1	2	3	4	5	6	7

3) KOMPETENSI OPERASI

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

16	Merancang penggunaan sumber-sumber yang berbeza *(Plan the organization of different resources)*	1	2	3	4	5	6	7
17	Memastikan organisasi berjalan dengan lancar *(Keep organization running smoothly)*	1	2	3	4	5	6	7
18	Mengurus sumber-sumber *(Organize resources)*	1	2	3	4	5	6	7
19	Menyelaras tugas-tugas *(Coordinate tasks)*	1	2	3	4	5	6	7
20	Merancang operasi perniagaan *(Plan the operations of the business)*	1	2	3	4	5	6	7
21	Mendapatkan sumber-sumber dan kebolehan dari dalam dan luar firma *(Acquire resource and capabilities from inside and outside the firm)*	1	2	3	4	5	6	7
22	Mengambil langkah-langkah pemulihan untuk menyelesaikan masalah dan kesulitan dalam operasi *(Take remedial actions to solve operational problems and difficulties)*	1	2	3	4	5	6	7

\4) KOMPETENSI STRATEGIK

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

23	Menentukan isu-isu, masalah atau peluang berbentuk jangka panjang *(Determine long-term issues, problems, or opportunities)*	1	2	3	4	5	6	7
24	Peka terhadap halatuju industri yang ditetapkan dan bagaimana perubahan-perubahan itu mungkin memberi impak kepada firma *(Aware of the projected directions of the industry and how changes might impact the firm)*	1	2	3	4	5	6	7
25	Mengutamakan tugas yang selari dengan matlamat perniagaan *(priorities work in alignment with business goals)*	1	2	3	4	5	6	7

26	Membentuk semula jabatan dan/atau organisasi untuk lebih berupaya memenuhi objektif dan perubahan jangka panjang (*Redesign the department and/or organization to better meet long-term objectives and changes)*	1	2	3	4	5	6	7
27	Menjajarkan tindakan-tindakan semasa dengan matlamat-matlamat strategik *(Align current actions with strategic goals)*	1	2	3	4	5	6	7
28	Menaksir dan menghubungkan tugas-tugas jangka pendek , tugas-tugas seharian dalam konteks halatuju jangka panjang *(Assess and link short-term, day-to-day task in the context of long term direction)*	1	2	3	4	5	6	7
29	Memantau kemajuan agar menuju ke arah matlamat strategik *(Monitor progress toward strategic goals)*	1	2	3	4	5	6	7
30	Menilai semula penemuan-penemuan yang berlawanan dengan matlamat strategik *(Evaluate results against strategic goals)*	1	2	3	4	5	6	7
31	Memutuskan tindakan-tindakan strategik menerusi pertimbangan terhadap faedah dan kos. *(Determine strategic actions by weighing costs and benefits)*	1	2	3	4	5	6	7
32	Membangun dan membentuk hala tuju-hala tuju berjangka panjang untuk firma, sebagai contoh terhadap skala perniagaan, objektif-objektif, matlamat atau projek-projek *(Develop and established longer term directions for the firm, eg. On the business scale, objectives, goals or projects)*	1	2	3	4	5	6	7

5) KOMPETENSI KOMITMEN

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

33	Berdedikasi untuk memastikan projek perniagaan sentiasa berjalan lancar *(Dedicate to make the venture work whenever appropriate)*	1	2	3	4	5	6	7

34	Akan sentiasa memastikan perniagaan tidak akan gagal *(Refuse to let the venture fail whenever appropriate)*	1	2	3	4	5	6	7
35	Mempunyai dorongan yang begitu kuat dari dalam diri *(Possess an extremely strong internal drive)*	1	2	3	4	5	6	7
36	Komitmen/iltizam terhadap matlamat perniagaan berjangka panjang *(Commit to long-term business goals)*	1	2	3	4	5	6	7
37	Melakukan pengorbanan peribadi yang besar untuk memastikan perniagaan berjaya *(Make large personal sacrifices in order to ensure the venture to succeed)*	1	2	3	4	5	6	7

6) KOMPETENISI PEMBELAJARAN

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

38	Belajar daripada berbagai cara *(Learn from variety of means*)	1	2	3	4	5	6	7
39	Belajar secara proaktif *(Learn proactively)*	1	2	3	4	5	6	7
40	Belajar sebanyak yang boleh di dalam bidang saya *(Learn much as I can in my field)*	1	2	3	4	5	6	7
41	Memastikan pengetahuan dalam bidang saya sentiasa terkini *(Keep up to date in my field)*	1	2	3	4	5	6	7
42	Menggunakan kemahiran-kemahiran dan pengetahuan yang diperolehi di dalam amalan sebenar *(Apply learned skills and knowledge into actual practices)*	1	2	3	4	5	6	7
43	Belajar dengan mempunyai matlamt yang jelas *(Learn with clear purpose)*	1	2	3	4	5	6	7

7) KOMPETENSI KEKUATAN PERSONAL

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

44	Memastikan tenaga sentiasa berada di tahap yang tinggi *(Maintain a high energy level)*	1	2	3	4	5	6	7
45	Mendorong diri agar dapat berfungsi di tahap prestasi yang optimum *(Motivate self to function at optimum level of performance)*	1	2	3	4	5	6	7
46	Bertindak balas terhadap kritikan yang membina *(Respond to constructive criticism)*	1	2	3	4	5	6	7
47	Mengekalkan sikap positif *(Maintain a positive attitude)*	1	2	3	4	5	6	7
48	Mengutamakan tugas-tugas untuk mengurus masa saya *(Prioritize tasks to manage my time)*	1	2	3	4	5	6	7
49	Mengenal pasti kekuatan-kekuatan dan kelemahan-kelemahan diri dan memadankannya dengan peluang-peluang dan ancaman-ancaman *(Ideantify my own strengths and weakness and match them with opportunities and threats)*	1	2	3	4	5	6	7
50	Mengurus pembangunan kerjaya diri sendiri *(Manage my own career) development)*	1	2	3	4	5	6	7
51	Mengakui dan bertindak di atas kekurangan diri sendiri *(Recognize and work on my own shortcomings)*	1	2	3	4	5	6	7
52	Mampu bekerja didalam persekitaran yang penuh dengan tekanan *(Function in stressful environment)*	1	2	3	4	5	6	7
53	Mampu bekerja secara bebas *(Able to work independently)*	1	2	3	4	5	6	7

8) KOMPETENSI INOVATIF

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

54	Mendekati masalah-masalah yang berlarutan dengan pendekatan baru *(Look at old problems in new ways)*	1	2	3	4	5	6	7
55	Mencari idea-idea baru *(Explore new ideas)*	1	2	3	4	5	6	7
56	Melihat masalah-masalah baru sebagai suatu peluang *(Treat new problems as opportunities)*	1	2	3	4	5	6	7

9) KOMPETENSI MANUSIA

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

57	Menyelia orang bawahan *(Supervise subordinates)*	1	2	3	4	5	6	7
58	Membimbing orang bawahan *(Lead subordinates)*	1	2	3	4	5	6	7
59	Mengelola orang lain *(Organize people)*	1	2	3	4	5	6	7
60	Mendorong orang lain *(Motivate people)*	1	2	3	4	5	6	7
61	Mengamanahkan kerja dengan cara yang efektif *(Delegate effectively)*	1	2	3	4	5	6	7

10) KOMPETENSI ANALITIKAL

Sebagai pemilik/pengurus sebuah perniagaan, saya mampu untuk…

As the manager/owner of the firm, I am able to…

62	Menggunakn idea-idea, isu-isu dan ulasan-ulasan dalam konteks alternatif	1	2	3	4	5	6	7

	(Apply ideas, issues and observations to alternative contexts)							
63	Menggabungkan idea-idea, isu-isu dan ulasan-ulasan dalam konteks yang lebih umum *(Integrate ideas, issues and observations into more general contexts)*	1	2	3	4	5	6	7
64	Memilih kerja-kerja yang bersesuian dengan risiko *(Take reasonable job related risks)*	1	2	3	4	5	6	7
65	Memantau kemajuan kerja untuk mencapai objektif dalam tindakan -tindakan yang berisiko *(Monitor progress toward objectives in risky actions)*	1	2	3	4	5	6	7
66	Menggabungkan idea-idea, isu-isu dan ulasan-ulasan yang relevan dari berbagai sumber *(Combine relevant idea's, issues and observation from a variety of sources)*	1	2	3	4	5	6	7
67	Berusaha mencari kaedah atau alternatif untuk mencapai objektif *(Attempt alternative routes in meeting objectives)*	1	2	3	4	5	6	7
68	Membentuk inovasi-inovasi yang berguna (dari segi pasaran, teknologi, produk, servis atau proses) *(Provide a useful innovations (in term of market, technology, products, services or process)*	1	2	3	4	5	6	7

BAHAGIAN B: PENDEKATAN INOVASI

Soalan-soalan berikut bertujuan untuk menilai ciri-ciri inovasi yang firma anda hadapi. Untuk setiap ciri-ciri tersebut , sila bulatkan pada angka yang menunjukkan inovasi yang anda hadapi mengikut skala berikut:

1	**2**	**3**	**4**	**5**	**6**	**7**
Sangat Rendah	Agak Rendah	Rendah	Berkecuali	Agak tinggi	Tinggi	Sangat tinggi

The following questions to assess the characteristics of the firm's innovation you encounter. For each of these characteristics, please circle the number that indicates the innovation that you face the following scale:

1	***2***	***3***	***4***	***5***	***6***	***7***
Very Low	*Moderately Low*	*Low*	*Neutrality*	*Quite High*	*High*	*Very High*

INCREMENTAL INNOVATION								
1	Firma saya telah memperkenalkan inovasi tambahan dalam 5 tahun lepas dengan mempromosikan keupayaan dalam produk *(My firm has introduced incremental innovation in the last 5 years with promoting capability in a product)*	1	2	3	4	5	6	7
2	Firma saya telah memperkenalkan inovasi tambahan dalam 5 tahun lepas dengan mempromosikan kualiti dalam produk *(My firm has introduced incremental innovation in the last 5 years with promoting quality in a product)*	1	2	3	4	5	6	7
3	Firma saya telah memperkenalkan inovasi tambahan dalam 5 tahun lepas dengan perubahan yang kecil dalam produk *(My firm has introduced incremental innovation in the last 5 years with small changes in a product)*	1	2	3	4	5	6	7
4	Firma saya telah memperkenalkan inovasi tambahan dalam 5 tahun yang lalu dalam mengubah reka bentuk produk *(My firm has introduced incremental innovation in the last 5 years in changing the design of product)*	1	2	3	4	5	6	7
5	Dibandingkan dengan pesaing utama, firma saya telah memperkenalkan inovasi yang meningkat pesat dalam 5 tahun yang lalu. *(Compared with major competitors, my firm has introduced more incremental innovation in the last 5 years)*	1	2	3	4	5	6	7

RADICAL INNOVATION								
6	Firma saya jarang memperkenalkan produk yang berbeza daripada produk-produk sedia ada dalam industri *(My firm rarely introduces products that are different from existing products in the industry)*	1	2	3	4	5	6	7
7	Firma saya tidak mempunyai masalah untuk memperkenalkan produk-produk yang berbeza daripada produk sedia ada dalam industri *(My firm has no difficulty in introducing products that are radically different from existing product in the industry)*	1	2	3	4	5	6	7
8	Peratus ketara jualan kami dalam 5 tahun yang lalu adalah daripada inovasi radikal. *(A significant percent of our sale in the last 5 years is from radical innovation)*	1	2	3	4	5	6	7
9	Dibandingkan dengan pesaing lain dalam industri ini, kami memperkenalkan inovasi yang lebih radikal dalam 5 tahun lepas *(Compared with other competitors in this industry, we have introduces more radical innovation in the last 5 year)*	1	2	3	4	5	6	7
10	Pada masa akan datang, firma saya akan memperkenalkan secara radikal produk baru dalam pasaran. *(In future, my firm will introduce radically new product in market)*	1	2	3	4	5	6	7

OPEN INNOVATION								
11	Pada tahun-tahun lepas , firma saya telah bekerjasama dengan pelbagai rakan kongsi dalaman di dalam industri. *(In the last past years, my firm has collaborated with a wide variety of internal partners in our industry)*	1	2	3	4	5	6	7
12	Dalam beberapa tahun lepas , firma saya telah bekerjasama	1	2	3	4	5	6	7

	dengan kuat dengan universiti-universiti dan pusat penyelidikan *(In the last past years, my firm has collaborated very strongly with universities and research centers)*							
13	Dalam beberapa tahun lepas , firma saya telah bekerjasama dengan kukuh dengan syarikat-syarikat perkhidmatan teknikal dan saintifik. *(In the last past years, my firm has collaborated very strongly with technical and scientific service companies)*	1	2	3	4	5	6	7
14	*Dalam beberapa tahun lepas , firma saya telah bekerjasama yang kukuh dengan institusi-institusi kerajaan.* *(In the last past years, my firm has collaborated very strongly with governmental institutions)*	1	2	3	4	5	6	7
15	Dalam beberapa tahun lepas , firma saya telah bekerjasama yang kukuh dengan pelanggan *(In the last past years, my firm has collaborated very strongly with customers)*	1	2	3	4	5	6	7
16	Dalam beberapa tahun lepas , firma saya telah bekerjasama yang kukuh dengan firma yang beroperasi dalam pelbagai sektor. *(In the last past years, my firm has collaborated very strongly with firm operating in different sectors of activities)*	1	2	3	4	5	6	7
17	Dalam beberapa tahun lepas , firma saya telah bekerjasama dengan kukuh dengan pesaing lain. *(In the last past years, my firm has collaborated very strongly with other competitors)*	1	2	3	4	5	6	7
18	Dalam beberapa tahun lepas , firma saya telah bekerjasama yang kukuh dengan pembekal di dalam industri. *(In the last past years, my firm has collaborated very strongly with suppliers in our industry)*	1	2	3	4	5	6	7

19	Peratus yang ketara daripada jualan kami dalam tempoh 5 tahun dari inovasi terbuka. *(A significant percent of our sales in the 5 years in from open innovation)*	1	2	3	4	5	6	7
20	Berbanding dengan pesaing, firma saya telah memperkenalkan tawaran inovasi lebih terbuka dalam 5 tahun yang lalu *(Compared with our competitors, my firm introduced more open innovation offerings in the last 5 years)*	1	2	3	4	5	6	7
21	Walaupun tanpa menggunakan teknologi luar, firma saya boleh mencapai kejayaan dalam pasaran. *(Even without using external technology, my firm can achieve market success)*	1	2	3	4	5	6	7

BAHAGIAN C: STRUKTUR ORGANISASI

Untuk setiap ciri-ciri tersebut, sila bulatkan pada angka yang menunjukkan keadaan struktur organisasi yang anda hadapi mengikut skala berikut:

Untuk setiap ciri-ciri tersebut, sila bulatkan pada angka yang menunjukkan keadaan struktur organisasi yang anda hadapi mengikut skala berikut:

1	**2**	**3**	**4**	**5**	**6**	**7**
Sangat Rendah	Agak Rendah	Rendah	Berkecuali	Agak tinggi	Tinggi	Sangat tinggi

For each of these characteristics, please circle the number that shows the organizational structure of your face according to the following scale:

1	***2***	***3***	***4***	***5***	***6***	***7***
Very Low	*Moderately Low*	*Low*	*Neutrality*	*Quite High*	*High*	*Very High*

Secara umum, falsafah pengurusan operasi di dalam firma saya mengutamakan….

In general, the operating management philosophy in my firm favors….

1	Struktur saluran komunikasi yang tinggi dan laluan untuk mendapat maklumat yang penting tentang kewangan dan	1	2	3	4	5	6	7

	operasi yang begitu terhad *(Highly structured channels of communication and a highly restricted access to important financial and operating information)*							
2	Ketegasan yang tinggi terhadap penyeragaman gaya pengurusan di dalam keseluruhan firma *(A strong insistence on a uniform managerial style throughout the firm)*	1	2	3	4	5	6	7
3	Penekanan yang tinggi terhadap pemberian kuasa yang luas di dalam proses membuat keputusan kepada pengurus-pengurus lini yang formal. *(A strong emphasis on giving the most to say in decision-making to formal line managers)*	1	2	3	4	5	6	7
4	Penekanan yang tinggi terhadap pemegangan kepada ikatan dan prinsip-prinsip sebenar pengurusan walaupun berlaku perubahan din dalam suasana perniagaan *(A strong emphasis on holding past to tried and true management principles despite any)*	1	2	3	4	5	6	7

BAHAGIAN D: PRESTASI FIRMA

Dengan merujuk kepada prestasi perniagaan firma anda dalam masa 3 TAHUN YANG LEPAS (atau semenjak anda menjadi pemilik/pengurus firma ini jika anda telah terlibat dengannya untuk kurang daripada 3 tahun) sila tandakan prestasi firma anda mengikut skala berikut:

1	**2**	**3**	**4**	**5**	**6**	**7**
Sangat Rendah	Agak Rendah	Rendah	Berkecuali	Agak tinggi	Tinggi	Sangat tinggi

With reference to your firm's business performance in the last 3 years (or since you became the owner / manager of this firm if you have been involved with it for less than 3 years), please indicate your firm's performance according to the following scale:

1	***2***	***3***	***4***	***5***	***6***	***7***
Very Low	*Moderately Low*	*Low*	*Neutrality*	*Quite High*	*High*	*Very High*

FIRM PERFORMANCE								
1	Aliran tunai *(Cash flow)*	1	2	3	4	5	6	7
2	Margin untung kasar *(Gross profit margin)*	1	2	3	4	5	6	7
3	Untung bersih dari operasi *(Net profit from operation)*	1	2	3	4	5	6	7
4	Pertumbuhan jualan *(Growth of sales)*	1	2	3	4	5	6	7
5	Pulangan terhadap jualan *(Return on sales)*	1	2	3	4	5	6	7
6	Pulangan terhadap pelaburan *(Return on investment)*	1	2	3	4	5	6	7
7	Nisbah keuntungan kepada jualan *(Profit to sales ratio)*	1	2	3	4	5	6	7
8	Pulangan terhadap ekuiti pemegang saham *(Return on shareholder's equity)*	1	2	3	4	5	6	7
9	Keupayaan membiayai perniagaan dari keuntungan *(Ability to fund business growth from profit)*	1	2	3	4	5	6	7

BAHAGIAN E: MAKLUMAT LATARBELAKANG PERIBADI

1. Umur tuan sekarang
(Your current age)

☐ 25 atau ke bawah/*or under 25* ☐ 26 – 30 ☐ 31 - 35

☐ 36 – 40 ☐ 41– 45 ☐ 46 – 50 ☐ atas/or above 50

2. Umur tuan semasa mula memiliki/mengurus perniagaan ini
(Your age when you started owning/managing this business)

☐ 25 atau ke bawah/or under 25 ☐ 26 – 30 ☐ 31 - 35

☐ 36 – 40 ☐ 41– 45 ☐ 46 – 50 ☐ atas/or above 50

3. Jantina: ☐ Lelaki ☐ Perempuan
(Sex) *(Male)* *(Female)*

4. Bangsa: ☐ Melayu ☐ Cina ☐ India.
(Race) *(Malay)* *(Chinese)* *(Indian)*

Jika lain-lain, nyatakan …….....
(If others, please state……)

5. Tahap pendidikan
(Education level)

☐ Sek Rendah *(Primary)* ☐ Sek Men *(Secondary)* ☐ Diploma *(Diploma)*

☐ Ijazah Sarjana Muda *(Bachelor's degree)* ☐ Sarjana *(Master degree)*

☐ Doktor Falsafah *(Doctorate)* ☐ Jika lain-lain, nyatakan…… *(If others, please indicte…...*

6. Sebelum memulakan/memiliki perniagaan ini, adakah tuan memiliki apa-apa pengalaman kerja yang berkaitan dengannya?
(Before starting up/owning this business, did you have any relevan work experience?)

☐ Ya/*Yes* ☐ Tidak/*No*

7. Adakah tuan mempunyai pengalaman memulakan perniagaan sebelum menceburi di dalam perniagaan ini?
(Do you have business startup experience prior to this business?)

☐ Ya/*Yes* ☐ Tidak/*No*

BAHAGIAN F: MAKLUMAT SYARIKAT

1. Kaedah tuan memiliki syarikat ini:
(Ways of owning of this business)

☐ Membuka sendiri *(start-up)* ☐ Mewarisi *(succession)* ☐ Pengurusan beli alih (MBI) *(mgmt buy in)*

☐ Masuk sebagai rakan kongsi *(joined as a partner)* ☐ Ambil alih *(take-over)*

☐ Lain-lain ……
(others……..)

2. Berapa tahun tuan telah menjadi pemilik/pengurus perniagaan ini
(number of years for being the owner/manager of this business)

☐ Kurang dari 5 ☐ 5 – 10 ☐ 11 – 15

☐ 16 – 20 ☐ 21 – 25 ☐ Atas 25 *(above 25)*

3. Usia syarikat tuan (tahun)
(your firm age - years)

☐ Kurang dari 5 ☐ 5 – 10 ☐ 11 – 15

☐ 16 – 20 ☐ 21 – 25 ☐ Atas 25 *(above 25)*

4. Struktur pemilikan syarikat tuan:
(ownership structure)

☐ Pemilikan tunggal ☐ Perkongsian ☐ Sykt Sdn Bhd

5. Adakah tuan terlibat di dalam operasi perniagaan ini secara aktif?
(are you actively inVol.ved in the operations of this business ?)

☐ Ya ☐ Tidak

6. Bilangan pekerja di dalam organisasi perniagaan tuan ……
(How many employees in your business organization)……..

7. Sila nyatakan dalam sub-sektor industri manakah syarikat tuan terlibat?
(*please specify in what sub-sector industry your company involved?)*

☐ Sub-sektor pembuatan: nyatakan dalam industri: :…….....

……

(*contohya dalam pembuatan makanan, minuman, tekstil & pakaian, produk kayu, produk eletrik & komponen, jentera dan kelengkapan, kenderaan bermotor, alat ganti & eksesori dll)*

☐ Sub-sektor perkhidmatan: nyatakan dalam industri:…….....

……

(*contohya dalam perhotelan, pendidikan, kesihatan, profesional, pengangkutan dan komunikasi, perkhidmatan computer, telekomunikasi, aktiviti hartanah, perundingan, kewangan, borong, runcit, restoran, perkhidmatan lain dll)*

☐ Sub-sektor pertanian: nyatakan dalam industri:…….....

……

c*ontohnya penanaman tanaman, tanaman pasaran dan hortikultur, tanaman pasaran,penternakan haiwan, pertanian campuran, aktiviti pembalakan dan berkaitan, penangkapan ikan dan aktiviti perkhidmatan iringan kepada perikanan, dll)*

8. Pada tahap manakah perkembangan semasa perniagaan tuan di dalam industri tersebut?
(what is the current stage of business development of your industry?)

