# METODOLOGI UMUM PENYELIDIKAN REKA BENTUK BERTOKOK PENILAIAN DALAMAN DAN LUARAN: KAJIAN KES SISTEM PENDAFTARAN SISWA INDONESIA

JUHRIYANSYAH DALLE

DOKTOR FALSAFAH
UNIVERSITI UTARA MALAYSIA
MEI 2010

# METODOLOGI UMUM PENYELIDIKAN REKA BENTUK BERTOKOK PENILAIAN DALAMAN DAN LUARAN: KAJIAN KES SISTEM PENDAFTARAN SISWA INDONESIA

Tesis Dikemukakan Kepada Kolej Sastera dan Sains,
Universiti Utara Malaysia Sebagai Memenuhi Syarat Pengijazahan
Ijazah Doktor Falsafah

**Oleh**

**Juhriyansyah Dalle**

**UNIVERSITI UTARA MALAYSIA**
**MEI 2010**

i

# Kolej Sastera dan Sains
*(UUM College of Arts and Sciences)*
## Universiti Utara Malaysia

## PERAKUAN KERJA TESIS / DISERTASI
*(Certification of thesis / dissertation)*

Kami, yang bertandatangan, memperakukan bahawa
*(We, the undersigned, certify that)*

### JUHRIYANSYAH DALLE

calon untuk Ijazah            **PhD**
*(candidate for the degree of)*

telah mengemukakan tesis / disertasi yang bertajuk:
*(has presented his/her thesis / dissertation of the following title):*

### "METODOLOGI UMUM PENYELIDIKAN REKA BENTUK BERTOKOK PENILAIAN DALAMAN DAN LUARAN: KAJIAN KES SISTEM PENDAFTARAN SISWA INDONESIA"

seperti yang tercatat di muka surat tajuk dan kulit tesis / disertasi.
*(as it appears on the title page and front cover of the thesis / dissertation).*

Bahawa tesis/disertasi tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan, sebagaimana yang ditunjukkan oleh calon dalam ujian lisan yang diadakan pada : **17 Mei 2010.**
*That the said thesis/dissertation is acceptable in form and content and displays a satisfactory knowledge of the field of study as demonstrated by the candidate through an oral examination held on:*
**May 17, 2010.**

| | | |
|---|---|---|
| Pengerusi Viva:<br>*(Chairman for Viva)* | **Assoc. Prof. Dr. Suhaidi Hassan** | Tandatangan<br>*(Signature)* |
| Pemeriksa Luar:<br>*(External Examiner)* | **Assoc. Prof. Dr. Norliya Ahmad Kassim** | Tandatangan<br>*(Signature)* |
| Pemeriksa Dalam:<br>*(Internal Examiner)* | **Dr. Haslina Mohd** | Tandatangan<br>*(Signature)* |
| Nama Penyelia/Penyelia-penyelia:<br>*(Name of Supervisor/Supervisors)* | **Assoc. Prof. Dr. Norshuhada Shiratuddin** | Tandatangan<br>*(Signature)* |

Tarikh:

*(Date)* **May 17, 2010**

## KEBENARAN MENGGUNA

Penyerahan tesis ini, bagi memenuhi syarat sepenuhnya untuk ijazah lanjutan Universiti Utara Malaysia, saya bersetuju bahawa Perpustakaan Universiti boleh secara bebas membenarkan sesiapa saja untuk memeriksa. Saya juga bersetuju bahawa penyelia saya atau jika ketiadaannya, Dekan (Pascasiswazah dan Penyelidikan) Kolej Sastera dan Sains diberi kebenaran untuk membuat salinan tesis ini dalam sebarang bentuk, sama ada keseluruhannya atau sebahagiannya, bagi tujuan kesarjanaan. Adalah tidak dibenarkan sebarang penyalinan atau penerbitan atau kegunaan tesis ini sama ada sepenuhnya atau sebahagian daripadanya bagi tujuan keuntungan kewangan/komersial, kecuali setelah mendapat kebenaran bertulis. Juga dimaklumkan bahawa pengiktirafan harus diberi kepada saya dan Universiti Utara Malaysia dalam sebarang kegunaan kesarjanaan terhadap sebarang petikan daripada tesis saya.

Sebarang permohonan untuk menyalin atau mengguna mana-mana bahan dalam tesis ini, sama ada sepenuhnya atau sebahagiannya hendaklah dialamatkan kepada:

Dekan Pascasiswazah dan Penyelidikan
Kolej Sastera dan Sains
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

# ABSTRAK

Motivasi kajian ini didorong oleh industri aplikasi dan kandungan yang masih sangat terhad khususnya dalam domain pendidikan yang mengakibatkan rendahnya penerapan sistem maklumat (SM) yang berkualiti dalam pengurusan pendidikan di Indonesia. Lebih spesifik, adopsi terhadap pendekatan pembangunan sistem yang sempurna masih sangat rendah di Indonesia. Kenyataan ini disokong oleh beberapa rujukan termasuk satu contoh SM pendaftaran siswa (iaitu e-PSB) yang didapati tidak mempraktikkan kitaran pembangunan yang menitikberatkan penilaian pengguna sehingga pelbagai ralat sistem direkodkan. Selain itu, kejayaan pelaksanaan SM tersebut juga didapati rendah kerana tidak memenuhi kehendak pengguna dan gagal memberi servis berkualiti. Tambahan pula, sorotan kajian menunjukkan penilaian SM sedia ada tidak menghubungkaitkan faktor kepuasan pengguna, persepsi pengguna, dan kualiti servis sistem.

Susulan daripada itu, matlamat utama kajian ini ialah mencadangkan model pendekatan pernbangunan SM yang menitikberatkan penilaian kepuasan dan penerimaan pengguna serta kualiti servis sebagai faktor-faktor penilaian pengguna dalaman dan luaran. Matlamat dicapai dengan membentuk tiga objektif iaitu (1) membina satu prototaip sistem pendaftaran siswa sebagai kes kajian di Indonesia, (2) melaksanakan penilaian dalaman dan luaran sistem yang dibina dalam persekitaran yang sebenar, dan (3) mengenal pasti hubungan antara faktor-faktor yang berpengaruh terhadap kepuasan, penerimaan dan kualiti servis sistem tersebut.

Kajian ini melalui pendekatan kuantitatif dan penyelidikan reka bentuk yang menekankan pembangunan artifak. Tiga fasa diikuti iaitu (1) fasa perancangan dan analisis awal, (2) fasa pembangunan model dan artifak, dan (3) fasa pelaksanaan, pengumpulan data, dan penilaian. Pengumpulan data menggunakan instrumen penilaian yang dibahagikan kepada penilaian dalaman dan luaran. Penilaian dalaman diasaskan daripada *Technology Acceptance Model* (TAM) dan *Questionnaire for User Interaction Satisfaction* (QUIS). Manakala penilaian luaran didasarkan daripada *Service Quality* (SERVQUAL). Seramai 471 responden terlibat di mana 462 dari Bandar Banjarmasin Kalimantan Selatan Indonesia dan 9 orang pakar SM. Ujian t, ANOVA, korelasi dan regresi digunakan dalam pengujian sebelas hipotesis yang dibina.

Faktor penilaian dalaman dibahagikan kepada persepsi kebergunaan (PK), persepsi kemudahgunaan (PKG), dan kepuasan antara muka pengguna (KAP). Sementara penilaian luaran terdiri daripada dimensi kualiti servis (KS), persepsi keseluruhan kualiti servis (PKS), dan kepuasan keseluruhan kualiti servis (KKS). Hasil pengujian hipotesis-hipotesis menunjukkan bahawa (i) PKG dengan PK berhubungan secara signifikan, (ii) PK dengan KAP berhubungan secara signifikan, (iii) PKG dengan KAP berhubungan secara signifikan, (iv) PK dan PKG secara bersama-sama mempengaruhi KAP secara signifikan, (v) KS mempengaruhi PKS secara signifikan, (vi) PKS dengan KKS berhubungan secara signifikan, (vii) KS mempengaruhi KKS secara signifikan, (viii) KS dan PKS secara bersama-sama mempengaruhi KKS secara signifikan, dan (ix) KAP mempengaruhi KKS secara signifikan.

Sumbangan utama kajian ialah cadangan model pendekatan pembangunan SM yang boleh digunakan oleh para pembangun dan penyelidik dalam membina satu SM yang menekankan penilaian penerimaan, kepuasan dan kualiti servis. Selain itu, sistem prototaip yang dinamakan PSB Terpadu dan faktor-faktor penilaian pengguna dalaman dan luaran SM juga memberi sumbangan kepada industri aplikasi di Indonesia khususnya.

# ABSTRACT

This study is motivated by the fact that the software application and content industry advancement in Indonesia especially in the educational domain is rather limited. This has resulted in the deployment of low quality Information System (IS) for education management due to a poorly adopted system development approach. The statement is supported by many references including an example of a student registration IS (i.e. e-PSB) which did not focus on user evaluation; therefore has recorded many errors plus failed to provide a quality service; and was found to not practice a proper system development life cycle. Moreover, literature reviews indicate that studies on the evaluation of IS have yet to determine the correlation between user satisfaction, perception and service quality factors.