☐ ***Peringkat pengenalan*** (Produk masih belum dikenali oleh ramai pengguna yang berpotensi dan permintaan yang luas dari industri sedang meningkat)
introduction stage - products and services are unfamiliar to many potential users, and industry-widea demand is beginning to grow

☐ ***Peringkat pertumbuhan*** (Permintaan keseluruhan industri yang luas untuk produk meningkat pada kadar 10% atau lebih pada tiap-tiap tahun.
(growth stage - total industry-widea demand for products orservices is growing at a rate of 10% or more annually)

☐ ***Peringkat kematangan*** (Produk amat dikenali oleh majoriti pengguna dan permintaan keseluruhan industri yang luas adalah stabil secara relatif.
(maturity stage - products or services are familiar to the vast majority or prospective users and industry-widea demand is relatively stable)

☐ ***Peringkat kejatuhan*** (Permintaan keseluruhan industri yang luas untuk produk-produk sedang menurun lebih dari kadar biasa)
(decline stage - total industry widea demand for products or services is decreasing at a more or less steady rate)

APPENDIX B:

PILOT TEST

Reliability

[DataSet1] D:\sufli\pilot.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.807	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b1	20.9667	30.171	.620	.761
b2	20.3000	31.252	.723	.736
b3	20.7000	28.562	.731	.725
b4	21.5667	33.357	.509	.794
b5	20.4667	33.499	.422	.824

Reliability

[DataSet1] D:\sufli\pilot.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.771	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b6	53.9333	44.202	.568	.735
b7	53.5667	43.702	.602	.727
b8	53.6000	41.145	.688	.710
b9	52.5000	55.707	.467	.751
b10	52.6667	56.368	.433	.755
b11	52.5667	59.289	.296	.768
b12	52.3000	56.838	.453	.754
b13	52.4000	60.455	.182	.777
b14	52.8000	59.545	.245	.772
b15	52.5667	55.289	.507	.748

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.819	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b16	35.5667	26.668	.419	.826
b17	35.6667	26.092	.584	.791
b18	35.3000	27.390	.681	.781
b19	35.7667	27.289	.666	.783
b20	35.6667	26.713	.606	.788
b21	36.3333	28.161	.332	.840
b22	35.7000	24.148	.800	.753

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.842	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b23	52.7333	52.754	.343	.843
b24	52.7000	53.734	.189	.861
b25	52.3000	48.424	.523	.829
b26	52.2333	54.668	.263	.848
b27	52.5333	46.120	.734	.809
b28	52.6000	49.559	.662	.820
b29	52.9333	44.478	.702	.810
b30	52.9000	45.610	.649	.816
b31	52.8667	44.602	.715	.809
b32	52.7000	46.493	.630	.818

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.917	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b33	22.1000	23.128	.942	.868
b34	22.2333	23.495	.817	.891
b35	22.3333	21.540	.752	.914
b36	22.0000	24.966	.775	.901
b37	22.1333	26.533	.705	.914

Reliability

[DataSet1] D:\sufli\pilot.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.767	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b38	28.9667	12.930	.519	.734
b39	29.0333	15.620	.273	.795
b40	28.8333	14.420	.495	.736
b41	28.8000	13.821	.720	.687
b42	28.2667	14.823	.520	.731
b43	28.7667	13.426	.626	.701

Reliability

[DataSet1] D:\sufli\pilot.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.819	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b44	55.8667	27.982	.479	.805
b45	55.6667	25.333	.436	.819
b46	55.2667	29.237	.484	.807
b47	55.3333	25.678	.755	.778
b48	55.0667	29.857	.356	.816
b49	55.4000	31.007	.271	.821
b50	55.4667	31.775	.105	.833
b51	55.3667	27.137	.711	.787
b52	55.8333	21.799	.793	.763
b53	56.0333	22.102	.709	.777

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.724	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b54	12.2333	1.495	.675	.517
b55	11.9000	2.921	.504	.689
b56	11.9333	2.961	.569	.643

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.750	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b57	25.4333	5.426	.240	.819
b58	25.1667	5.316	.522	.708
b59	25.0000	5.103	.543	.698
b60	25.0667	4.064	.716	.621
b61	24.9333	4.616	.658	.654

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.798	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b62	36.9667	5.826	.517	.775
b63	36.9000	5.679	.714	.748
b64	36.7667	5.426	.568	.765
b65	36.8667	5.637	.567	.765
b66	36.9000	5.403	.615	.756
b67	36.8333	5.868	.327	.816
b68	36.5667	5.564	.499	.778

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```


Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.790	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
c1	37.2667	8.409	.455	.775
c2	37.4000	7.490	.361	.815
c3	37.2333	9.495	.264	.800
c4	37.1667	7.799	.670	.740
c5	37.1000	7.334	.713	.726
c6	37.2000	7.545	.621	.743
c7	37.2333	6.875	.663	.732

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.705	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d1	22.0667	12.202	.394	.422
d2	21.9000	12.576	.313	.452
d3	22.4000	13.421	.142	.516
d4	23.7667	7.426	.483	.268
d5	22.6667	8.782	.224	.538

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.754	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d6	24.6000	6.731	.166	.566
d7	25.2333	5.495	.210	.563
d8	25.0667	4.823	.453	.416
d9	25.0000	4.276	.461	.396
d10	25.1667	4.902	.310	.505

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```


Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.741	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d11	60.7333	16.409	-.197	.616
d12	60.5333	14.395	-.038	.628
d13	60.3000	14.217	.181	.528
d14	60.4667	12.464	.510	.448
d15	60.3000	11.528	.633	.405
d16	60.3667	12.654	.513	.452
d17	60.6000	12.662	.507	.453
d18	60.6000	11.559	.647	.404
d19	60.8667	11.982	.411	.459
d20	60.5333	17.085	-.281	.650
d21	60.3667	14.999	.193	.530

Reliability

```
[DataSet1] D:\sufli\pilot.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.728	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e1	47.1667	18.282	.105	.455
e2	47.3667	18.102	.070	.490
e3	46.1000	14.852	.582	.184
e4	46.4333	22.116	.043	.443
e5	46.6000	18.938	.263	.363
e6	46.0333	21.206	.377	.373
e7	46.2000	22.786	.110	.423
e8	45.5333	23.568	-.040	.445
e9	46.1667	20.075	.302	.363

APPENDIX C:

SMEs BACKGROUND

Frequencies

[DataSet1] D:\sufli\background.sav

Statistics

		operasi	negeri	sektor	pekerja	jualan
N	Valid	328	328	328	328	328
	Missing	0	0	0	0	0

Frequency Table

operasi

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<5	14	4.3	4.3	4.3
	5-10	120	36.6	36.6	40.9
	11-15	127	38.7	38.7	79.6
	16-20	67	20.4	20.4	100.0
	Total	328	100.0	100.0	

negeri

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	pulau pinang	155	47.3	47.3	47.3
	kedah	142	43.3	43.3	90.5
	perlis	31	9.5	9.5	100.0
	Total	328	100.0	100.0	

sektor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pembuatan	270	82.3	82.3	82.3
	Pekhidmatan	58	17.7	17.7	100.0
	Total	328	100.0	100.0	

pekerja

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<50	146	44.5	44.5	44.5
	50-100	105	32.0	32.0	76.5
	101-150	63	19.2	19.2	95.7
	151-200	14	4.3	4.3	100.0
	Total	328	100.0	100.0	

jualan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<500k	101	30.8	30.8	30.8
	500k - 1 juta	69	21.0	21.0	51.8
	1 juta - 1.5 juta	83	25.3	25.3	77.1
	1.5 juta - 2 juta	49	14.9	14.9	92.1
	2 juta - 2.5 juta	26	7.9	7.9	100.0
	Total	328	100.0	100.0	

APPENDIX D:

BIAS-TEST

APPENDIX D:

BIAS-TEST

T-Test

[DataSet0] D:\sufli\data play.sav

Group Statistics

	resp_Bias	N	Mean	Std. Deviation	Std. Error Mean
performance	1.00	176	5.8062	.47791	.03602
	2.00	138	5.7818	.47888	.04076
traits	1.00	176	5.8541	.54171	.04083
	2.00	138	5.8211	.61900	.05269
skills	1.00	176	5.8992	.60036	.04525
	2.00	138	5.9332	.65170	.05548
org_structure	1.00	176	5.7622	.70012	.05277
	2.00	138	5.8302	.72197	.06146
innovation	1.00	176	5.9012	.44905	.03385
	2.00	138	5.9434	.42853	.03648

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
performance	Equal variances assumed	.142	.707	.448	312
	Equal variances not assumed			.448	294.107
traits	Equal variances assumed	.783	.377	.502	312
	Equal variances not assumed			.494	273.682
skills	Equal variances assumed	1.224	.269	-.480	312
	Equal variances not assumed			-.475	282.174
org_structure	Equal variances assumed	.104	.747	-.843	312
	Equal variances not assumed			-.840	290.061
innovation	Equal variances assumed	1.104	.294	-.842	312
	Equal variances not assumed			-.847	300.232

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
performance	Equal variances assumed	.654	.02438	.05439
	Equal variances not assumed	.654	.02438	.05440
traits	Equal variances assumed	.616	.03293	.06560
	Equal variances not assumed	.622	.03293	.06666
skills	Equal variances assumed	.632	-.03400	.07088
	Equal variances not assumed	.635	-.03400	.07159
org_structure	Equal variances assumed	.400	-.06805	.08071
	Equal variances not assumed	.402	-.06805	.08101
innovation	Equal variances assumed	.400	-.04216	.05005
	Equal variances not assumed	.398	-.04216	.04976

Independent Samples Test

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
performance	Equal variances assumed	-.08263	.13140
	Equal variances not assumed	-.08268	.13145
traits	Equal variances assumed	-.09614	.16200
	Equal variances not assumed	-.09830	.16417
skills	Equal variances assumed	-.17347	.10548
	Equal variances not assumed	-.17492	.10693
org_structure	Equal variances assumed	-.22685	.09074
	Equal variances not assumed	-.22749	.09138
innovation	Equal variances assumed	-.14064	.05631
	Equal variances not assumed	-.14010	.05577

APPENDIX E:

TEST ON MULTIVARIATE ASSUMPTIONS

Descriptives

[DataSet0] D:\sufli\data play.sav

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
performance	314	4.22	6.78	5.7955	.47772	-.489	.138
traits	314	3.68	6.86	5.8396	.57623	-.953	.138
opportunity	314	1.80	7.00	5.5178	1.11441	-1.525	.138
relationship	314	3.70	7.00	5.9312	.59919	-.659	.138
operational	314	3.14	7.00	5.9386	.72695	-.921	.138
skills	314	4.26	7.00	5.9142	.62266	-.254	.138
strategic	314	3.60	7.00	5.8376	.73175	-.328	.138
commitment	314	3.00	7.00	5.5631	1.15048	-.435	.138
learning	314	3.67	7.00	5.8169	.71608	-.281	.138
personal	314	4.00	7.00	6.0293	.68501	-.320	.138
innovative	314	3.33	7.00	5.9352	.84788	-.514	.138
human	314	2.80	7.00	6.1611	.74329	-1.100	.138
analytical	314	3.71	7.00	6.0077	.68555	-.709	.138
innovation	314	4.52	7.00	6.0337	.58180	-.486	.138
incremantal	314	4.00	7.00	6.0306	.69656	-.734	.138
radical	314	4.60	7.00	6.0732	.63958	-.422	.138
open	314	4.45	7.00	6.0171	.60065	-.255	.138
org_structure	314	4.00	7.00	5.7921	.70947	-.272	.138
Valid N (listwise)	314						

Descriptive Statistics

	Kurtosis	
	Statistic	Std. Error
performance	.473	.274
traits	1.466	.274
opportunity	2.093	.274
relationship	.659	.274
operational	1.202	.274
skills	-.558	.274
strategic	-.207	.274
commitment	-1.222	.274
learning	-.153	.274
personal	-.612	.274
innovative	-.463	.274
human	1.633	.274
analytical	.675	.274
innovation	-.225	.274
incremantal	.211	.274
radical	-.649	.274
open	-.630	.274
org_structure	-.466	.274
Valid N (listwise)		

Regression