In regard to the above, the aim of this study is to propose a IS development approach model that pivots on user satisfaction, perception and service quality as the internal and external evaluation factors. In accomplishing the aim, three objectives are formulated; (1) develop a student registration IS prototype as a case study in Indonesia, (2) implement the internal and external evaluation of the prototype in a real setting, and (3) identify influential relationship between the user satisfaction, perception and service quality factors.

Quantitative and design research are the two main approaches followed through in this study. There are mainly three phases, (1) planning and analysis, (2) model and artefact development, and (3) implementation, data collection and evaluation. Data are collected using internal and external evaluation instruments. The internal evaluation is based on the Technology Acceptance Model (TAM) and Questionnaire for User Interaction Satisfaction (QUIS). The external is rooted on the Service Quality (SERVQUAL). Altogether 471 respondents participated where 462 are from Banjarmasin, South Kalimantan, Indonesia and 9 are experts. T-test, ANOVA, correlation and regression analysis are utilized to prove 11 hypotheses.

The internal evaluation factors are divided into perceived usefulness (PK), perceived ease-of-use (PKG) and user interface satisfaction (KAP). Whereas, the external factors are divided into quality service (KS), overall perception of quality service (PKS), and overall satisfaction of quality service (KKS). The hypotheses testing show that (i) PKG and PK are significantly correlated, (ii) PK and KAP are significantly correlated, (iii) PKG and KAP are significantly correlated, (iv) PK and PKG together influence KAP significantly, (v) KS influences PKS significantly, (vi) PKS and KKS are significantly correlated, (vii) KS influences KKS significantly, (viii) KS and PKS together influence KKS significantly, and (ix) KAP influences KKS significantly.

The proposed IS development approach model, which can be utilized by fellow developers and researchers to develop an IS that focuses on the internal and external evaluation factors, is the main contribution of this study. Furthermore, the prototype, that is named as *PSB Terpadu* and the identified relationships between the internal and external factors contribute to the software application industry, specifically in Indonesia.

# PENGHARGAAN

Syukur Alhamdulillah ke hadirat Allah s.w.t kerana diberi-Nya kekuatan untuk menyiapkan tesis ini, biar pun diuji dengan sedikit kepayahan, namun pastinya terkandung hikmah yang besar untuk menambahkan kematangan intelektual, emosi dan rohani.

Di kesempatan ini, saya merakamkan setinggi-tingginya penghargaan kepada penyelia saya Prof. Madya Dr. Norshuhada Shiratuddin, terima kasih di atas tunjuk ajar yang tidak jemu-jemu diberikan kepada saya sehingga terhasilnya tesis ini, juga terimakasih kepada Prof. Madya Dr. Norliya Ahmad Kasim dan Dr. Haslina Mohd yang telah memeriksa dan memberikan penilaian ke atas tesis ini.

Saya terhutang budi kepada para responden kajian ini, serta institusi Dinas Pendidikan Kota Banjarmasin yang telah memberikan kesempatan kepada saya melalui Drs. H. Nor Ipansyah, M.Pd, Drs. H. Metroyadi, S.H., M.Pd., dan Drs. H. Iskandar Zulkarnain, M.Si, untuk menjadi konsultan PSB-Online Bandar Banjarmasin di mana motivasi kajian dibentuk. Juga saya terhutang budi kepada Prof. Dr. H. Kamrani Buseri MA, Prof. Dr. H. Akh. Fauzi Aseri MA, Prof. Dr. H. Syaifuddin Sabda, M.Ag. di atas ijin belajar yang diberikan. Serta juga saya terhutang budi kepada Drs. H. A. Suriansyah, M.Pd., Ph.D, Dra. Hj. Aslamiah, M.Pd, dan Rita Widyasari, M.M., di atas semua bantuan yang telah diberikan.

Secara khas saya sampaikan ucapan terimakasih kepada Tan Sri. Prof. Dr. Nordin Kardi, Prof. Dr. Hj. Juhary Ali, Prof. Dr. Mohamed Mustafa Ishak, Prof. Madya Dr. Abdul Malek, Dr. Ishak Sin, Prof. Madya Dr. Nuraini Yusoff, Prof. Madya Dr. Oemar Hamdan, Prof. Dr. Zulkhairi, Prof. Madya Dr. Zulikha Jamaluddin, Musafir Kelana, H. Rustam Effendi, dan Dr. Moerad Baso yang telah sudi membantu menjalin kerjasama di antara IAIN Antasari, Unlam, dan UUM di atas prakarsa saya sebagai pelajar semasa memulakan pengajian di UUM, sehingga kawan-kawan antaranya, Ahdi Makmur, Taufiqurrahman, Mufti Wardani, M. Helmy Hakim, Ridha Fadillah, Abdul Hayat, Irfan Noor, Zainal Fikri, Zulfa Jamalie, Inna Muthmainnah, Ahmad Syadzali, Nira Haryatie, Masithah Umar, Jalaluddin, dan Gerilyansyah Basrindu boleh menyambung pengajian di UUM.