```
[DataSet0] D:\sufli\data play.sav
```

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	org_structure, innovation, traits, skills[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837[a]	.701	.697	.26301

a. Predictors: (Constant), org_structure, innovation, traits, skills

b. Dependent Variable: performance

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.057	4	12.514	180.906	.000[a]
	Residual	21.375	309	.069		
	Total	71.433	313			

a. Predictors: (Constant), org_structure, innovation, traits, skills

b. Dependent Variable: performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.050	.242		.207	.836
	traits	.416	.028	.502	14.893	.000
	skills	.298	.026	.388	11.392	.000
	innovation	.095	.026	.116	3.688	.000
	org_structure	.169	.021	.252	7.999	.000

a. Dependent Variable: performance

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	traits	.853	1.172
	skills	.834	1.198
	innovation	.982	1.019
	org_structure	.978	1.022

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	traits	skills
1	1	4.968	1.000	.00	.00	.00
	2	.013	19.639	.00	.05	.06
	3	.010	22.678	.01	.15	.18
	4	.006	27.804	.01	.60	.73
	5	.003	41.097	.99	.20	.03

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		innovation	org_structure
1	1	.00	.00
	2	.04	.86
	3	.58	.01
	4	.00	.00
	5	.38	.13

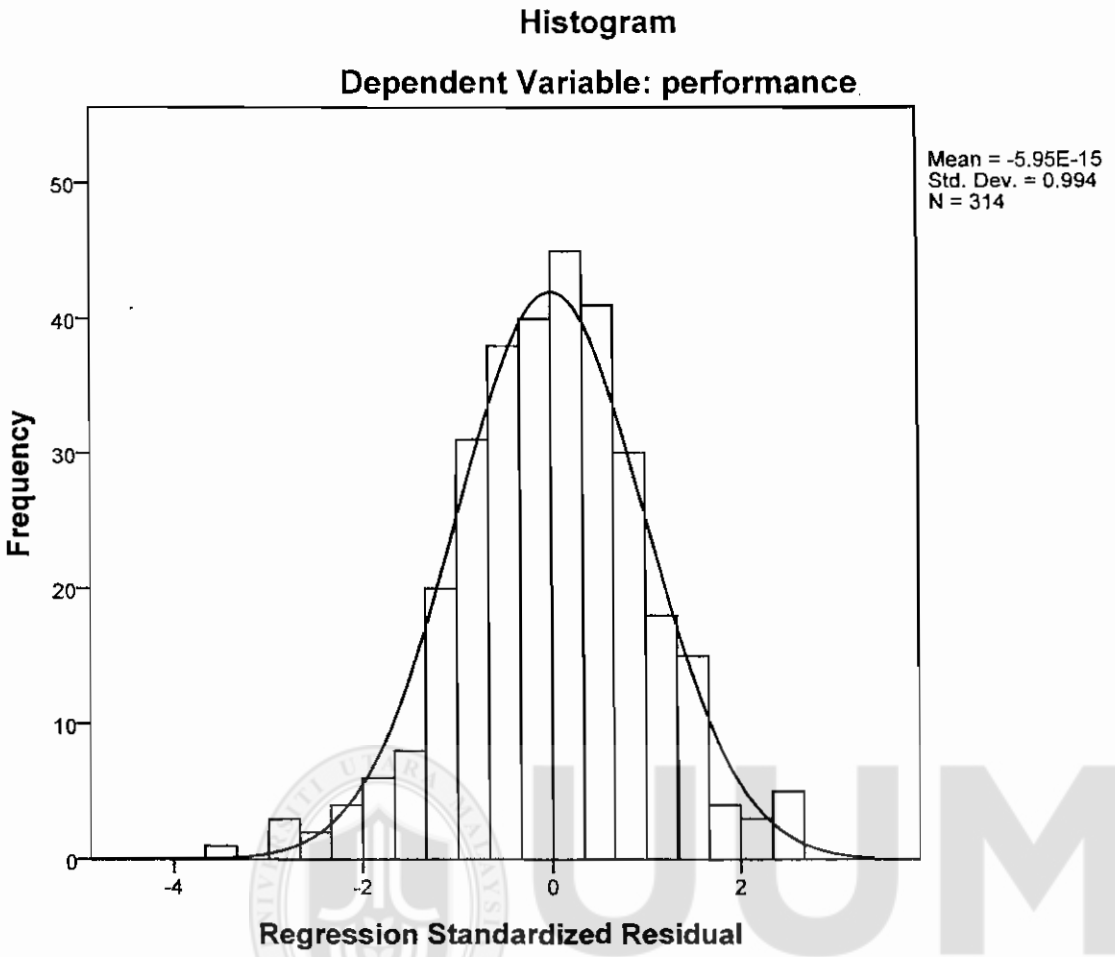
a. Dependent Variable: performance

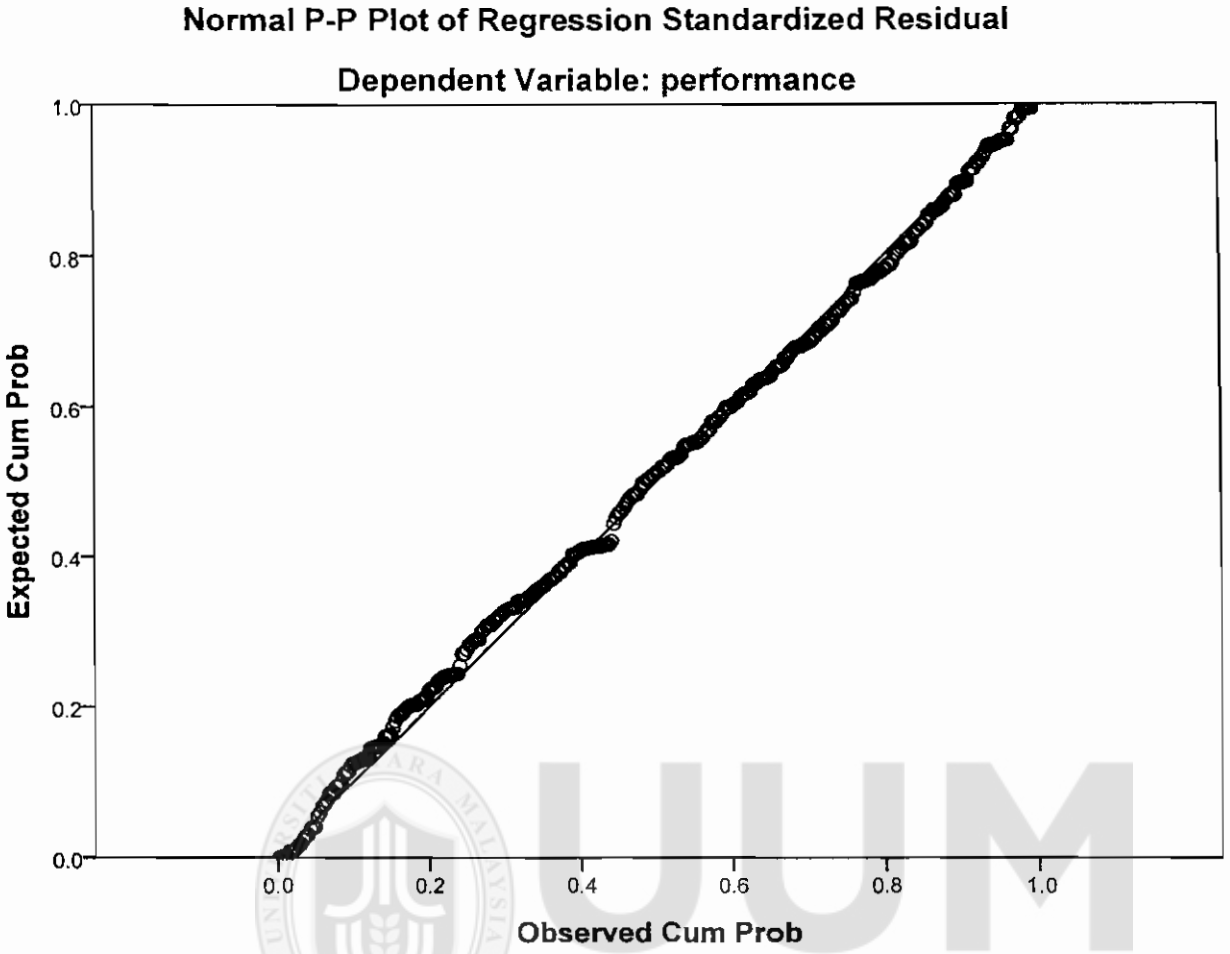
Residuals Statistics[a]

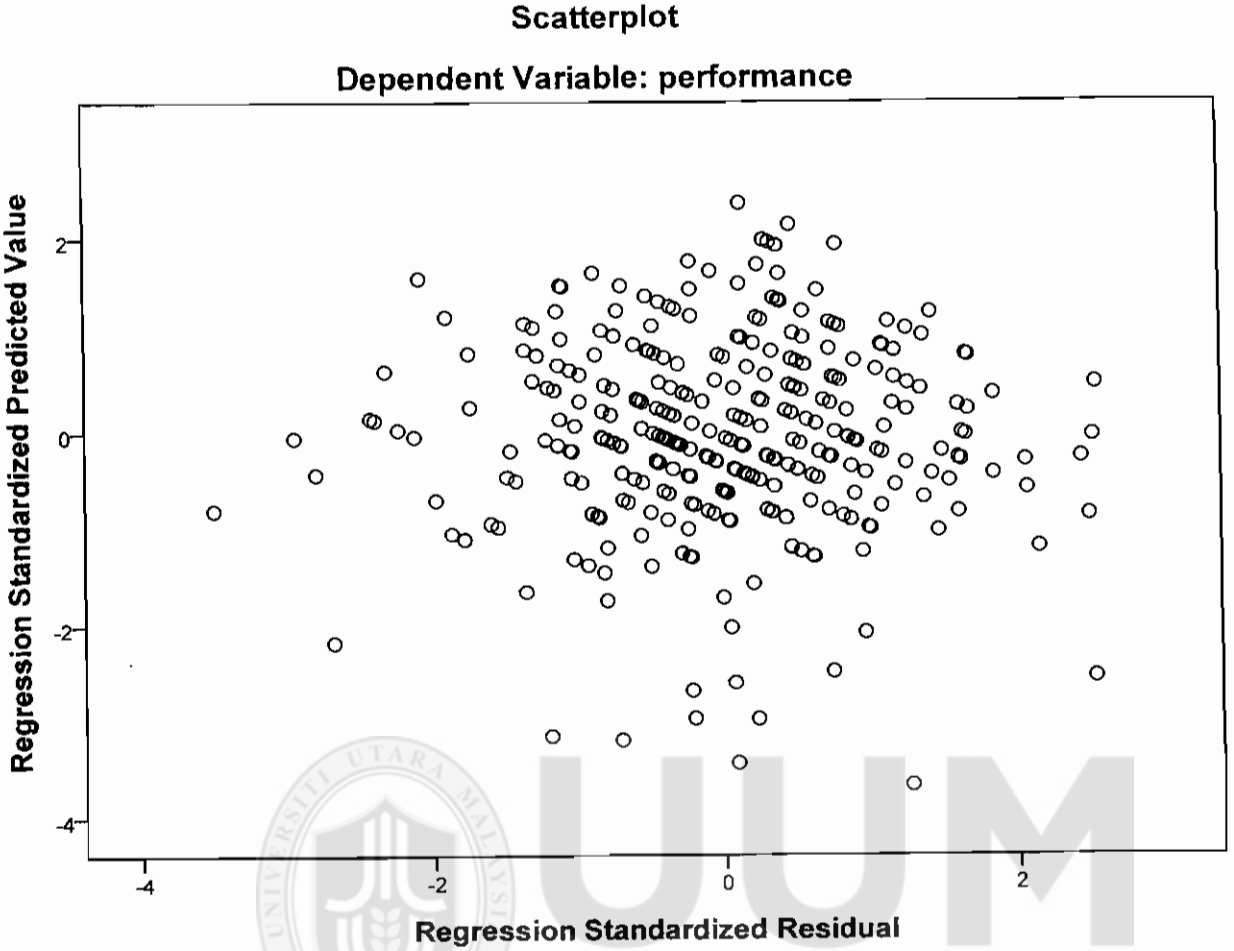
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.3317	6.7427	5.7955	.39991	314
Residual	-.91936	.66791	.00000	.26133	314
Std. Predicted Value	-3.660	2.369	.000	1.000	314
Std. Residual	-3.495	2.539	.000	.994	314

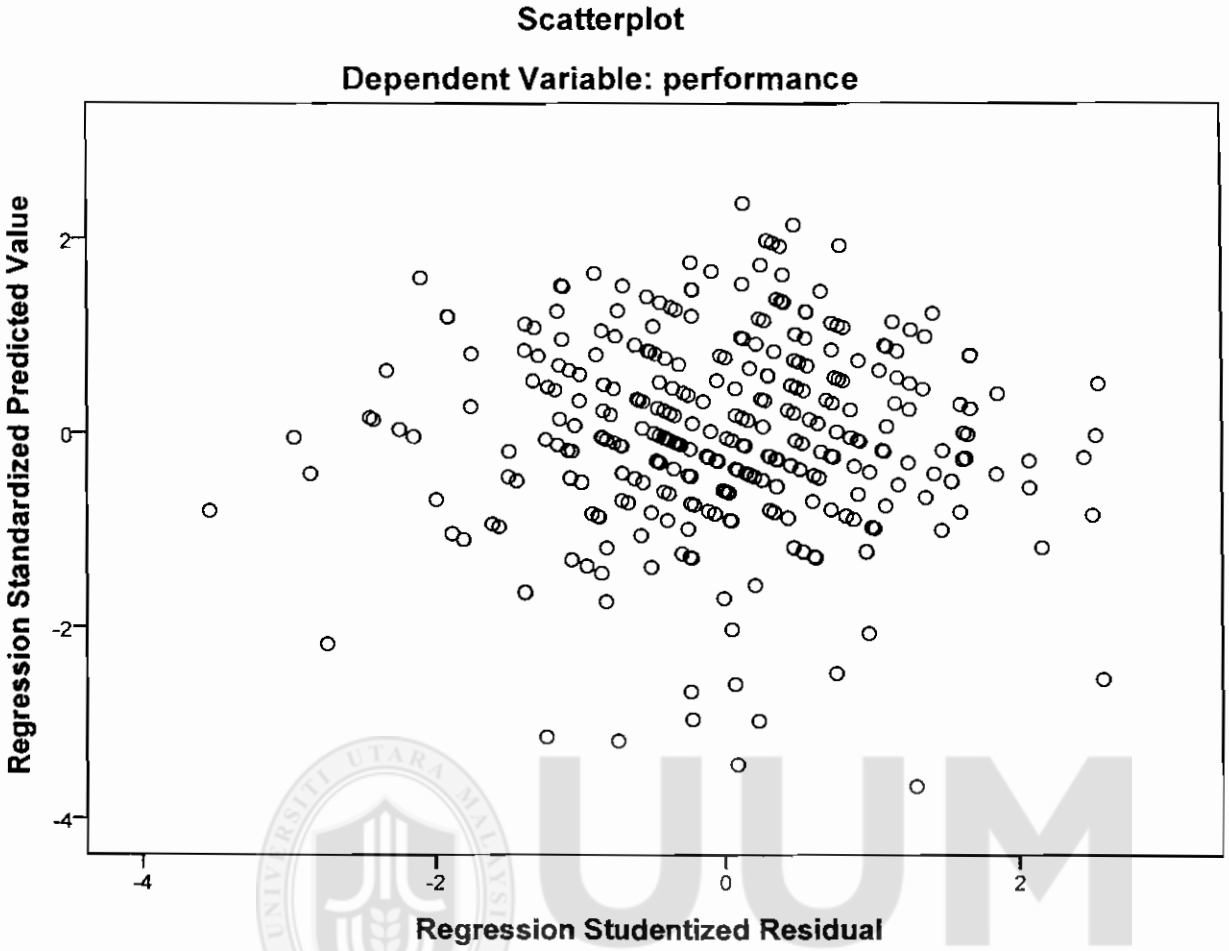
a. Dependent Variable: performance

Charts









Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.050	.219		-.228	.820
	opportunity	.118	.013	.274	8.726	.000
	relationship	.275	.028	.344	9.701	.000
	operational	-.023	.027	-.036	-.859	.391
	strategic	.140	.041	.214	3.433	.001
	commitment	.114	.023	.275	5.004	.000
	learning	.138	.034	.207	4.061	.000
	personal	-.129	.038	-.185	-3.394	.001
	innovative	-.009	.025	-.016	-.358	.720
	human	-.021	.026	-.032	-.806	.421
	analytical	.119	.021	.171	5.639	.000
	org_structure	.190	.018	.282	10.330	.000
	incremantal	-.022	.029	-.032	-.739	.461
	radical	.153	.033	.205	4.577	.000
	open	-.034	.041	-.042	-.828	.409

a. Dependent Variable: performance

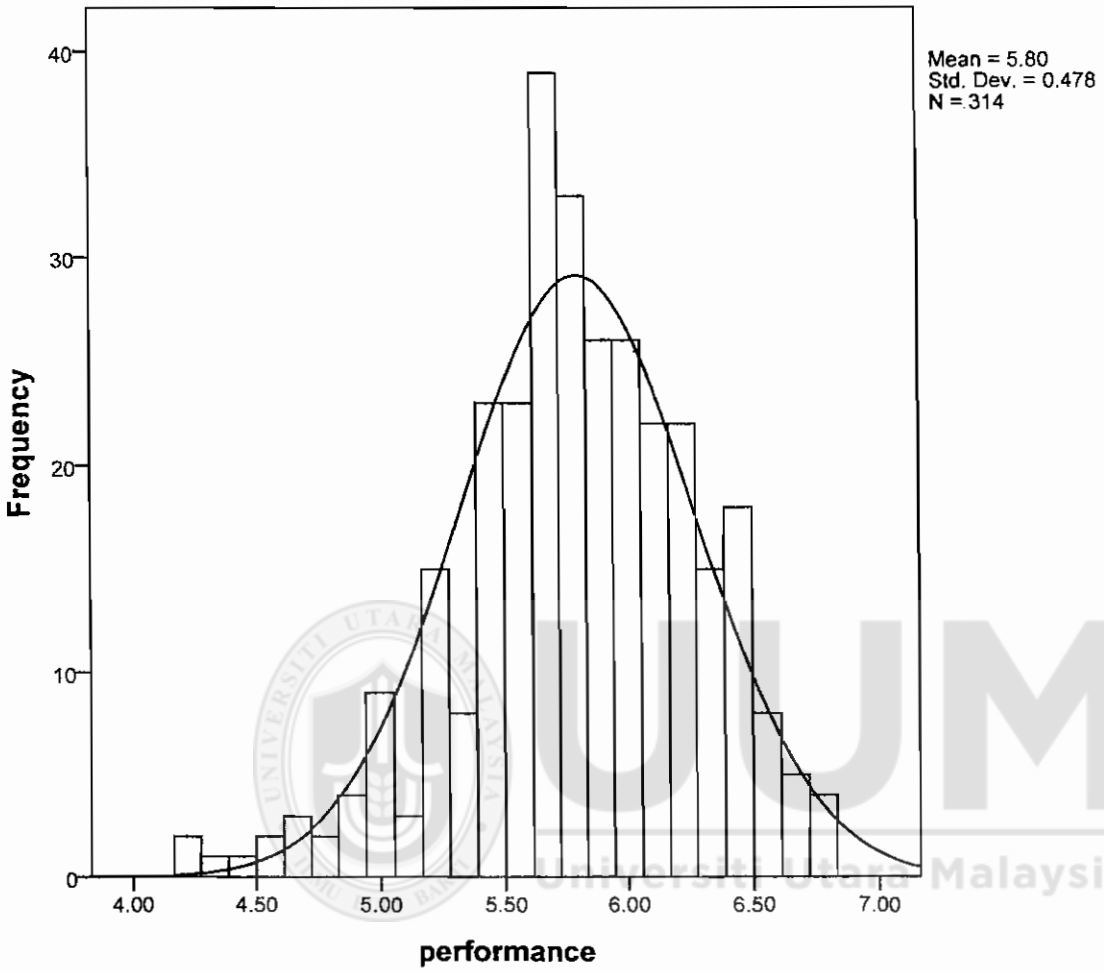
Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	opportunity	.701	1.426
	relationship	.550	1.817
	operational	.403	2.484
	strategic	.179	5.596
	commitment	.231	4.336
	learning	.268	3.736
	personal	.233	4.292
	innovative	.362	2.763
	human	.432	2.314
	analytical	.752	1.330
	org_structure	.932	1.072
	incremantal	.381	2.624
	radical	.346	2.890
	open	.266	3.755

a. Dependent Variable: performance

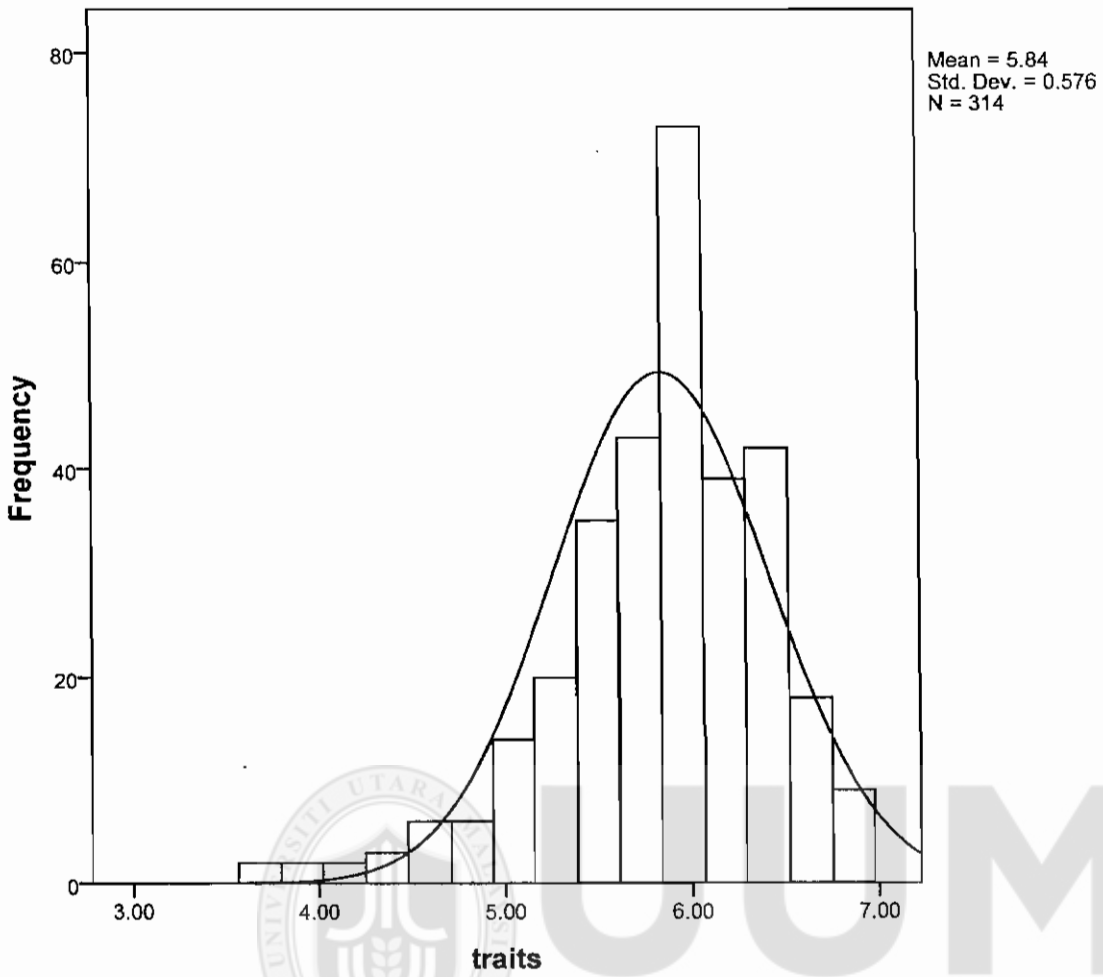
Graph

[DataSet0] D:\sufli\data play.sav



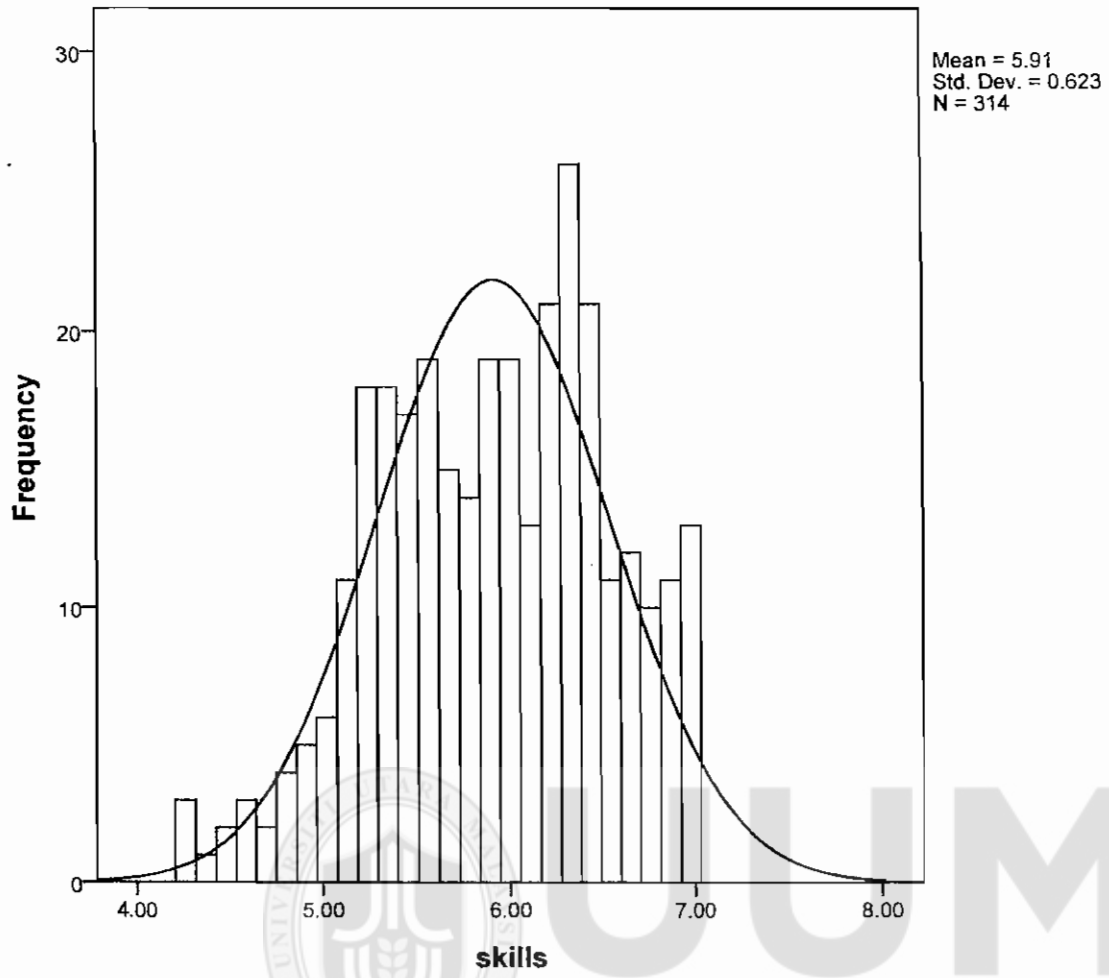
Graph

[DataSet0] D:\sufli\data play.sav



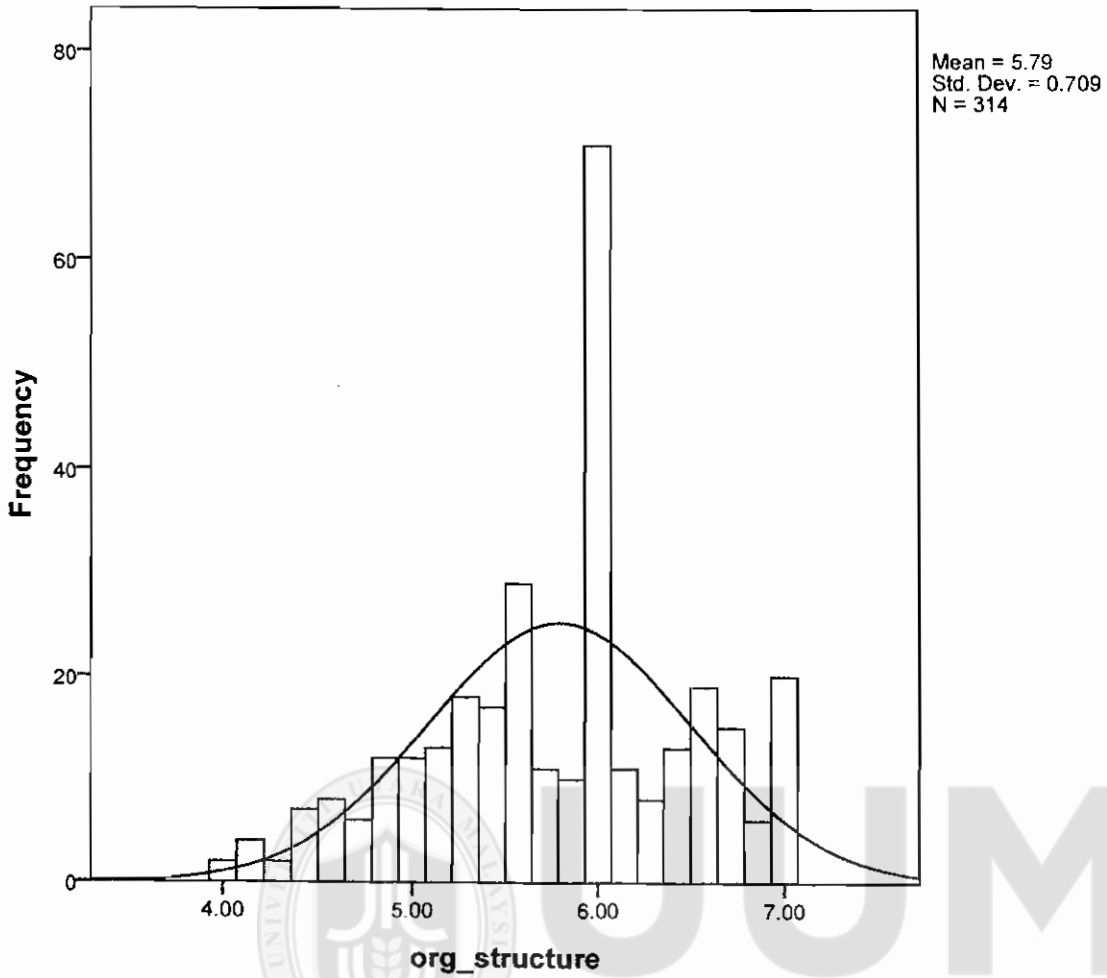
Graph

[DataSet0] D:\sufli\data play.sav



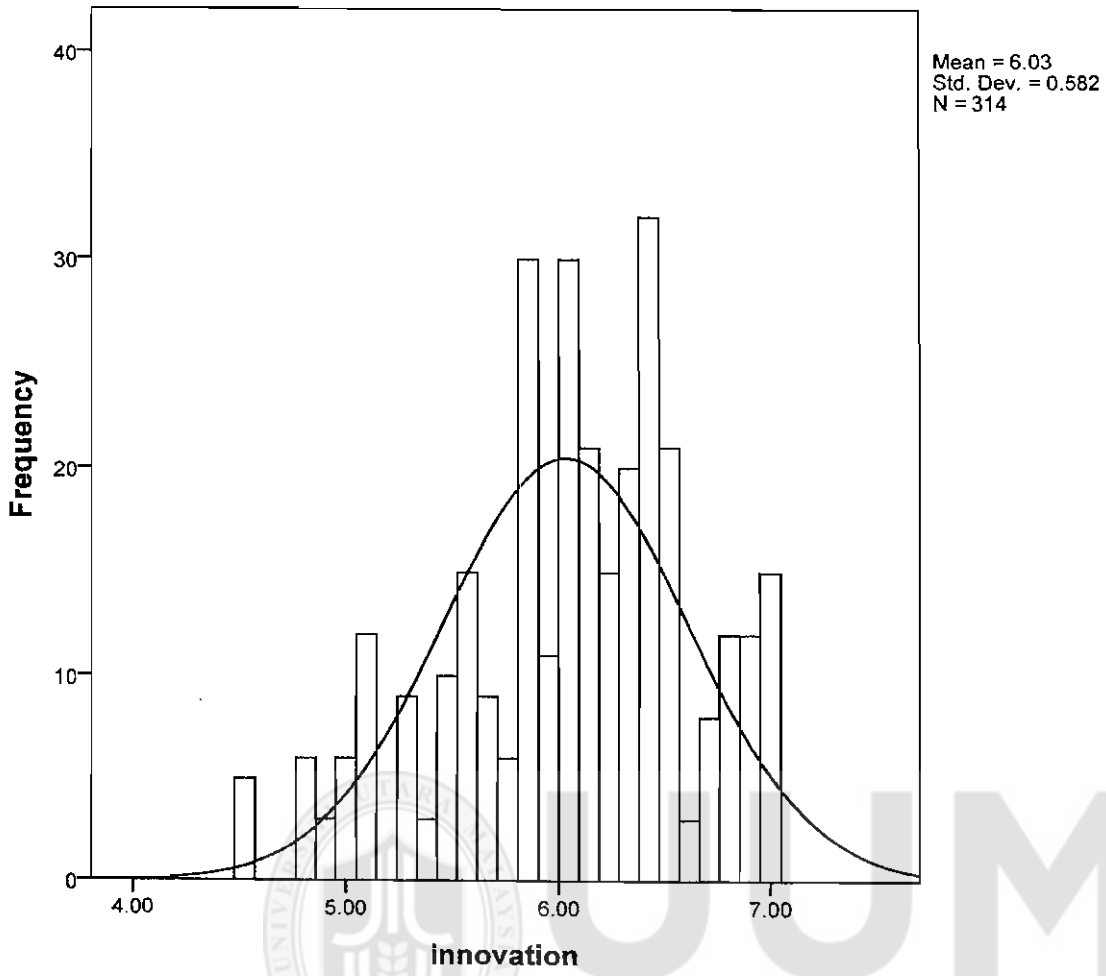
Graph

[DataSet0] D:\sufli\data play.sav



Graph

[DataSet0] D:\sufli\data play.sav



APPENDIX F:

FACTOR ANALYSIS

Factor Analysis

[DataSet0] D:\sufli\data.sav

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.892
Bartlett's Test of Sphericity	Approx. Chi-Square	19039.728
	df	1953
	Sig.	.000

Communalities

	Initial	Extraction
b1	1.000	.698
b2	1.000	.759
b3	1.000	.674
b4	1.000	.550
b6	1.000	.841
b7	1.000	.884
b8	1.000	.778
b10	1.000	.642
b11	1.000	.654
b12	1.000	.619
b13	1.000	.631
b14	1.000	.608
b15	1.000	.600
b16	1.000	.657
b17	1.000	.746
b18	1.000	.731
b19	1.000	.701
b20	1.000	.697
b21	1.000	.627
b22	1.000	.688
b24	1.000	.541
b25	1.000	.635
b26	1.000	.541
b27	1.000	.602
b28	1.000	.702
b29	1.000	.811

Extraction Method: Principal Component Analysis.

Communalities

	Initial	Extraction
b30	1.000	.818
b31	1.000	.821
b32	1.000	.820
b33	1.000	.787
b34	1.000	.798
b35	1.000	.783
b36	1.000	.832
b37	1.000	.806
b38	1.000	.830
b39	1.000	.743
b40	1.000	.640
b41	1.000	.612
b42	1.000	.710
b43	1.000	.659
b44	1.000	.650
b45	1.000	.642
b46	1.000	.576
b47	1.000	.673
b48	1.000	.647
b49	1.000	.710
b50	1.000	.628
b51	1.000	.600
b52	1.000	.842
b53	1.000	.854
b54	1.000	.720
b55	1.000	.588
b56	1.000	.649
b58	1.000	.582
b59	1.000	.693
b60	1.000	.774
b61	1.000	.736
b62	1.000	.742
b63	1.000	.772
b64	1.000	.837
b65	1.000	.746

Extraction Method: Principal Component Analysis.

Communalities

	Initial	Extraction
b66	1.000	.709
b67	1.000	.668

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	19.115	30.341	30.341	19.115	30.341	30.341
2	8.174	12.974	43.315	8.174	12.974	43.315
3	3.942	6.257	49.572	3.942	6.257	49.572
4	3.019	4.791	54.363	3.019	4.791	54.363
5	2.271	3.604	57.967	2.271	3.604	57.967
6	1.931	3.065	61.032	1.931	3.065	61.032
7	1.765	2.802	63.834	1.765	2.802	63.834
8	1.441	2.287	66.122	1.441	2.287	66.122
9	1.370	2.175	68.297	1.370	2.175	68.297
10	1.286	2.041	70.338	1.286	2.041	70.338
11	.967	1.535	71.873			
12	.950	1.508	73.381			
13	.928	1.473	74.854			
14	.882	1.400	76.254			
15	.850	1.350	77.603			
16	.750	1.191	78.794			
17	.748	1.188	79.982			
18	.741	1.176	81.158			
19	.688	1.092	82.250			
20	.638	1.013	83.263			
21	.606	.962	84.225			
22	.554	.880	85.105			
23	.539	.855	85.960			
24	.517	.820	86.780			
25	.494	.785	87.565			
26	.454	.720	88.285			
27	.434	.689	88.975			
28	.420	.667	89.642			
29	.383	.609	90.250			

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	14.010	22.239	22.239
2	6.090	9.666	31.905
3	4.650	7.382	39.286
4	3.870	6.143	45.429
5	3.416	5.422	50.851
6	3.201	5.081	55.932
7	2.812	4.463	60.395
8	2.524	4.006	64.401
9	2.016	3.200	67.601
10	1.724	2.737	70.338
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
30	.380	.604	90.854			
31	.368	.583	91.437			
32	.361	.574	92.011			
33	.326	.518	92.529			
34	.302	.479	93.007			
35	.292	.463	93.471			
36	.275	.436	93.907			
37	.273	.434	94.341			
38	.262	.415	94.756			
39	.247	.391	95.148			
40	.237	.376	95.523			
41	.221	.351	95.874			
42	.212	.336	96.210			
43	.204	.324	96.534			
44	.192	.305	96.840			
45	.181	.287	97.127			
46	.176	.279	97.406			
47	.166	.264	97.670			
48	.154	.245	97.915			
49	.149	.236	98.151			
50	.126	.199	98.350			
51	.118	.187	98.538			
52	.116	.184	98.722			
53	.108	.171	98.893			
54	.099	.157	99.050			
55	.092	.146	99.195			
56	.084	.133	99.328			
57	.082	.131	99.459			
58	.077	.122	99.580			
59	.064	.101	99.681			
60	.061	.097	99.778			
61	.051	.081	99.859			
62	.047	.074	99.933			
63	.042	.067	100.000			

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
b1				.497				
b2				.567				
b3				.494				
b4								
b6			.401	.641				
b7		.500		.533				
b8		.436		.486				
b10					.558			
b11	.410							
b12	.447							
b13	.545							
b14	.614							
b15	.481							
b16	.532							
b17		.531						
b18	.453	.441						
b19	.407	.649						
b20	.426	.566						
b21	.558							
b22	.506	.442						
b24		.554						
b25		.546						
b26	.550							
b27	.620							
b28	.625							
b29	.775							
b30	.813							
b31	.778	-.410						
b32	.722	-.463						
b33	.768							
b34	.720	-.447						
b35	.752	-.419						
b36	.772	-.403						
b37	.765							

Extraction Method: Principal Component Analysis.

a. 10 components extracted.

Component Matrix[a]

	Component	
	9	10
b1		
b2		
b3		
b4		
b6		
b7		
b8		
b10		
b11		
b12		
b13		
b14		
b15		
b16		
b17		
b18		
b19		
b20		
b21		.468
b22		
b24		
b25		
b26		
b27		
b28		
b29		
b30		
b31		
b32		
b33		
b34		
b35		
b36		
b37		

Extraction Method: Principal Component Analysis.

a. 10 components extracted.

Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
b38	.776	-.420						
b39	.679	-.439						
b40	.429	.493						
b41	.523							
b42	.514	.521						
b43	.484	.530						
b44	.679							
b45	.688							
b46	.493							
b47	.698							
b48	.484	.455						
b49	.615							
b50	.435				-.420			
b51	.660							
b52	.762	-.470						
b53	.708	-.565						
b54	.746							
b55	.494							
b56	.587							
b58	.597							
b59	.548					.419		
b60	.629					.432		
b61	.558							
b62			-.632					
b63	.512		-.608					
b64	.425		-.681					
b65	.483		-.555					
b66			-.592					
b67			-.633					

Extraction Method: Principal Component Analysis.

a. 10 components extracted.

Component Matrix[a]

	Component	
	9	10
b38		
b39		
b40		
b41		
b42		
b43		
b44		
b45		
b46		
b47		
b48		
b49		
b50		
b51		
b52		
b53		
b54		
b55		
b56		
b58		
b59		
b60		
b61		
b62		
b63		
b64		
b65		
b66		
b67		

Extraction Method: Principal Component Analysis.

a. 10 components extracted.

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
b1							.798	
b2							.828	
b3							.782	
b4							.566	
b6								.866
b7								.837
b8								.807
b10								.613
b11								.698
b12								.469
b13								.598
b14								.639
b15								.620
b16				.656				
b17				.774				
b18				.743				
b19				.624				
b20				.725				
b21				.513				
b22				.690				
b24		.532						
b25		.503						
b26		.520						
b27		.531						
b28		.428						
b29		.847						
b30		.836						
b31		.872						
b32		.871						
b33	.834							
b34	.846							
b35	.847							
b36	.877							

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Rotated Component Matrix[a]

	Component	
	9	10
b1		
b2		
b3		
b4		
b6		
b7		
b8		
b10		
b11		
b12		
b13		
b14		
b15		
b16		
b17		
b18		
b19		
b20		
b21		
b22		
b24		
b25		.450
b26		
b27		
b28		
b29		
b30		
b31		
b32		
b33		
b34		
b35		
b36		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
b37	.868							
b38			.893					
b39			.831					
b40			.752					
b41			.682					
b42			.727					
b43			.604					
b44						.648		
b45						.705		
b46						.622		
b47						.705		
b48		.465				.539		
b49						.670		
b50						.681		
b51						.486		
b52						.864		
b53						.870		
b54								
b55								
b56								
b58					.567			
b59					.690			
b60					.697			
b61					.694			
b62								
b63								
b64								
b65								
b66								
b67								

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Rotated Component Matrix[a]

	Component	
	9	10
b37		
b38		
b39		
b40		
b41		
b42		
b43		
b44		
b45		
b46		
b47		
b48		
b49		
b50		
b51		
b52		
b53		
b54	.776	
b55	.422	
b56	.569	
b58		
b59		
b60		
b61		
b62		.831
b63		.781
b64		.883
b65		.778
b66		.784
b67		.728

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6	7	8
1	.756	.358	.260	.242	.273	.256	-.024	.001
2	-.583	.560	.136	.361	.158	.224	.254	.198
3	.244	.139	-.791	.195	-.225	-.027	.332	.308
4	.114	-.270	.422	-.220	-.046	-.074	.614	.550
5	.010	-.231	.176	.654	-.195	-.481	.149	-.245
6	-.041	-.257	-.161	.231	.801	-.190	-.048	.186
7	.072	.391	.189	.053	-.261	-.488	-.410	.420
8	-.012	.033	.071	.006	-.169	.357	.062	-.107
9	.083	.339	.025	-.172	.086	-.322	.502	-.529
10	-.041	.278	-.111	-.459	.255	-.377	-.014	.014

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Component Transformation Matrix

Component	9	10
1	.158	.091
2	.086	.104
3	.022	-.040
4	.011	-.022
5	.363	-.065
6	-.229	-.295
7	-.316	-.228
8	.098	-.902
9	-.445	-.083
10	.689	-.126

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Factor Analysis

```
[DataSet0] D:\sufli\data.sav
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.875
Bartlett's Test of Sphericity	Approx. Chi-Square	1301.302
	df	21
	Sig.	.000

Communalities

	Initial	Extraction
c1	1.000	.511
c2	1.000	.587
c3	1.000	.595
c4	1.000	.718
c5	1.000	.674
c6	1.000	.663
c7	1.000	.637

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.385	62.638	62.638	4.385	62.638	62.638
2	.766	10.939	73.577			
3	.524	7.491	81.068			
4	.491	7.014	88.082			
5	.335	4.792	92.874			
6	.263	3.763	96.637			
7	.235	3.363	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
c1	.715
c2	.766
c3	.772
c4	.847
c5	.821
c6	.814
c7	.798

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

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

Factor Analysis

```
[DataSet0] D:\sufli\data.sav
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.825
Bartlett's Test of Sphericity	Approx. Chi-Square	1522.543
	df	28
	Sig.	.000

Anti-image Matrices

		e1	e2	e3	e4	e5	e6
Anti-image Covariance	e1	.460	-.152	-.104	.011	.003	-.091
	e2	-.152	.350	-.134	-.050	.007	.072
	e3	-.104	-.134	.343	.040	-.131	-.020
	e4	.011	-.050	.040	.557	-.197	-.104
	e5	.003	.007	-.131	-.197	.441	-.079
	e6	-.091	.072	-.020	-.104	-.079	.347
	e7	.113	-.132	-.035	.032	.014	-.153
	e8	-.114	.050	.016	-.058	-.009	-.035
Anti-image Correlation	e1	.804[a]	-.379	-.262	.022	.006	-.227
	e2	-.379	.793[a]	-.387	-.113	.018	.208
	e3	-.262	-.387	.864[a]	.092	-.337	-.058
	e4	.022	-.113	.092	.849[a]	-.398	-.236
	e5	.006	.018	-.337	-.398	.859[a]	-.203
	e6	-.227	.208	-.058	-.236	-.203	.841[a]
	e7	.305	-.411	-.111	.079	.040	-.477
	e8	-.243	.122	.039	-.113	-.019	-.085

a. Measures of Sampling Adequacy(MSA)

Anti-image Matrices

		e7	e8
Anti-image Covariance	e1	.113	-.114
	e2	-.132	.050
	e3	-.035	.016
	e4	.032	-.058
	e5	.014	-.009
	e6	-.153	-.035
	e7	.297	-.168
	e8	-.168	.479
Anti-image Correlation	e1	.305	-.243
	e2	-.411	.122
	e3	-.111	.039
	e4	.079	-.113
	e5	.040	-.019
	e6	-.477	-.085
	e7	.757[a]	-.445
	e8	-.445	.855[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
e1	1.000	.516
e2	1.000	.599
e3	1.000	.665
e4	1.000	.440
e5	1.000	.578
e6	1.000	.668
e7	1.000	.646
e8	1.000	.524

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.636	57.956	57.956	4.636	57.956	57.956
2	.931	11.641	69.597			
3	.788	9.845	79.442			
4	.492	6.155	85.597			
5	.404	5.045	90.641			
6	.352	4.400	95.041			
7	.235	2.940	97.981			
8	.162	2.019	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
e1	.718
e2	.774
e3	.815
e4	.663
e5	.761
e6	.818
e7	.804
e8	.724

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

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

Factor Analysis

```
[DataSet0] D:\sufli\data play.sav
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.886
Bartlett's Test of Sphericity	Approx. Chi-Square	6042.961
	df	210
	Sig.	.000

Communalities

	Initial	Extraction
d1	1.000	.556
d2	1.000	.598
d3	1.000	.532
d4	1.000	.807
d5	1.000	.726
d6	1.000	.601
d7	1.000	.497
d8	1.000	.606
d9	1.000	.681
d10	1.000	.793
d11	1.000	.735
d12	1.000	.677
d13	1.000	.642
d14	1.000	.643
d15	1.000	.736
d16	1.000	.716
d17	1.000	.654
d18	1.000	.761
d19	1.000	.674
d20	1.000	.655
d21	1.000	.635

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.123	52.968	52.968	11.123	52.968	52.968
2	1.530	7.285	60.253	1.530	7.285	60.253
3	1.274	6.066	66.319	1.274	6.066	66.319
4	1.176	5.599	71.918			
5	.853	4.060	75.978			
6	.767	3.651	79.629			
7	.627	2.986	82.615			
8	.560	2.667	85.282			
9	.482	2.297	87.579			
10	.429	2.043	89.622			
11	.353	1.680	91.302			
12	.318	1.515	92.817			
13	.301	1.432	94.249			
14	.253	1.207	95.456			
15	.208	.992	96.447			
16	.191	.910	97.357			
17	.150	.716	98.073			
18	.131	.623	98.696			
19	.109	.518	99.213			
20	.087	.416	99.630			
21	.078	.370	100.000			

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	5.172	24.630	24.630
2	4.521	21.529	46.160
3	4.233	20.159	66.319
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
d1	.630		
d2	.703		
d3	.605		
d4	.725		-.459
d5	.714		
d6	.674		
d7	.663		
d8	.769		
d9	.707	.402	
d10	.762	.435	
d11	.705	.483	
d12	.655	.496	
d13	.698		
d14	.787		
d15	.823		
d16	.798		
d17	.659		.468
d18	.817		
d19	.795		
d20	.773		
d21	.766		

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
d1	.703		
d2	.648		
d3	.671		
d4	.836		
d5	.769		
d6		.563	
d7		.595	
d8		.494	.496
d9		.720	
d10		.794	
d11			.797
d12			.778
d13		.431	.657
d14			.590
d15			.617
d16	.464		.655
d17		.415	.694
d18		.410	.732
d19			.657
d20			.586
d21	.466		.587

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Component Transformation Matrix

Component	1	2	3
1	.625	.558	.546
2	-.462	.828	-.318
3	.629	.053	-.775

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

APPENDIX G:

RELIABILITY ANALYSIS

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.785	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b1	16.2611	12.347	.620	.718
b2	16.2070	12.305	.743	.661
b3	16.4427	12.235	.622	.717
b4	16.9936	14.383	.411	.821

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.691	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b6	54.1943	26.342	.420	.657
b7	53.7293	25.917	.431	.655
b8	53.6911	25.345	.502	.635
b9	53.0828	32.536	.256	.683
b10	53.3790	31.450	.294	.678
b11	53.1783	32.428	.296	.678
b12	52.8408	32.090	.417	.667
b13	52.9586	31.688	.420	.664
b14	53.5860	31.847	.211	.692
b15	53.1688	31.138	.404	.663

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.825	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b16	35.4522	19.974	.580	.801
b17	35.5732	18.820	.612	.795
b18	35.4013	19.359	.641	.791
b19	35.7420	18.556	.679	.783
b20	35.7070	19.141	.657	.788
b21	36.0064	21.559	.264	.857
b22	35.5382	19.636	.631	.793

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.835	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b24	46.8217	41.304	.146	.865
b25	46.4331	39.524	.351	.838
b26	46.4236	39.203	.538	.822
b27	46.5573	37.813	.593	.815
b28	46.6178	37.777	.638	.813
b29	46.9713	32.565	.744	.793
b30	46.9968	33.345	.714	.797
b31	46.9204	33.850	.710	.798
b32	46.9459	33.642	.614	.811

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.944	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b33	22.2166	21.391	.854	.930
b34	22.3631	21.452	.879	.925
b35	22.3790	20.383	.843	.933
b36	22.1688	21.777	.851	.930
b37	22.1338	22.372	.820	.936

Reliability

[DataSet1] D:\sufli\data play.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.773	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b38	29.2293	12.695	.487	.752
b39	29.3885	12.660	.448	.767
b40	29.0478	13.860	.569	.730
b41	29.1561	13.429	.619	.718
b42	28.7134	13.892	.550	.734
b43	28.9713	13.868	.521	.740

Reliability

[DataSet1] D:\sufli\data play.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.873	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b44	54.5828	37.637	.648	.856
b45	54.4809	35.988	.644	.857
b46	53.8726	41.856	.451	.870
b47	54.2866	36.116	.752	.847
b48	53.9299	41.893	.408	.873
b49	54.0510	41.141	.571	.864
b50	54.1274	41.939	.379	.875
b51	54.0732	39.953	.612	.860
b52	54.5828	34.314	.771	.844
b53	54.6497	34.618	.704	.852

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.709	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b54	12.1720	2.667	.510	.684
b55	11.7420	3.713	.567	.594
b56	11.6975	3.502	.551	.596

Reliability

```
[DàtaSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.858	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b58	18.6178	6.371	.563	.873
b59	18.5701	5.358	.713	.817
b60	18.5573	5.423	.781	.787
b61	18.3854	5.541	.767	.794

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.880	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
b62	29.6338	14.885	.697	.860
b63	29.7102	14.104	.720	.855
b64	29.5860	14.173	.814	.842
b65	29.7325	13.494	.695	.860
b66	29.8025	14.536	.614	.872
b67	29.7038	14.094	.633	.870

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.897	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
c1	34.7516	19.734	.605	.892
c2	34.8694	18.069	.670	.886
c3	34.6783	19.561	.679	.885
c4	34.6561	18.597	.775	.875
c5	34.8280	17.025	.745	.878
c6	34.7580	17.852	.746	.877
c7	34.7261	18.180	.716	.880

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.791	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d1	22.5223	9.004	.377	.798
d2	22.4841	8.608	.369	.788
d3	22.6401	9.183	.297	.730
d4	23.5510	7.430	.219	.786
d5	22.9045	7.058	.223	.795

Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.769	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d6	24.2261	5.287	.369	.795
d7	24.6019	4.982	.412	.768
d8	24.5064	4.826	.442	.749
d9	24.3567	5.546	.226	.770
d10	24.6529	5.135	.231	.780

```
RELIABILITY
  /VARIABLES=d11 d12 d13 d14 d15 d16 d17 d18 d19 d20 d21
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```


Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.740	11

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d11	59.4936	24.698	.186	.752
d12	59.3917	24.463	.143	.768
d13	59.0000	24.224	.410	.720
d14	59.1146	22.626	.557	.700
d15	59.1783	21.540	.662	.683
d16	59.1146	21.865	.624	.689
d17	59.2484	23.714	.454	.714
d18	59.2389	22.010	.662	.687
d19	59.3917	21.338	.585	.691
d20	59.5287	25.515	.120	.759
d21	59.3376	26.218	.116	.751

```
RELIABILITY
  /VARIABLES=e1 e2 e3 e4 e5 e6 e7 e8
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```


Reliability

```
[DataSet1] D:\sufli\data play.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	314	100.0
	Excluded[a]	0	.0
	Total	314	100.0

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

Reliability Statistics

Cronbach's Alpha	N of Items
.796	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e1	40.7771	13.394	.044	.746
e2	41.3662	11.760	.165	.775
e3	40.3662	13.134	.304	.709
e4	40.6943	13.031	.254	.724
e5	40.8854	12.153	.271	.707
e6	40.6911	14.521	.169	.768
e7	40.4841	14.238	.205	.755
e8	40.1242	15.470	.013	.717

APPENDIX H:

CORRELATION ANALYSIS

Correlations

[DataSet0] D:\sufli\data play.sav

Correlations

		performance	traits	opportunity	relationship	operational
performance	Pearson Correlation	1	.682	.353	.656	.539
	Sig. (2-tailed)		.000	.000	.000	.000
	N	314	314	314	314	314
traits	Pearson Correlation	.682**	1	.689**	.865**	.718**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	314	314	314	314	314
opportunity	Pearson Correlation	.353**	.689**	1	.404**	.147**
	Sig. (2-tailed)	.000	.000		.000	.009
	N	314	314	314	314	314
relationship	Pearson Correlation	.656**	.865**	.404**	1	.534**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	314	314	314	314	314
operational	Pearson Correlation	.539**	.718**	.147**	.534**	1
	Sig. (2-tailed)	.000	.000	.009	.000	
	N	314	314	314	314	314

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

Correlations

[DataSet0] D:\sufli\data play.sav

Correlations

		performance	skills	strategic	commitment	learning
performance	Pearson Correlation	1	.629	.642	.500	.602
	Sig. (2-tailed)		.000	.000	.000	.000
	N	314	314	314	314	314
skills	Pearson Correlation	.629**	1	.909**	.849**	.844**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	314	314	314	314	314
strategic	Pearson Correlation	.642**	.909**	1	.795**	.793**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	314	314	314	314	314
commitment	Pearson Correlation	.500**	.849**	.795**	1	.678**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	314	314	314	314	314
learning	Pearson Correlation	.602**	.844**	.793**	.678**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	314	314	314	314	314
personal	Pearson Correlation	.486**	.907**	.762**	.780**	.745**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	314	314	314	314
innovative	Pearson Correlation	.406**	.783**	.627**	.616**	.654**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	314	314	314	314
human	Pearson Correlation	.436**	.739**	.595**	.453**	.541**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	314	314	314	314
analytical	Pearson Correlation	.391**	.528**	.355**	.260**	.291**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	314	314	314	314

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

Correlations

		personal	innovative	human	analytical
performance	Pearson Correlation	.486**	.406**	.436**	.391**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
skills	Pearson Correlation	.907**	.783**	.739**	.528**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
strategic	Pearson Correlation	.762**	.627**	.595**	.355**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
commitment	Pearson Correlation	.780**	.616**	.453**	.260**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
learning	Pearson Correlation	.745**	.654**	.541**	.291**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
personal	Pearson Correlation	1	.735**	.621**	.351**
	Sig. (2-tailed)		.000	.000	.000
	N	314	314	314	314
innovative	Pearson Correlation	.735**	1	.639**	.319**
	Sig. (2-tailed)	.000		.000	.000
	N	314	314	314	314
human	Pearson Correlation	.621**	.639**	1	.475**
	Sig. (2-tailed)	.000	.000		.000
	N	314	314	314	314
analytical	Pearson Correlation	.351**	.319**	.475**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	314	314	314	314

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

Correlations

[DataSet0] D:\sufli\data play.sav

Correlations

		performance	org_structure
performance	Pearson Correlation	1	.359
	Sig. (2-tailed)		.000
	N	314	314
org_structure	Pearson Correlation	.359	1
	Sig. (2-tailed)	.000	
	N	314	314

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

Correlations

[DataSet0] D:\sufli\data play.sav

Correlations

		performance	innovation	incremantal	radical	open
performance	Pearson Correlation	1	.211	.193	.224	.179
	Sig. (2-tailed)		.000	.001	.000	.001
	N	314	314	314	314	314
innovation	Pearson Correlation	.211	1	.867	.884	.964
	Sig. (2-tailed)	.000		.000	.000	.000
	N	314	314	314	314	314
incremantal	Pearson Correlation	.193	.867	1	.668	.753
	Sig. (2-tailed)	.001	.000		.000	.000
	N	314	314	314	314	314
radical	Pearson Correlation	.224	.884	.668	1	.799
	Sig. (2-tailed)	.000	.000	.000		.000
	N	314	314	314	314	314
open	Pearson Correlation	.179	.964	.753	.799	1
	Sig. (2-tailed)	.001	.000	.000	.000	
	N	314	314	314	314	314

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

Correlations

[DataSet1] D:\sufli\data play.sav

Correlations

		performance	opportunity	relationship	operational	strategic
performance	Pearson Correlation	1	.353	.656	.539	.642
	Sig. (2-tailed)		.000	.000	.000	.000
	N	314	314	314	314	314
opportunity	Pearson Correlation	.353**	1	.404**	.147**	-.071
	Sig. (2-tailed)	.000		.000	.009	.209
	N	314	314	314	314	314
relationship	Pearson Correlation	.656**	.404**	1	.534**	.442**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	314	314	314	314	314
operational	Pearson Correlation	.539**	.147**	.534**	1	.620**
	Sig. (2-tailed)	.000	.009	.000		.000
	N	314	314	314	314	314
strategic	Pearson Correlation	.642**	-.071	.442**	.620**	1
	Sig. (2-tailed)	.000	.209	.000	.000	
	N	314	314	314	314	314
commitment	Pearson Correlation	.500**	-.204**	.228**	.328**	.795**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	314	314	314	314
learning	Pearson Correlation	.602**	.008	.420**	.639**	.793**
	Sig. (2-tailed)	.000	.887	.000	.000	.000
	N	314	314	314	314	314
personal	Pearson Correlation	.486**	-.123*	.346**	.473**	.762**
	Sig. (2-tailed)	.000	.030	.000	.000	.000
	N	314	314	314	314	314
innovative	Pearson Correlation	.406**	-.140*	.278**	.474**	.627**
	Sig. (2-tailed)[c]	.000	.013	.000	.000	.000
	N	314	314	314	314	314
human	Pearson Correlation	.436**	.032	.318**	.460**	.595**
	Sig. (2-tailed)	.000	.577	.000	.000	.000
	N	314	314	314	314	314
analytical	Pearson Correlation	.391**	-.022	.186**	.282**	.355**
	Sig. (2-tailed)	.000	.696	.001	.000	.000
	N	314	314	314	314	314

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

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

Correlations

		commitment	learning	personal	innovative
performance	Pearson Correlation	.500**	.602**	.486**	.406**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
opportunity	Pearson Correlation	-.204**	.008	-.123*	-.140*
	Sig. (2-tailed)	.000	.887	.030	.013
	N	314	314	314	314
relationship	Pearson Correlation	.228**	.420**	.346**	.278**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
operational	Pearson Correlation	.328**	.639**	.473**	.474**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
strategic	Pearson Correlation	.795**	.793**	.762**	.627**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
commitment	Pearson Correlation	1	.678**	.780**	.616**
	Sig. (2-tailed)		.000	.000	.000
	N	314	314	314	314
learning	Pearson Correlation	.678**	1	.745**	.654**
	Sig. (2-tailed)	.000		.000	.000
	N	314	314	314	314
personal	Pearson Correlation	.780**	.745**	1	.735**
	Sig. (2-tailed)	.000	.000		.000
	N	314	314	314	314
innovative	Pearson Correlation	.616**	.654**	.735**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	314	314	314	314
human	Pearson Correlation	.453**	.541**	.621**	.639**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314
analytical	Pearson Correlation	.260**	.291**	.351**	.319**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	314

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

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

Correlations

		human	analytical
performance	Pearson Correlation	.436**	.391**
	Sig. (2-tailed)	.000	.000
	N	314	314
opportunity	Pearson Correlation	.032	-.022
	Sig. (2-tailed)	.577	.696
	N	314	314
relationship	Pearson Correlation	.318**	.186**
	Sig. (2-tailed)	.000	.001
	N	314	314
operational	Pearson Correlation	.460**	.282**
	Sig. (2-tailed)	.000	.000
	N	314	314
strategic	Pearson Correlation	.595**	.355**
	Sig. (2-tailed)	.000	.000
	N	314	314
commitment	Pearson Correlation	.453**	.260**
	Sig. (2-tailed)	.000	.000
	N	314	314
learning	Pearson Correlation	.541**	.291**
	Sig. (2-tailed)	.000	.000
	N	314	314
personal	Pearson Correlation	.621**	.351**
	Sig. (2-tailed)	.000	.000
	N	314	314
innovative	Pearson Correlation	.639**	.319**
	Sig. (2-tailed)	.000	.000
	N	314	314
human	Pearson Correlation	1	.475**
	Sig. (2-tailed)		.000
	N	314	314
analytical	Pearson Correlation	.475**	1
	Sig. (2-tailed)	.000	
	N	314	314

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

Correlations

[DataSet1] D:\sufli\data play.sav

Correlations

		performance	org_structure
performance	Pearson Correlation	1	.359**
	Sig. (2-tailed)		.000
	N	314	314
org_structure	Pearson Correlation	.359**	1
	Sig. (2-tailed)	.000	
	N	314	314

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

Correlations

[DataSet1] D:\sufli\data play.sav

Correlations

		performance	incremantal	radical	open
performance	Pearson Correlation	1	.193**	.224**	.179**
	Sig. (2-tailed)		.001	.000	.001
	N	314	314	314	314
incremantal	Pearson Correlation	.193**	1	.668**	.753**
	Sig. (2-tailed)	.001		.000	.000
	N	314	314	314	314
radical	Pearson Correlation	.224**	.668**	1	.799**
	Sig. (2-tailed)	.000	.000		.000
	N	314	314	314	314
open	Pearson Correlation	.179**	.753**	.799**	1
	Sig. (2-tailed)	.001	.000	.000	
	N	314	314	314	314

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

APPENDIX I:

REGRESSION ANALYSIS

Regression

[DataSet0] D:\sufli\data play.sav

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	operational, opportunity, relationship[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.703[a]	.494	.489	.34145

a. Predictors: (Constant), operational, opportunity, relationship

b. Dependent Variable: performance

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.291	3	11.764	100.901	.000[a]
	Residual	36.142	310	.117		
	Total	71.433	313			

a. Predictors: (Constant), operational, opportunity, relationship

b. Dependent Variable: performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.253	.205		11.010	.000
	opportunity	.055	.019	.127	2.872	.004
	relationship	.364	.041	.457	8.809	.000
	operational	.182	.032	.277	5.768	.000

a. Dependent Variable: performance

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	opportunity	.830	1.205
	relationship	.606	1.649
	operational	.709	1.410

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	opportunity
1	1	3.961	1.000	.00	.00
	2	.027	12.007	.02	.86
	3	.007	23.508	.62	.05
	4	.004	29.988	.35	.09

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		relationship	operational
1	1	.00	.00
	2	.01	.06
	3	.01	.70
	4	.99	.24

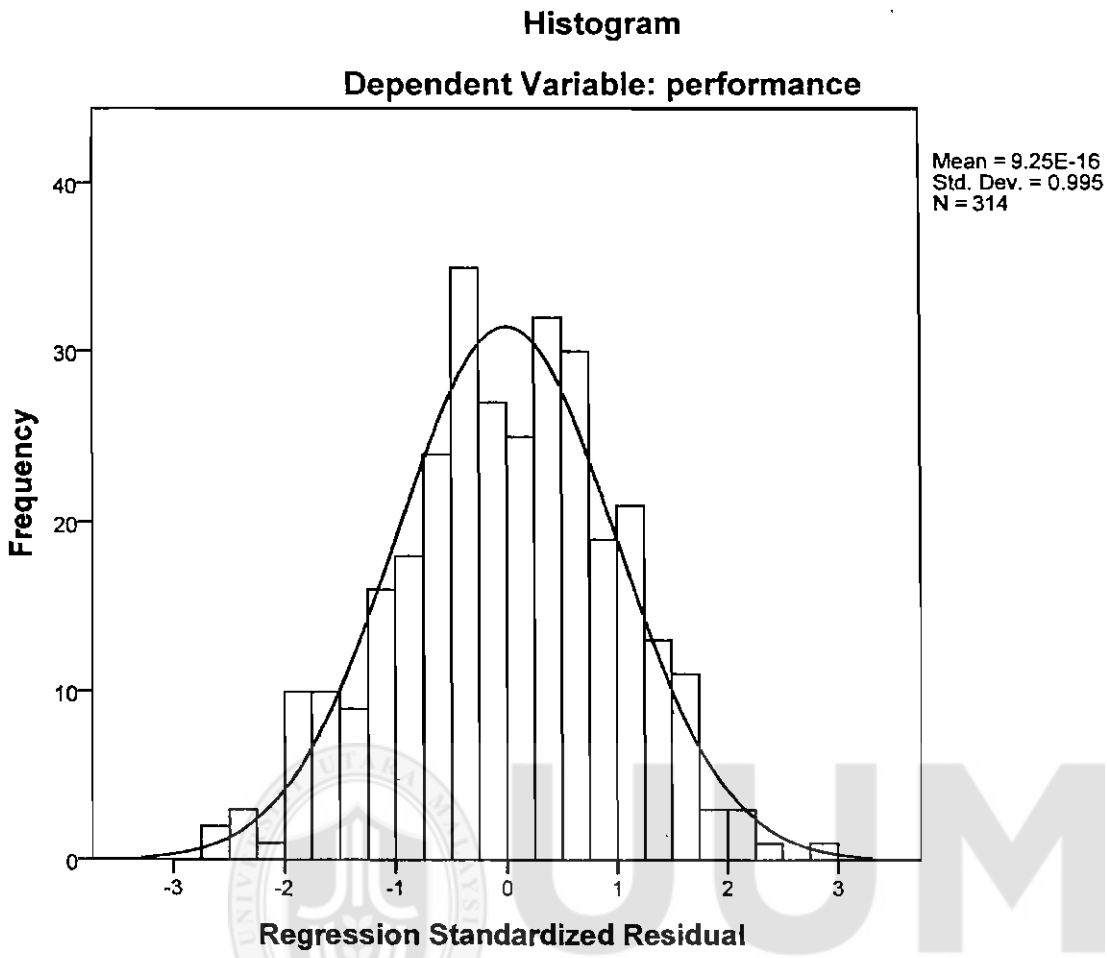
a. Dependent Variable: performance

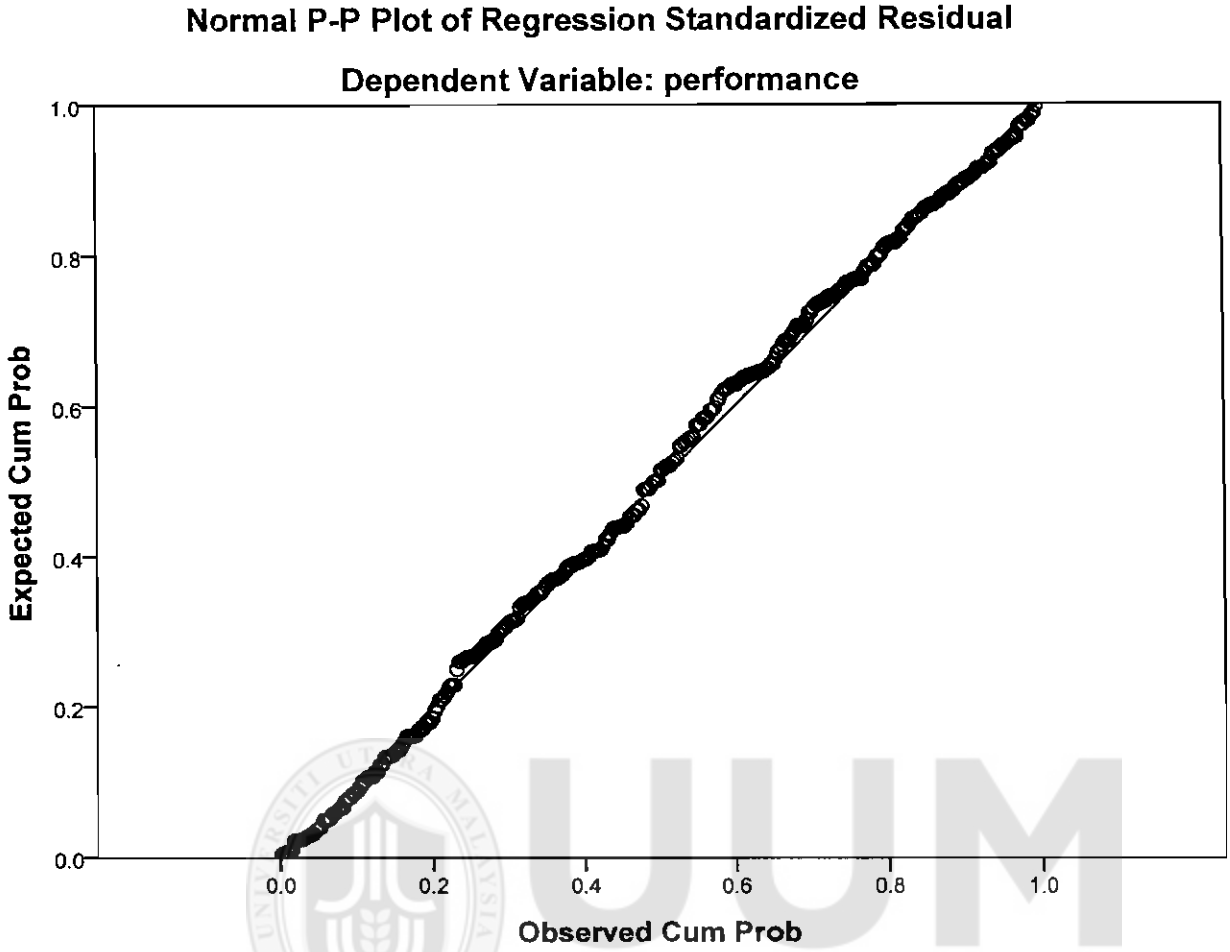
Residuals Statistics[a]

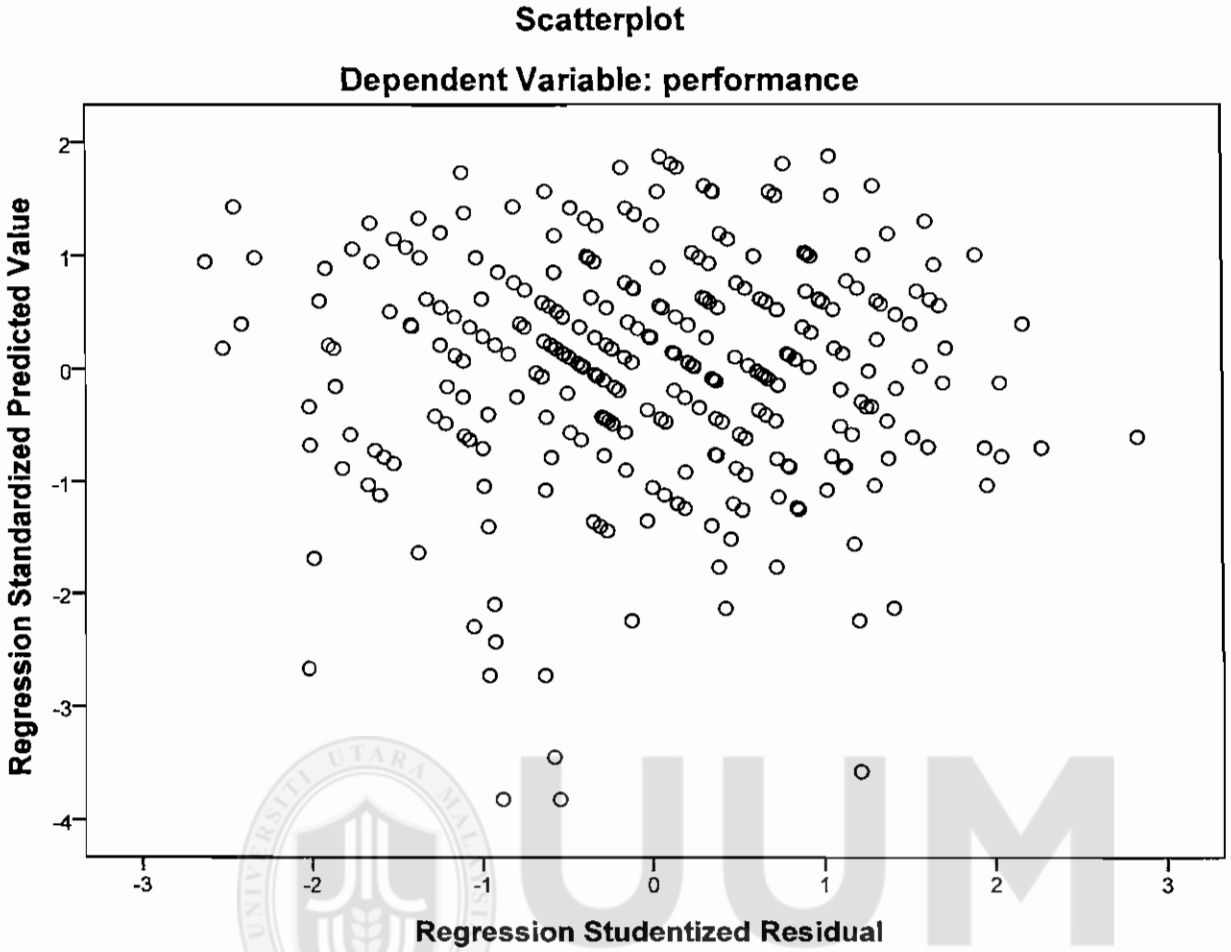
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.5152	6.4261	5.7955	.33578	314
Std. Predicted Value	-3.813	1.878	.000	1.000	314
Standard Error of Predicted Value	.020	.081	.036	.014	314
Adjusted Predicted Value	4.5262	6.4258	5.7954	.33557	314
Residual	-.89178	.96247	.00000	.33981	314
Std. Residual	-2.612	2.819	.000	.995	314
Stud. Residual	-2.621	2.836	.000	1.001	314
Deleted Residual	-.89779	.97397	.00005	.34412	314
Stud. Deleted Residual	-2.646	2.868	.000	1.004	314
Mahal. Distance	.041	16.787	2.990	3.499	314
Cook's Distance	.000	.038	.003	.005	314
Centered Leverage Value	.000	.054	.010	.011	314

a. Dependent Variable: performance

Charts







Regression

[DataSet0] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689[a]	.474	.462	.35034

a. Predictors: (Constant), analytical, commitment, human, learning, innovative, personal, strategic

b. Dependent Variable: performance

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.874	7	4.839	39.426	.000[a]
	Residual	37.558	306	.123		
	Total	71.433	313			

a. Predictors: (Constant), analytical, commitment, human, learning, innovative, personal, strategic

b. Dependent Variable: performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.737	.232		11.806	.000
	strategic	.276	.057	.422	4.807	.000
	commitment	.014	.033	.033	.414	.679
	learning	.210	.050	.315	4.242	.000
	personal	-.095	.059	-.136	-1.597	.111
	innovative	-.040	.038	-.070	-1.053	.293
	human	.024	.040	.037	.602	.548
	analytical	.134	.033	.193	4.060	.000

a. Dependent Variable: performance

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	strategic	.222	4.494
	commitment	.278	3.601
	learning	.311	3.216
	personal	.238	4.199
	innovative	.384	2.602
	human	.444	2.254
	analytical	.763	1.311

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	strategic	commitment	learning
1	1	7.939	1.000	.00	.00	.00	.00
	2	.028	16.979	.04	.00	.23	.00
	3	.010	28.268	.03	.01	.14	.00
	4	.008	32.114	.22	.02	.07	.14
	5	.006	37.664	.22	.09	.05	.06
	6	.005	40.808	.30	.01	.11	.28
	7	.003	53.502	.08	.40	.00	.09
	8	.002	58.978	.10	.48	.40	.42

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions			
		personal	innovative	human	analytical
1	1	.00	.00	.00	.00
	2	.00	.00	.01	.07
	3	.00	.37	.06	.22
	4	.00	.04	.08	.36
	5	.01	.31	.39	.01
	6	.01	.07	.31	.34
	7	.56	.20	.01	.00
	8	.42	.00	.14	.00

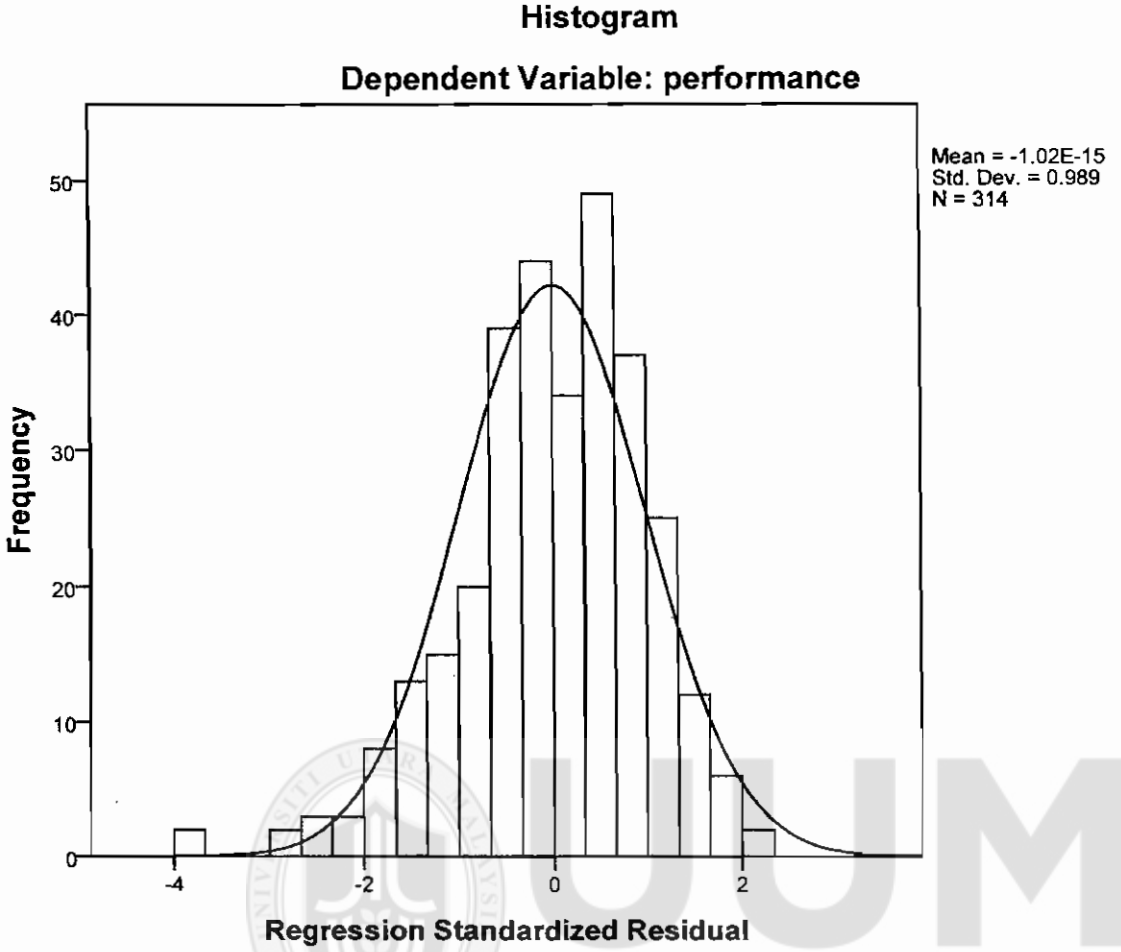
a. Dependent Variable: performance

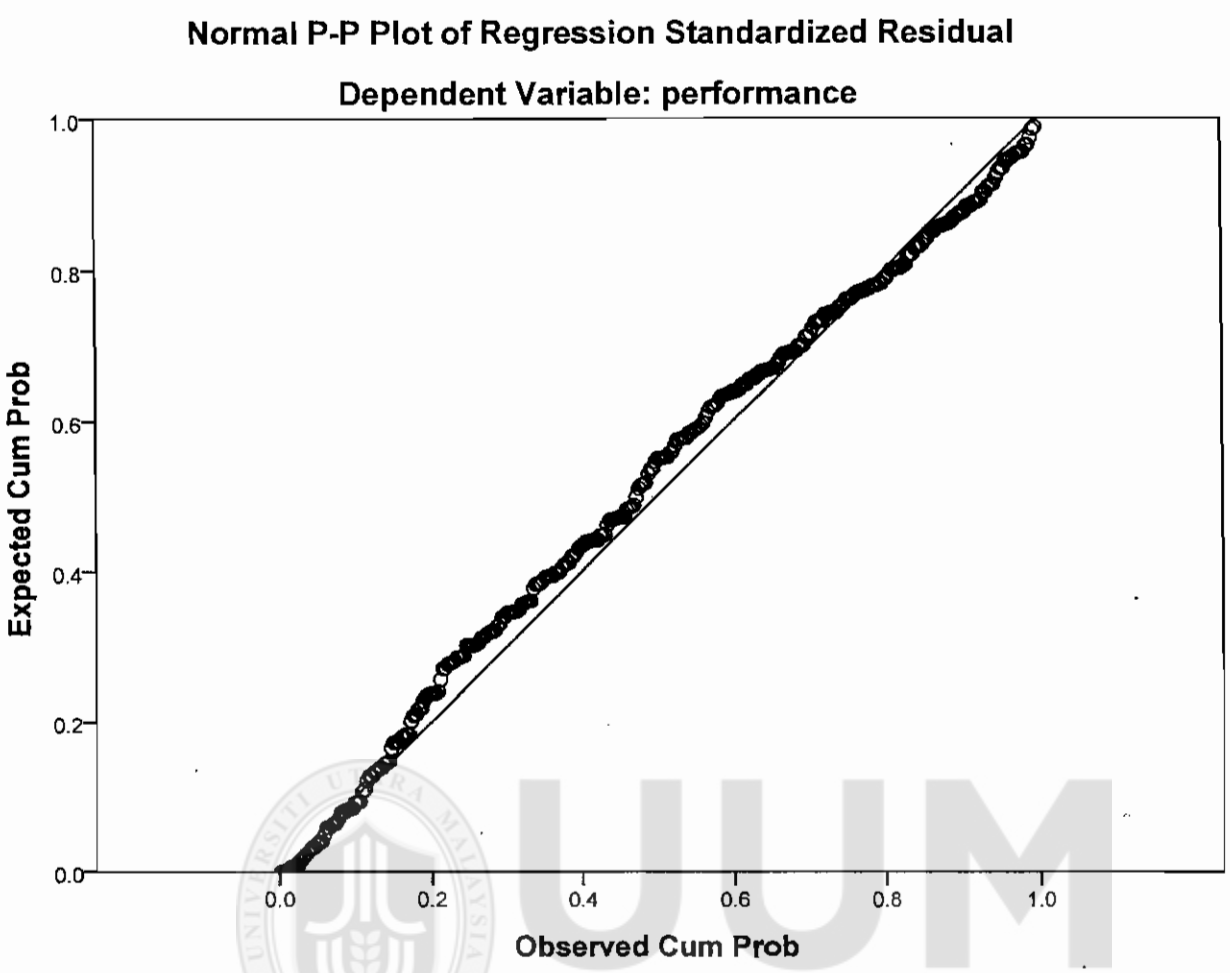
Residuals Statistics[a]

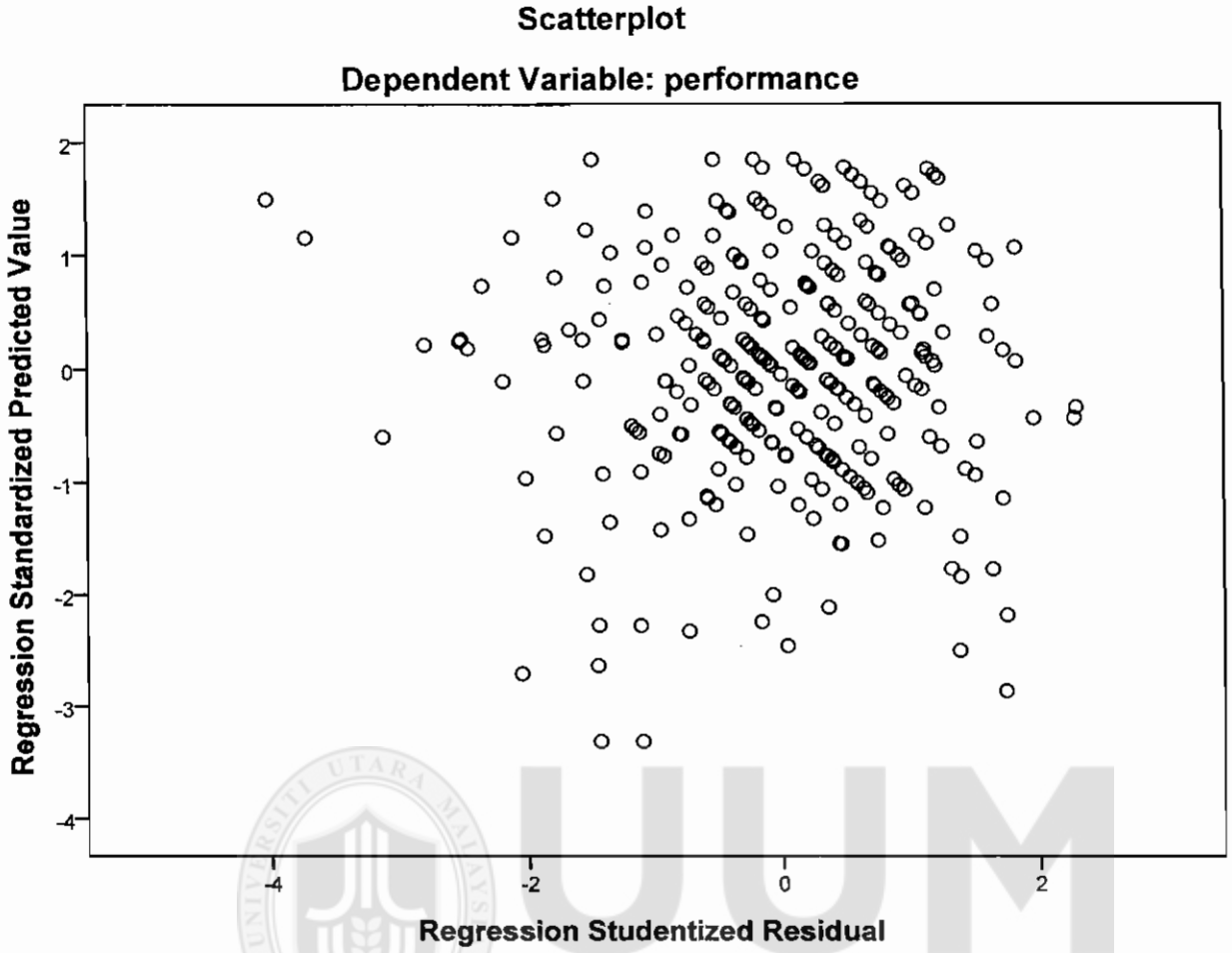
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4.7046	6.4037	5.7955	.32897	314
Std. Predicted Value	-3.316	1.849	.000	1.000	314
Standard Error of Predicted Value	.024	.112	.053	.017	314
Adjusted Predicted Value	4.7385	6.4119	5.7956	.32804	314
Residual	-1.39975	.79282	.00000	.34640	314
Std. Residual	-3.995	2.263	.000	.989	314
Stud. Residual	-4.023	2.293	.000	1.003	314
Deleted Residual	-1.41889	.84752	-.00015	.35692	314
Stud. Deleted Residual	-4.127	2.309	-.001	1.009	314
Mahal. Distance	.510	30.768	6.978	5.480	314
Cook's Distance	.000	.125	.004	.010	314
Centered Leverage Value	.002	.098	.022	.018	314

a. Dependent Variable: performance

Charts







Regression

[DataSet0] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.359[a]	.129	.126	.44663

a. Predictors: (Constant), org_structure

b. Dependent Variable: performance

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.194	1	9.194	46.091	.000[a]
	Residual	62.238	312	.199		
	Total	71.433	313			

a. Predictors: (Constant), org_structure

b. Dependent Variable: performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.396	.208		21.173	.000
	org_structure	.242	.036	.359	6.789	.000

a. Dependent Variable: performance

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	org_structure	1.000	1.000

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	org_structure
1	1	1.993	1.000	.00	.00
	2	.007	16.415	1.00	1.00

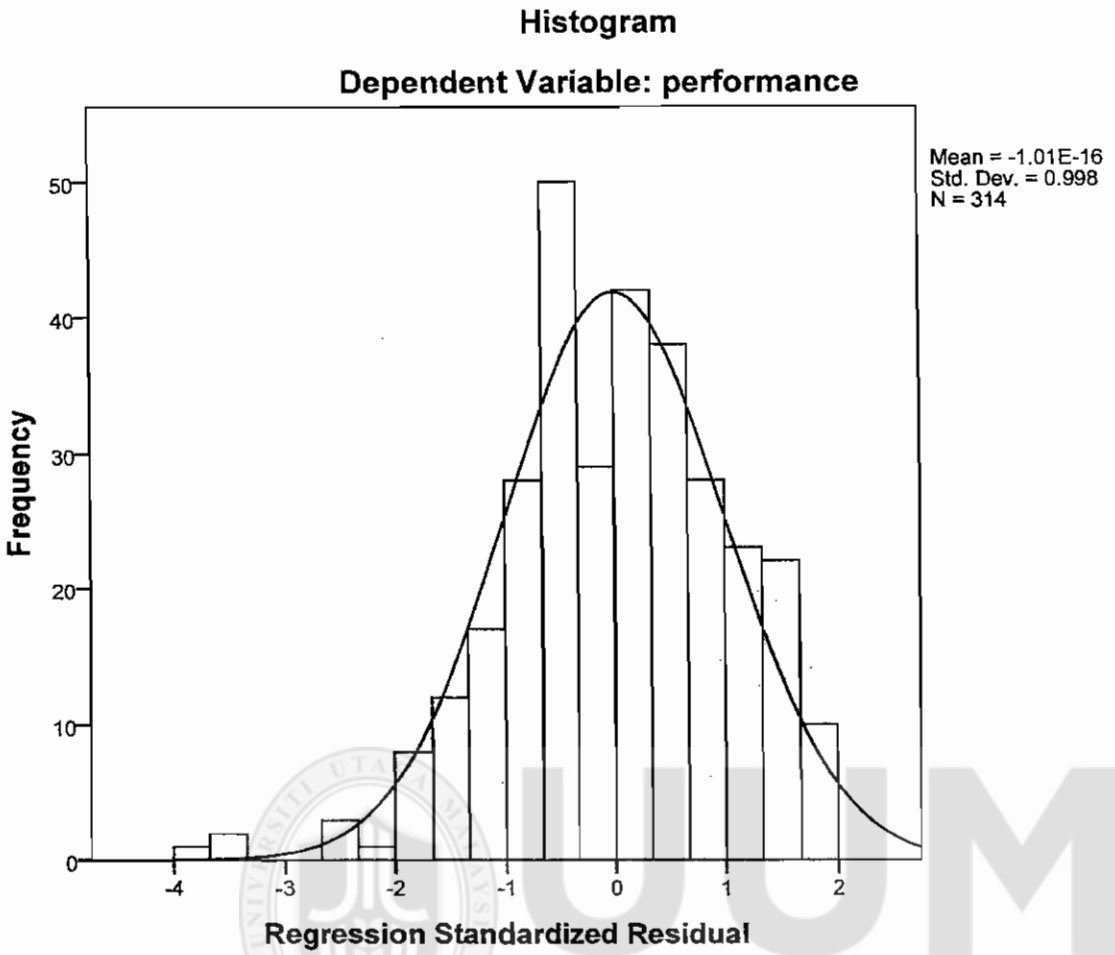
a. Dependent Variable: performance

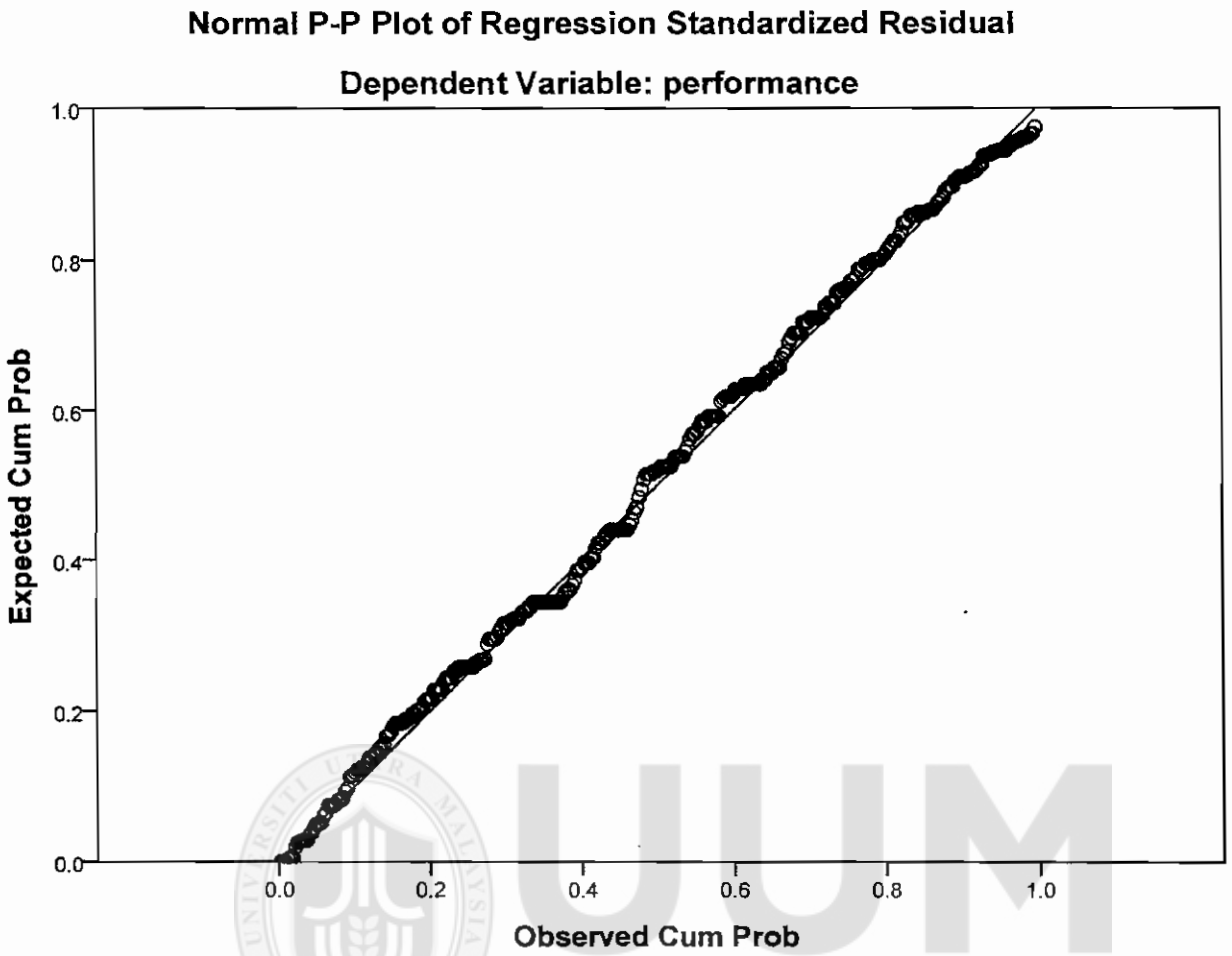
Residuals Statistics[a]

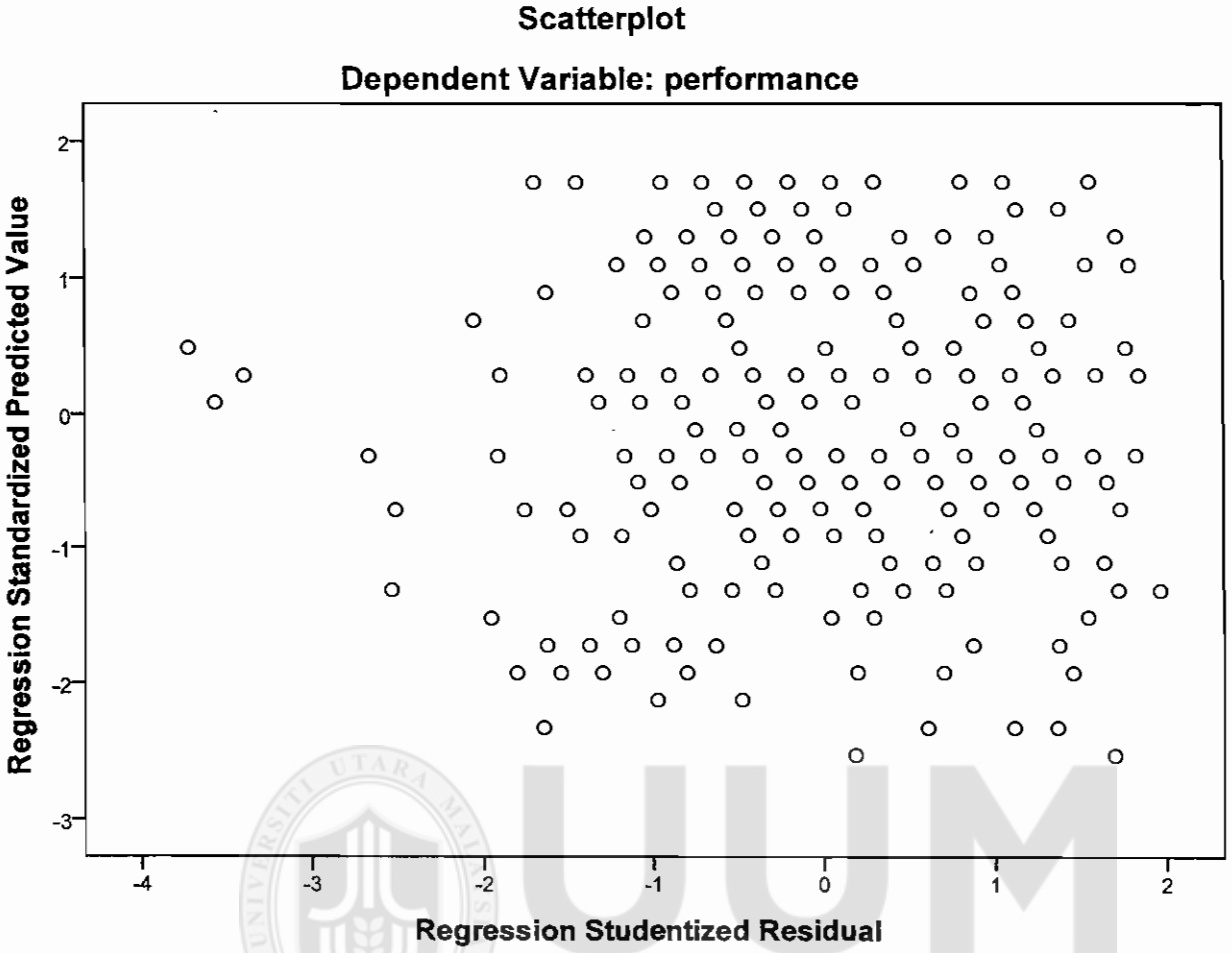
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.3625	6.0873	5.7955	.17139	314
Std. Predicted Value	-2.526	1.703	.000	1.000	314
Standard Error of Predicted Value	.025	.069	.034	.010	314
Adjusted Predicted Value	5.3445	6.0968	5.7955	.17146	314
Residual	-1.65799	.87483	.00000	.44592	314
Std. Residual	-3.712	1.959	.000	.998	314
Stud. Residual	-3.720	1.967	.000	1.002	314
Deleted Residual	-1.66459	.88254	-.00004	.44883	314
Stud. Deleted Residual	-3.799	1.976	-.001	1.006	314
Mahal. Distance	.008	6.380	.997	1.232	314
Cook's Distance	.000	.035	.003	.005	314
Centered Leverage Value	.000	.020	.003	.004	314

a. Dependent Variable: performance

Charts







Regression

[DataSet0] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234[a]	.055	.046	.46671

a. Predictors: (Constant), open, incremantal, radical

b. Dependent Variable: performance

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.910	3	1.303	5.984	.001[a]
	Residual	67.522	310	.218		
	Total	71.433	313			

a. Predictors: (Constant), open, incremantal, radical

b. Dependent Variable: performance

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.737	.276		17.183	.000
	incremantal	.070	.058	.102	1.200	.231
	radical	.154	.070	.206	2.212	.028
	open	-.049	.084	-.062	-.591	.555

a. Dependent Variable: performance

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	incremantal	.421	2.373
	radical	.352	2.842
	open	.275	3.634

a. Dependent Variable: performance

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	incremantal	radical	open
1	1	3.987	1.000	.00	.00	.00	.00
	2	.007	23.666	.92	.15	.02	.02
	3	.004	31.474	.06	.68	.42	.03
	4	.002	45.997	.01	.17	.56	.95

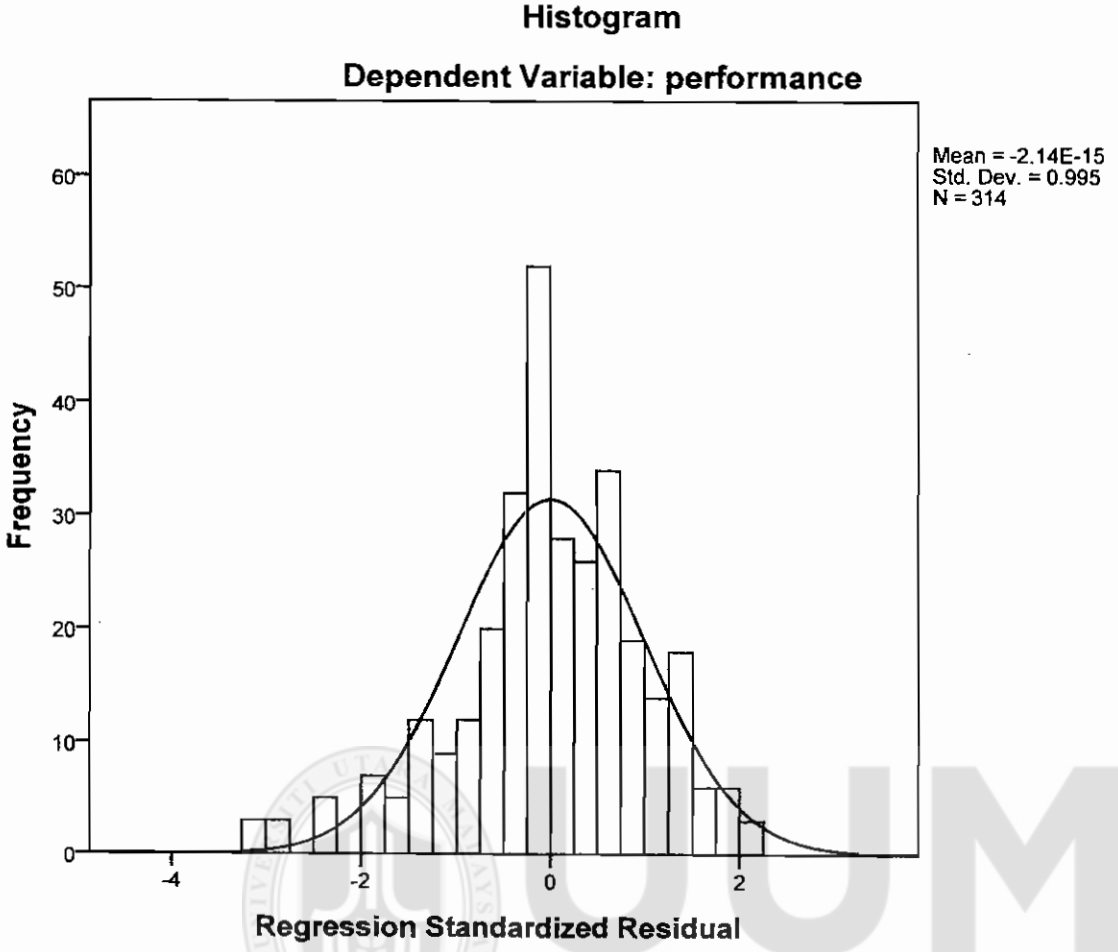
a. Dependent Variable: performance

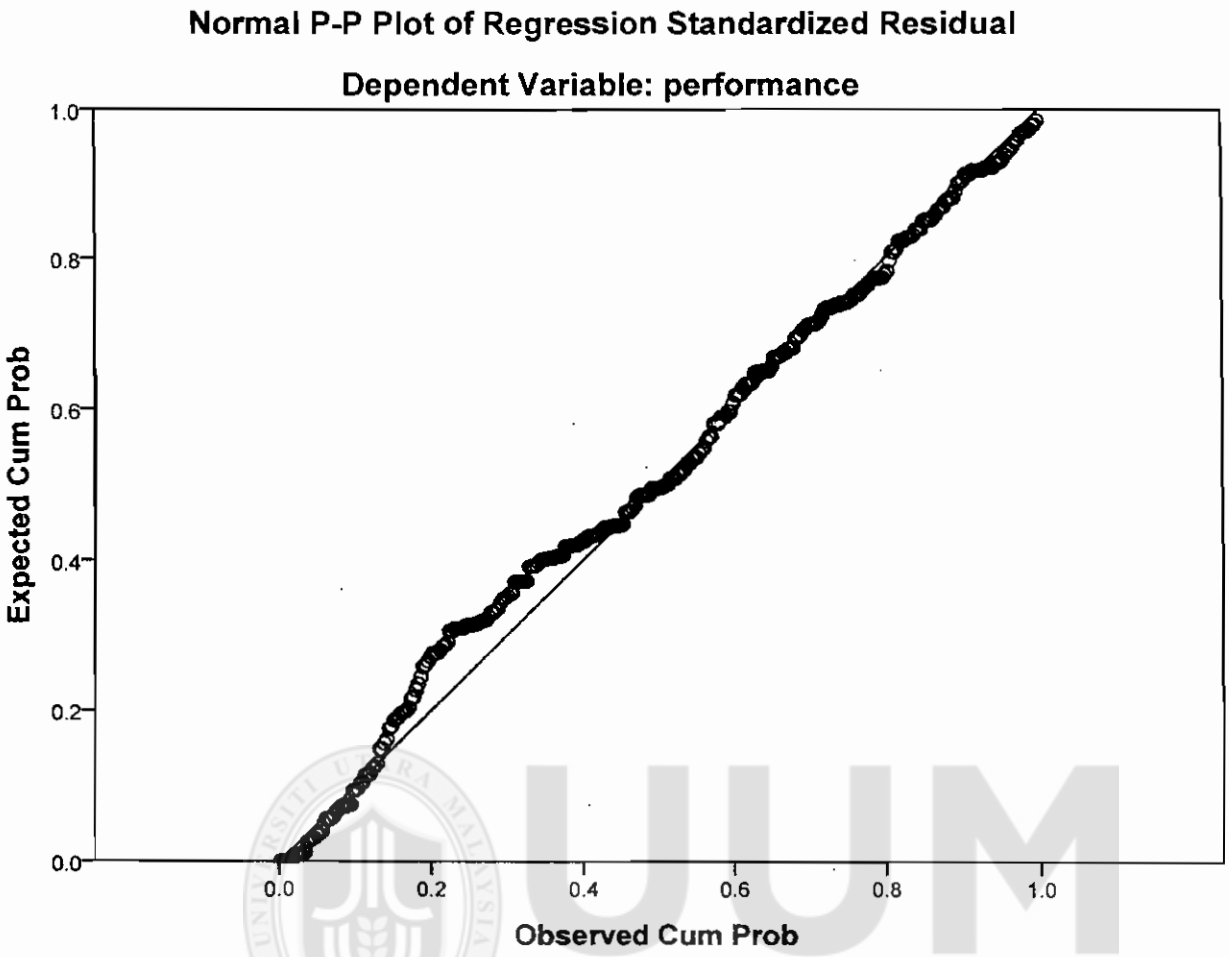
Residuals Statistics[a]

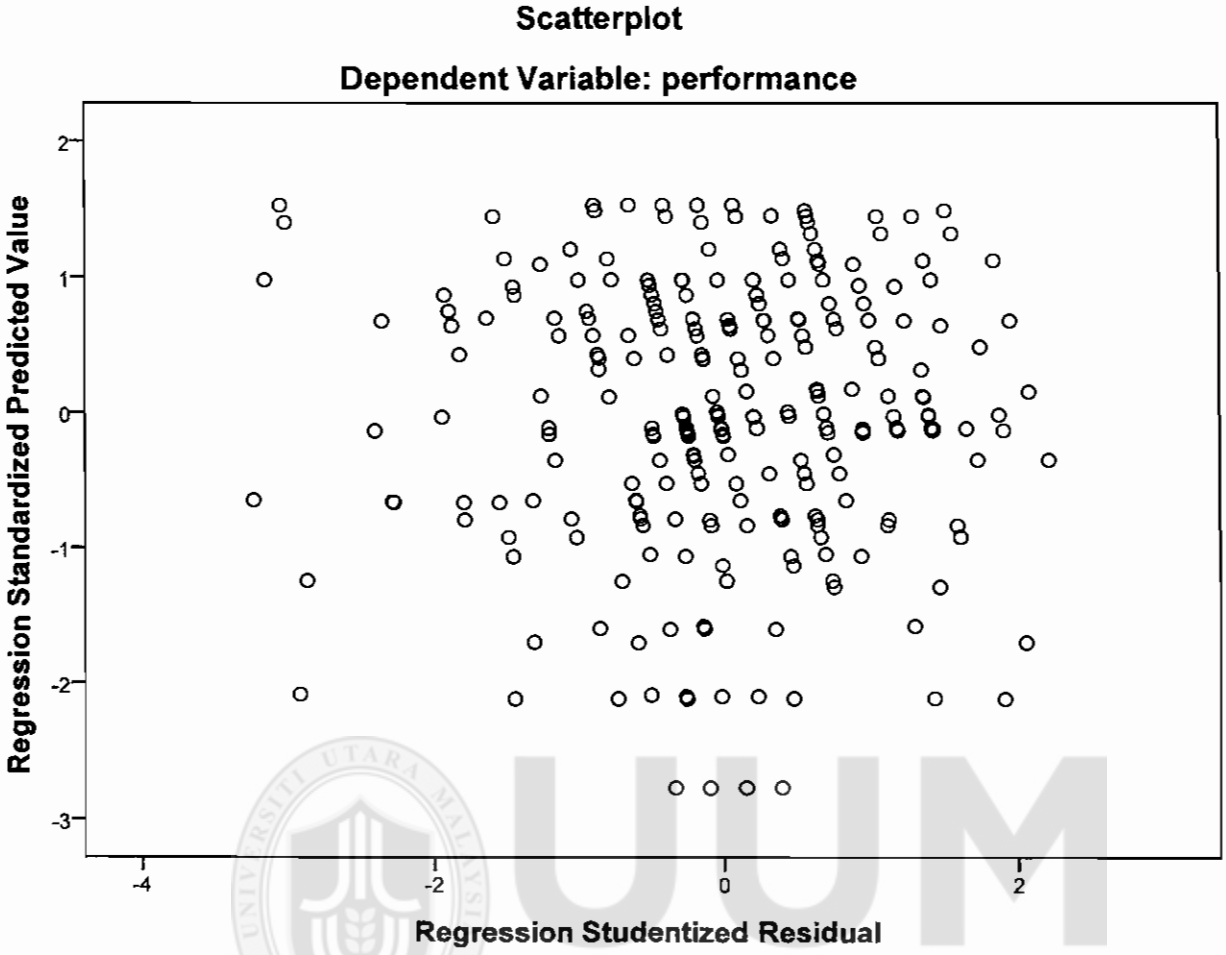
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.4865	5.9663	5.7955	.11177	314
Std. Predicted Value	-2.764	1.528	.000	1.000	314
Standard Error of Predicted Value	.027	.112	.050	.016	314
Adjusted Predicted Value	5.4804	5.9818	5.7954	.11185	314
Residual	-1.50090	1.02133	.00000	.46446	314
Std. Residual	-3.216	2.188	.000	.995	314
Stud. Residual	-3.231	2.214	.000	1.001	314
Deleted Residual	-1.51478	1.04580	.00004	.47035	314
Stud. Deleted Residual	-3.281	2.229	-.001	1.006	314
Mahal. Distance	.024	16.981	2.990	2.858	314
Cook's Distance	.000	.057	.003	.006	314
Centered Leverage Value	.000	.054	.010	.009	314

a. Dependent Variable: performance

Charts







Regression

[DataSet1] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829[a]	.688	.685	.56163611

a. Predictors: (Constant), Zscore(org_structure), Zscore (traits), Zscore(skills)

b. Dependent Variable: Zscore(performance)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.215	3	71.738	227.427	.000[a]
	Residual	97.785	310	.315		
	Total	313.000	313			

a. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills)

b. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.185E-15	.032		.000	1.000
	Zscore(traits)	.504	.034	.504	14.667	.000
	Zscore(skills)	.402	.035	.402	11.652	.000
	Zscore(org_structure)	.254	.032	.254	7.906	.000

a. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Zscore(traits)	.854	1.172
	Zscore(skills)	.845	1.183
	Zscore(org_structure)	.978	1.022

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Zscore(traits)
1	1	1.443	1.000	.00	.25
	2	1.000	1.201	1.00	.00
	3	.939	1.240	.00	.09
	4	.618	1.528	.00	.66

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		Zscore(skills)	Zscore(org_ structure)
1	1	.26	.08
	2	.00	.00
	3	.03	.90
	4	.70	.01

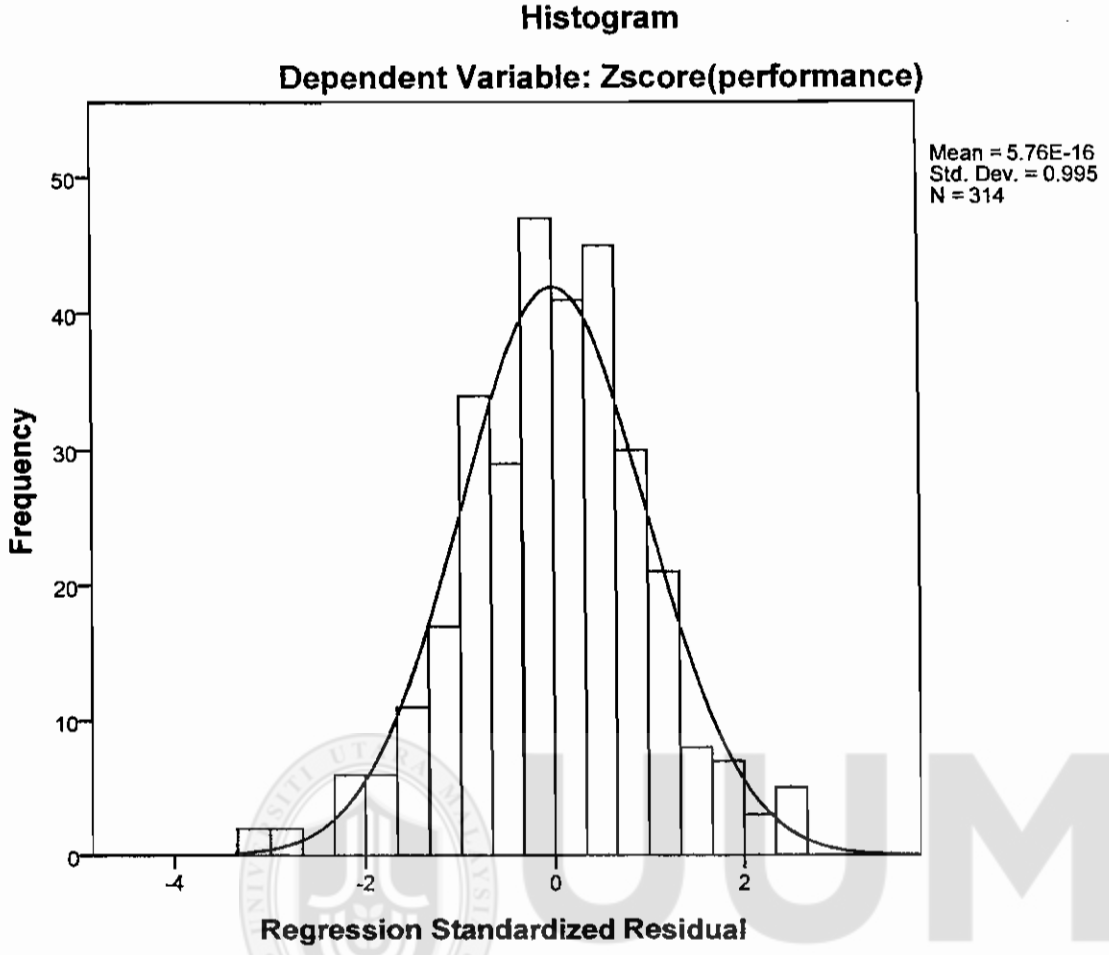
a. Dependent Variable: Zscore(performance)

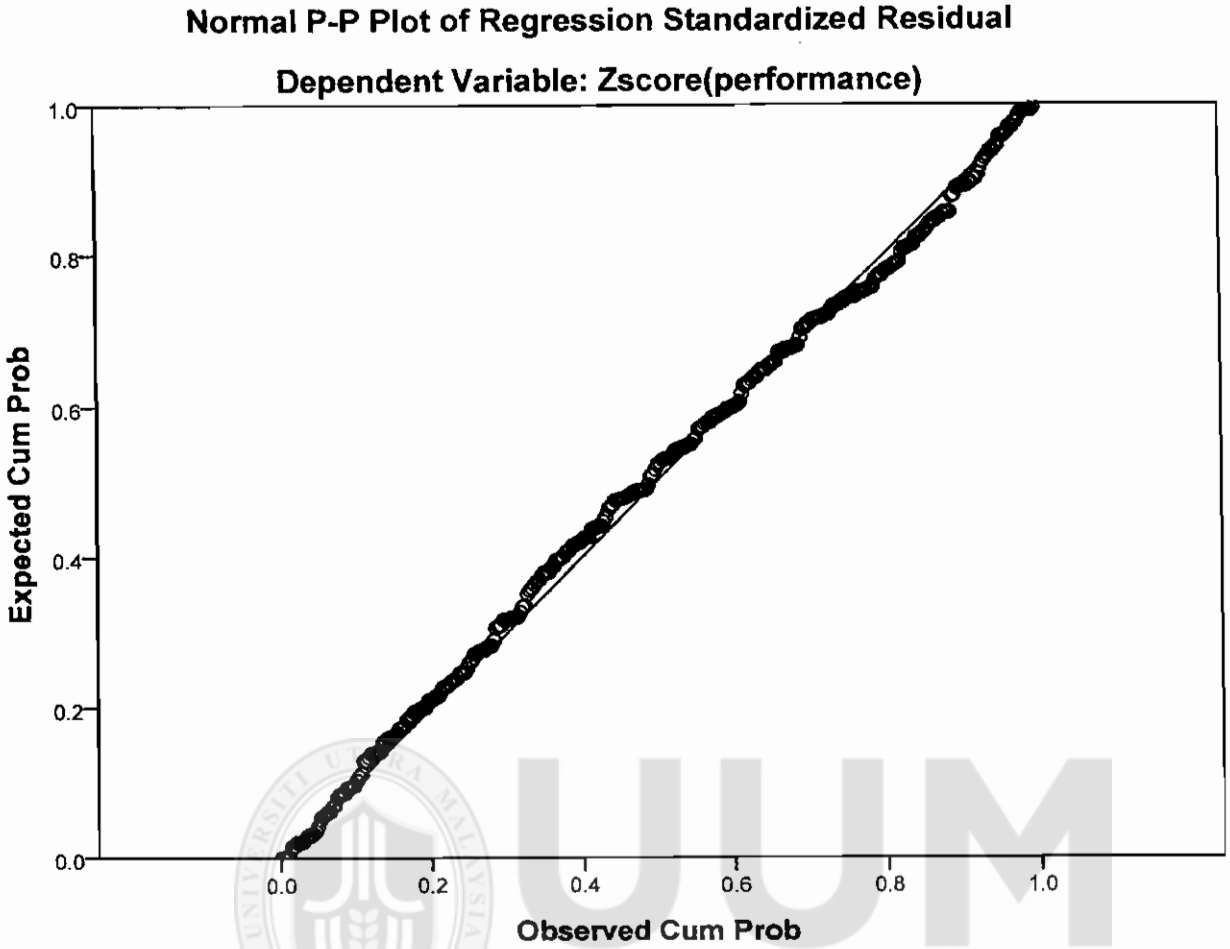
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.0769908	1.9356675	.0000000	.82920939	314
Residual	-1.75820017	1.48446858	.00000000	.55893808	314
Std. Predicted Value	-3.711	2.334	.000	1.000	314
Std. Residual	-3.130	2.643	.000	.995	314

a. Dependent Variable: Zscore(performance)

Charts





Regression

[DataSet1] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.695	.691	.55589128

a. Predictors: (Constant), Zscore(innovation), Zscore (org_structure), Zscore(skills), Zscore(traits)

b. Dependent Variable: Zscore(performance)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	217.514	4	54.379	175.974	.000[a]
	Residual	95.486	309	.309		
	Total	313.000	313			

a. Predictors: (Constant), Zscore(innovation), Zscore(org_structure), Zscore(skills), Zscore(traits)

b. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.097E-15	.031		.000	1.000
	Zscore(traits)	.475	.036	.475	13.340	.000
	Zscore(skills)	.386	.035	.386	11.148	.000
	Zscore(org_structure)	.239	.032	.239	7.427	.000
	Zscore(innovation)	.096	.035	.096	2.728	.007

a. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Zscore(traits)	.778	1.285
	Zscore(skills)	.822	1.217
	Zscore(org_structure)	.952	1.051
	Zscore(innovation)	.804	1.243

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Zscore(traits)	Zscore(skills)
1	1	1.790	1.000	.00	.14	.13
	2	1.000	1.338	1.00	.00	.00
	3	.940	1.380	.00	.09	.04
	4	.691	1.610	.00	.01	.61
	5	.579	1.758	.00	.76	.21

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		Zscore(org_ structure)	Zscore (innovation)
1	1	.05	.14
	2	.00	.00
	3	.86	.00
	4	.03	.52
	5	.06	.34

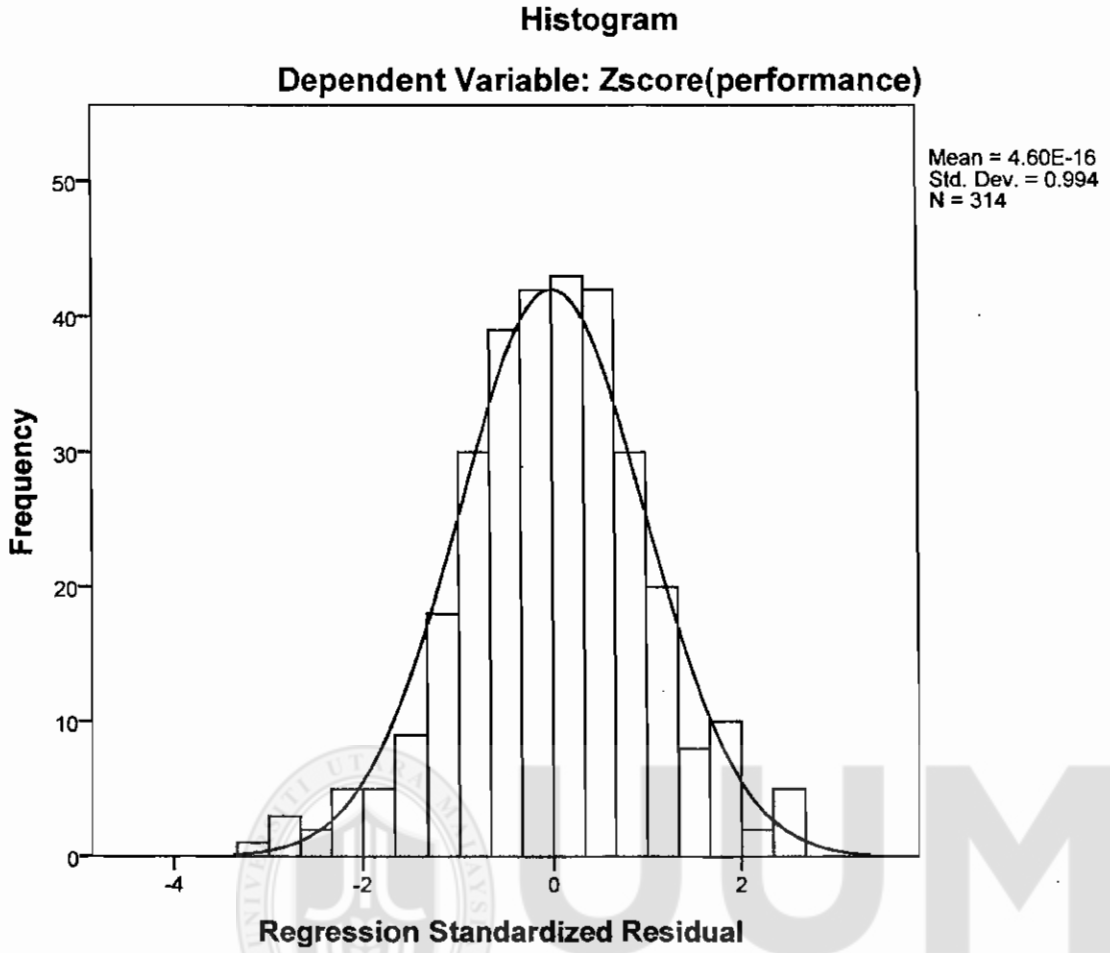
a. Dependent Variable: Zscore(performance)

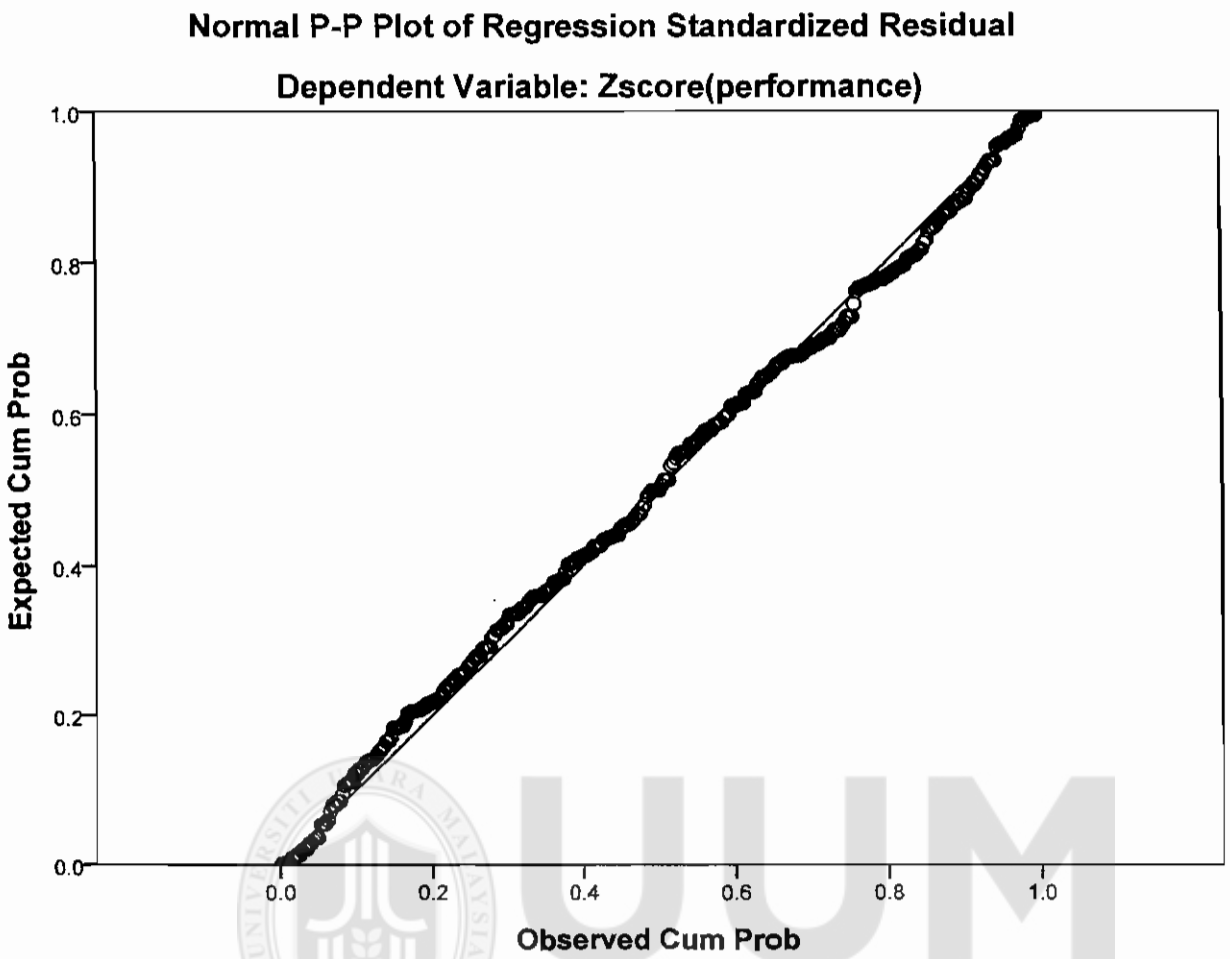
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.0183382	1.9683374	.0000000	.83362699	314
Residual	-1.84523106	1.42716432	.00000000	.55232784	314
Std. Predicted Value	-3.621	2.361	.000	1.000	314
Std. Residual	-3.319	2.567	.000	.994	314

a. Dependent Variable: Zscore(performance)

Charts





Regression

[DataSet1] D:\sufli\data play.sav

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Zscore (analytical), Zscore (opportunity), Zscore (learning), Zscore (relationship), Zscore (human), Zscore (operational), Zscore (commitment), Zscore (innovative), Zscore (personal), Zscore (strategic)[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Zscore(performance)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.831[a]	.691	.681	.56522562

a. Predictors: (Constant), Zscore(analytical), Zscore (opportunity), Zscore(learning), Zscore(relationship), Zscore (human), Zscore(operational), Zscore(commitment), Zscore (innovative), Zscore(personal), Zscore(strategic)

b. Dependent Variable: Zscore(performance)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	216.198	10	21.620	67.672	.000[a]
	Residual	96.802	303	.319		
	Total	313.000	313			

a. Predictors: (Constant), Zscore(analytical), Zscore(opportunity), Zscore(learning), Zscore(relationship), Zscore(human), Zscore(operational), Zscore(commitment), Zscore (innovative), Zscore(personal), Zscore(strategic)

b. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.607E-15	.032		.000	1.000
	Zscore(opportunity)	.269	.038	.269	7.077	.000
	Zscore(relationship)	.334	.043	.334	7.777	.000
	Zscore(operational)	.023	.050	.023	.460	.646
	Zscore(strategic)	.227	.075	.227	3.019	.003
	Zscore(commitment)	.271	.066	.271	4.078	.000
	Zscore(learning)	.160	.061	.160	2.621	.009
	Zscore(personal)	-.167	.066	-.167	-2.530	.012
	Zscore(innovative)	.002	.053	.002	.030	.976
	Zscore(human)	-.026	.048	-.026	-.534	.594
	Zscore(analytical)	.201	.037	.201	5.478	.000

a. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Zscore(opportunity)	.706	1.417
	Zscore(relationship)	.552	1.812
	Zscore(operational)	.416	2.402
	Zscore(strategic)	.180	5.550
	Zscore(commitment)	.232	4.318
	Zscore(learning)	.275	3.638
	Zscore(personal)	.235	4.251
	Zscore(innovative)	.369	2.713
	Zscore(human)	.435	2.301
	Zscore(analytical)	.760	1.316

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Zscore (opportunity)	Zscore (relationship)
1	1	5.186	1.000	.00	.00	.01
	2	1.521	1.847	.00	.23	.11
	3	1.000	2.277	1.00	.00	.00
	4	.923	2.370	.00	.00	.01
	5	.582	2.984	.00	.37	.01
	6	.534	3.116	.00	.00	.05
	7	.412	3.549	.00	.28	.74
	8	.319	4.032	.00	.04	.00
	9	.217	4.889	.00	.07	.03
	10	.192	5.202	.00	.00	.01
	11	.114	6.758	.00	.02	.03

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		Zscore (operational)	Zscore (strategic)	Zscore (commitment)	Zscore (learning)	Zscore (personal)
1	1	.01	.01	.01	.01	.01
	2	.03	.00	.01	.00	.00
	3	.00	.00	.00	.00	.00
	4	.00	.00	.01	.01	.00
	5	.31	.00	.03	.00	.02
	6	.05	.02	.08	.00	.00
	7	.09	.01	.00	.08	.00
	8	.00	.07	.00	.02	.01
	9	.22	.04	.16	.73	.02
	10	.13	.08	.01	.10	.82
	11	.16	.78	.69	.06	.10

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Zscore (innovative)	Zscore (human)	Zscore (analytical)
1	1	.01	.01	.01
	2	.01	.00	.00
	3	.00	.00	.00
	4	.00	.07	.58
	5	.02	.05	.02
	6	.16	.19	.25
	7	.03	.01	.01
	8	.44	.53	.13
	9	.10	.02	.00
	10	.19	.00	.00
	11	.04	.12	.00

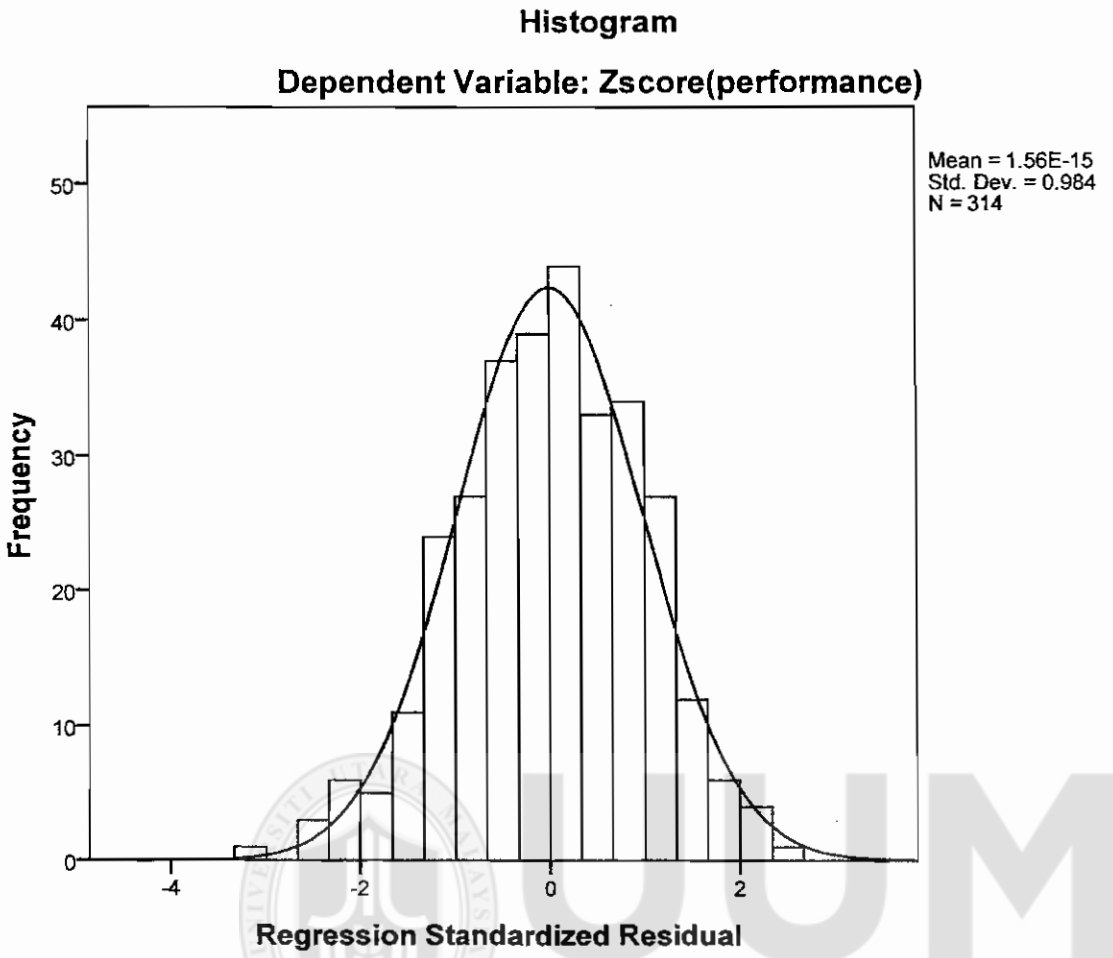
a. Dependent Variable: Zscore(performance)

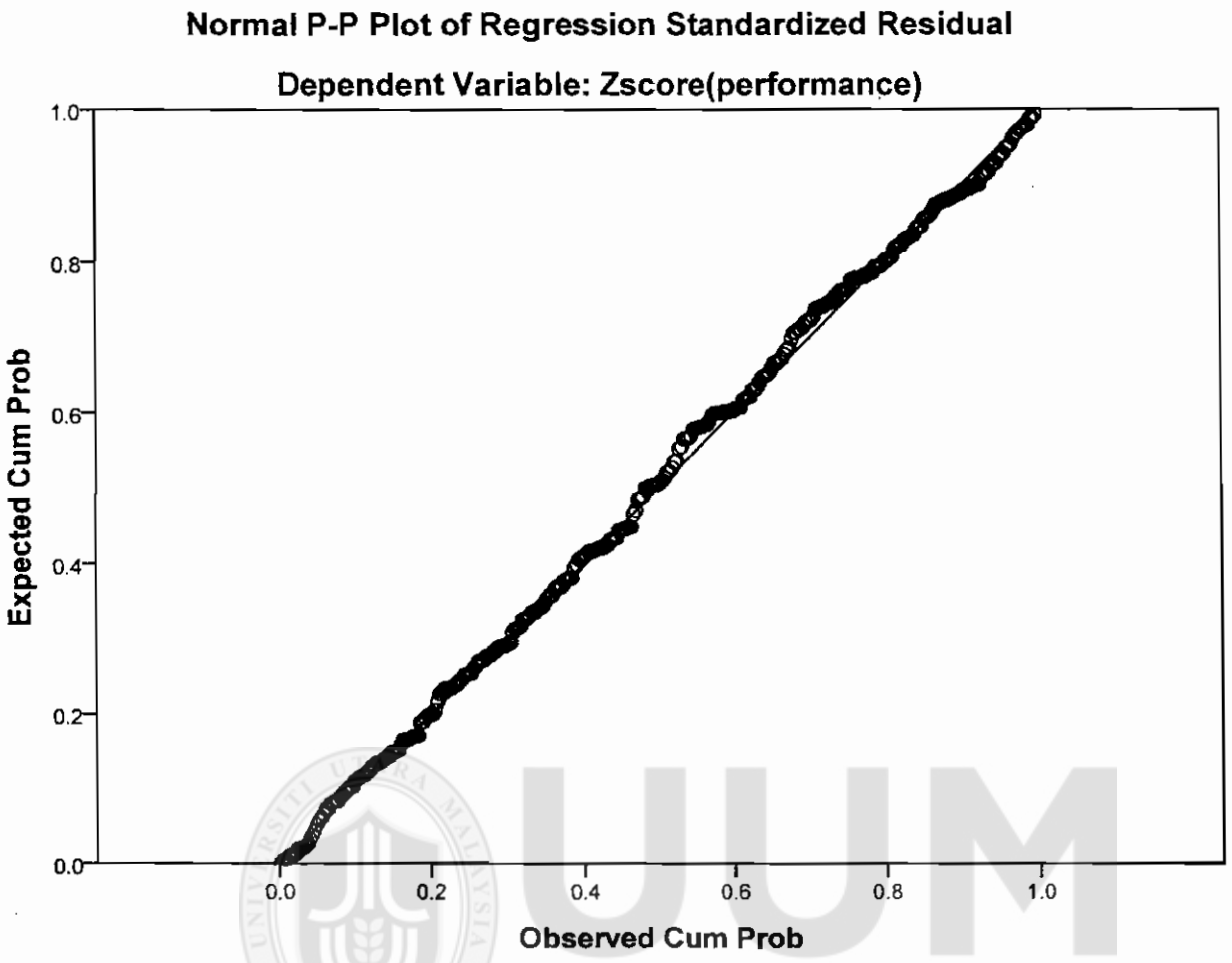
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.0664229	1.7342201	.0000000	.83109989	314
Residual	-1.74764025	1.38584721	.00000000	.55612316	314
Std. Predicted Value	-3.690	2.087	.000	1.000	314
Std. Residual	-3.092	2.452	.000	.984	314

a. Dependent Variable: Zscore(performance)

Charts





Regression

[DataSet1] D:\sufli\data play.sav

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234[a]	.055	.046	.97693755

a. Predictors: (Constant), Zscore(open), Zscore(incremantal), Zscore(radical)

b. Dependent Variable: Zscore(performance)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.134	3	5.711	5.984	.001[a]
	Residual	295.866	310	.954		
	Total	313.000	313			

a. Predictors: (Constant), Zscore(open), Zscore(incremantal), Zscore(radical)

b. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.781E-15	.055		.000	1.000
	Zscore(incremantal)	.102	.085	.102	1.200	.231
	Zscore(radical)	.206	.093	.206	2.212	.028
	Zscore(open)	-.062	.105	-.062	-.591	.555

a. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Zscore(incremantal)	.421	2.373
	Zscore(radical)	.352	2.842
	Zscore(open)	.275	3.634

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Zscore (incremantal)
1	1	2.481	1.000	.00	.05
	2	1.000	1.575	1.00	.00
	3	.337	2.714	.00	.75
	4	.183	3.686	.00	.20

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		Zscore (radical)	Zscore(open)
1	1	.05	.04
	2	.00	.00
	3	.40	.01
	4	.55	.95

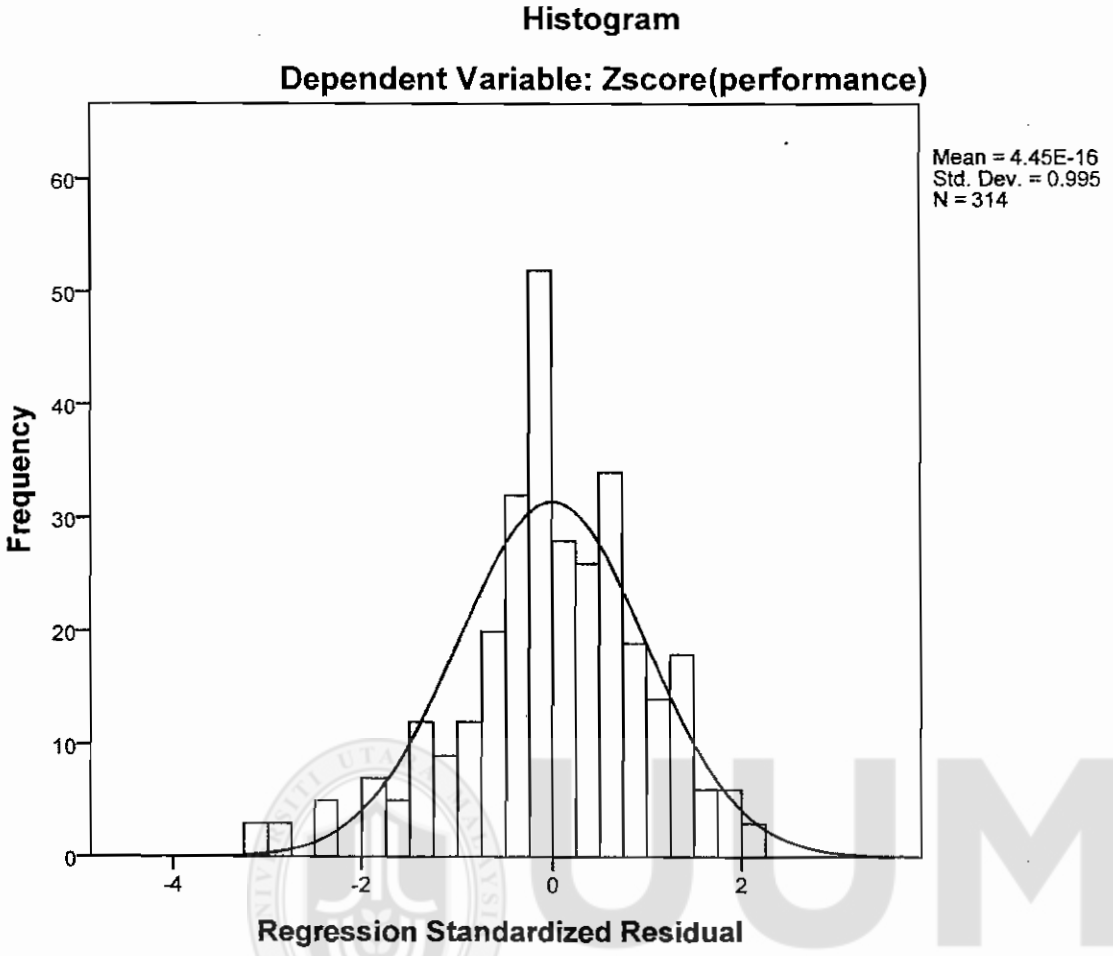
a. Dependent Variable: Zscore(performance)

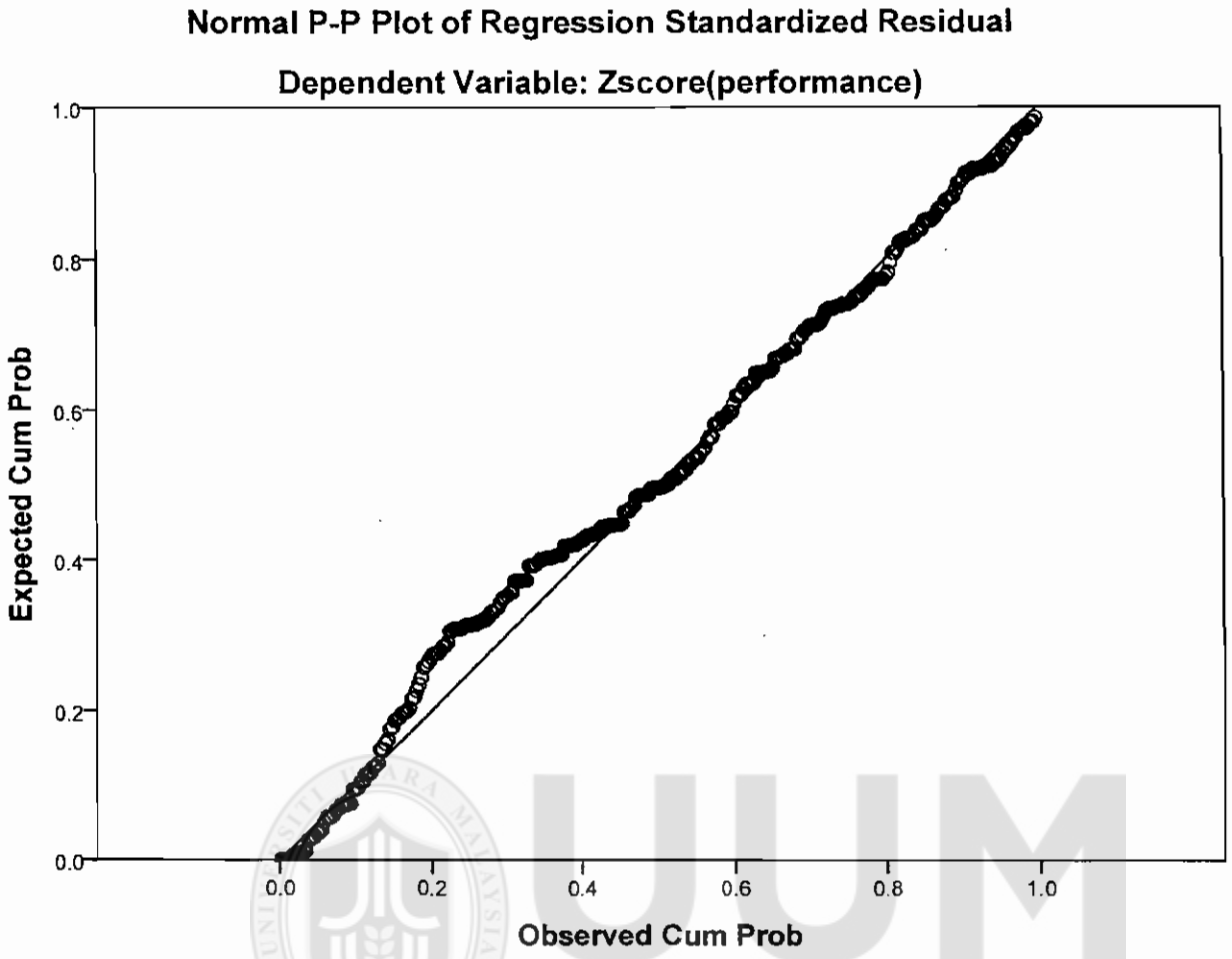
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.6466612	.3574891	.0000000	.23396730	314
Residual	-3.14178944	2.13791060	.00000000	.97224447	314
Std. Predicted Value	-2.764	1.528	.000	1.000	314
Std. Residual	-3.216	2.188	.000	.995	314

a. Dependent Variable: Zscore(performance)

Charts





APPENDIX J:

HIERARCHICAL REGRESSION ANALYSIS

Regression

[DataSet1] D:\sufli\data play.sav

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Zscore(org_ structure), Zscore(traits), Zscore(skills)[a]	.	Enter
2	Zscore (innovation)[a]	.	Enter
3	structure_X_ innovation, skills_X_ innovation, traits_X_ innovation[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Zscore(performance)

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.829[a]	.688	.685	.56163611	.688	227.427	3
2	.834[b]	.695	.691	.55589128	.007	7.440	1
3	.837[c]	.701	.694	.55310724	.006	2.040	3

a. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills)

b. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills), Zscore(innovation)

c. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills), Zscore(innovation), structure_X_innovation, skills_X_innovation, traits_X_innovation

d. Dependent Variable: Zscore(performance)

Model Summary[d]

Model	Change Statistics	
	df2	Sig. F Change
1	310	.000
2	309	.007
3	306	.108

d. Dependent Variable: Zscore(performance)

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.215	3	71.738	227.427	.000[a]
	Residual	97.785	310	.315		
	Total	313.000	313			
2	Regression	217.514	4	54.379	175.974	.000[b]
	Residual	95.486	309	.309		
	Total	313.000	313			
3	Regression	219.386	7	31.341	102.445	.000[c]
	Residual	93.614	306	.306		
	Total	313.000	313			

a. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills)

b. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills), Zscore (innovation)

c. Predictors: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills), Zscore (innovation), structure_X_innovation, skills_X_innovation, traits_X_innovation

d. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.185E-15	.032		.000	1.000
	Zscore(traits)	.504	.034	.504	14.667	.000
	Zscore(skills)	.402	.035	.402	11.652	.000
	Zscore(org_structure)	.254	.032	.254	7.906	.000
2	(Constant)	1.097E-15	.031		.000	1.000
	Zscore(traits)	.475	.036	.475	13.340	.000
	Zscore(skills)	.386	.035	.386	11.148	.000
	Zscore(org_structure)	.239	.032	.239	7.427	.000
	Zscore(innovation)	.096	.035	.096	2.728	.007
3	(Constant)	.025	.034		.727	.468
	Zscore(traits)	.460	.037	.460	12.343	.000
	Zscore(skills)	.390	.035	.390	11.187	.000
	Zscore(org_structure)	.242	.032	.242	7.514	.000
	Zscore(innovation)	.089	.035	.089	2.549	.011
	traits_X_innovation	-.050	.029	-.063	-1.741	.083
	skills_X_innovation	.023	.033	.024	.691	.490
	structure_X_innovation	-.061	.034	-.057	-1.792	.074

a. Dependent Variable: Zscore(performance)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Zscore(traits)	.854	1.172
	Zscore(skills)	.845	1.183
	Zscore(org_structure)	.978	1.022
2	(Constant)		
	Zscore(traits)	.778	1.285
	Zscore(skills)	.822	1.217
	Zscore(org_structure)	.952	1.051
	Zscore(innovation)	.804	1.243
3	(Constant)		
	Zscore(traits)	.704	1.420
	Zscore(skills)	.805	1.242
	Zscore(org_structure)	.945	1.058
	Zscore(innovation)	.796	1.257
	traits_X_innovation	.748	1.336
	skills_X_innovation	.802	1.247
	structure_X_innovation	.963	1.038

a. Dependent Variable: Zscore(performance)

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation
1	Zscore(innovation)	.096[a]	2.728	.007	.153
	traits_X_innovation	-.062[a]	-1.847	.066	-.104
	skills_X_innovation	-.016[a]	-.504	.615	-.029
	structure_X_innovation	-.059[a]	-1.868	.063	-.106
2	traits_X_innovation	-.055[b]	-1.652	.100	-.094
	skills_X_innovation	-.009[b]	-.289	.773	-.016
	structure_X_innovation	-.055[b]	-1.754	.080	-.099

a. Predictors in the Model: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills)

b. Predictors in the Model: (Constant), Zscore(org_structure), Zscore(traits), Zscore(skills), Zscore (innovation)

c. Dependent Variable: Zscore(performance)

Excluded Variables[c]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	Zscore(innovation)	.804	1.243	.778
	traits_X_innovation	.899	1.113	.770
	skills_X_innovation	.988	1.013	.840
	structure_X_innovation	.992	1.008	.841
2	traits_X_innovation	.893	1.120	.717
	skills_X_innovation	.981	1.019	.778
	structure_X_innovation	.990	1.010	.775

c. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Zscore(traits)	Zscore(skills)
1	1	1.443	1.000	.00	.25	.26
	2	1.000	1.201	1.00	.00	.00
	3	.939	1.240	.00	.09	.03
	4	.618	1.528	.00	.66	.70
2	1	1.790	1.000	.00	.14	.13
	2	1.000	1.338	1.00	.00	.00
	3	.940	1.380	.00	.09	.04
	4	.691	1.610	.00	.01	.61
	5	.579	1.758	.00	.76	.21
3	1	2.067	1.000	.03	.06	.05
	2	1.550	1.155	.12	.06	.07
	3	1.049	1.404	.01	.06	.01
	4	.873	1.539	.00	.01	.15
	5	.731	1.681	.74	.01	.06
	6	.695	1.724	.03	.04	.46
	7	.614	1.835	.05	.29	.02
	8	.421	2.216	.03	.47	.19

a. Dependent Variable: Zscore(performance)

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		Zscore(org_ structure)	Zscore (innovation)	traits_X_ innovation	skills_X_ innovation	structure_X_ innovation
1	1	.08				
	2	.00				
	3	.90				
	4	.01				
2	1	.05	.14			
	2	.00	.00			
	3	.86	.00			
	4	.03	.52			
	5	.06	.34			
3	1	.02	.06	.07	.06	.02
	2	.03	.06	.04	.07	.06
	3	.35	.00	.11	.00	.29
	4	.47	.00	.04	.02	.31
	5	.01	.04	.02	.18	.09
	6	.01	.31	.01	.21	.08
	7	.10	.51	.09	.08	.14
	8	.00	.01	.62	.37	.01

a. Dependent Variable: Zscore(performance)

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.2058294	1.7689091	.0000000	.83720620	314
Residual	-1.93258858	1.42198837	.00000000	.54688736	314
Std. Predicted Value	-3.829	2.113	.000	1.000	314
Std. Residual	-3.494	2.571	.000	.989	314

a. Dependent Variable: Zscore(performance)

Charts