Secara khas juga saya sampaikan ucapan terimakasih kepada Dr. Ariffin, Dr. Fauziah Baharon, Dr. Laily Hashim, Prof. Madya Dr. Huda, Prof. Madya Dr. Shahizan Hasan, Prof. Madya Dr. Suhaidi Hasan, Dr. Khairuddin, Dr. Massudi, Mahfuzah, Shamsul, Shahbani, Sharah, Azahari, Shuhymee, Azizi, Cekgu Wahab, Azriel, Yusnita, Thamrin, Dasman, Dr. Fachri Adnan, Ma'lum, Abdullah, Fairol, Rini Soetadi, Shabirin, Haramein, Nazaruddin, Khuzairi, Aiman, Hisham, Ahmad, Muhammad, Nasrullah, Fozi, Sabarina, Latifah, Haslinda, kawan-kawan kolej Maybank, dan kepada sesiapa sahaja yang tak dapat disebutkan, di atas sumbang saran serta bantuan semasa mengaji di UUM.

Akhir sekali ribuan terimakasih yang tak terkira kepada ahli-ahli keluargaku di atas kesabaran dan ketulusan serta doa ikhlas yang tidak henti-hentinya dipanjatkan dengan warna canda, tawa, dan tangis Janeeta dan Javier. Semoga Allah s.w.t. sentiasa melindungi dan memberkati segala usaha kita. Amin.

Sintok, 19 Mei 2010

# KANDUNGAN

## BAB 1 PENDAHULUAN

## BAB 2 SOROTAN KAJIAN

## BAB 7 KESIMPULAN

# SENARAI JADUAL

xiii

# SENARAI RAJAH

## SENARAI KEPENDEKAN

| | |
|---|---|
| % | : Peratus |
| ADO | : ActiveX Data Object |
| ANOVA | : One Way Analisis of Variance |
| ASEAN | : The Association of Southeast Asian Nations |
| ASPILUKI | : Asosiasi Piranti Lunak Telematika Indonesia |
| ATM | : Automatic Teller Machine |
| BAPPENAS | : Badan Perencanaan Pembangunan Nasional |
| BCM | : Brady and Cronin Model |
| BSD | : Berkeley Software Distribution |
| DAO | : Data Acces Objects |
| DB1 | : Database 1 |
| DB2 | : Database 2 |
| df | : Degree of freedom (darjah kebebasan) |
| DFD | : Data Flow Diagram |
| DHTML | : Dynamic Hyper Text Markup Language |
| Disdik | : Dinas Pendidikan |
| EMP | : Empati |
| e-PSB | : Pendaftaran Siswa Baru secara elektronik |
| f | : Frekuensi |
| GMDR | : General Method of Design Research |
| GOM | : Gronroos Model |
| $H_0$ | : Hipotesis Nol |
| $H_a$ | : Hipotesis Alternatif |
| HTML | : Hyper Text Markup Language |
| ICT | : Information Communication and Technology |
| Iptek | : Ilmu Pengetahuan dan Teknologi |
| ISV | : Independent Software Vendor |
| IPTA | : Institut Pengajian Tinggi Awam |
| ITU | : International Telecomunication Union |
| JMN | : Jaminan |
| KAP | : Kepuasan Antara Muka Pengguna |
| KBL | : Kebolehpercayaan |
| Kbps | : Kilobit per second |
| KDNK | : Keluaran Dalam Negeri Kasar |
| KKS | : Kepuasan Keseluruhan Kualiti Servis |
| KMO | : Kaiser Meyer Olkin |
| KS | : Kualiti Servis |
| KUP | : Keupayaan |
| MID | : Modul Input Data |
| MPD | : Modul Pangkalan Data |
| MPrD | : Modul Proses Data |
| MPW | : Modul Penerbitan Web |

| | | |
|---|---|---|
| MSA | : | Measure of Sampling Adequacy |
| MUPR Bertokok | : | Metodologi Umum Penyelidikan Reka Bentuk Bertokok |
| MUPR | : | Metodologi Umum Penyelidikan Reka Bentuk |
| MyICMS | : | Malaysian Information Communication and Multimedia |
| NIST | : | The National Institute of Standards and Technology |
| NUASD | : | Nilai Ujian Akhir Sekolah Dasar |
| OS | : | Operating System |
| PBB | : | Persatuan Bangsa-Bangsa |
| PBL | : | Pembelajaran |
| PHP | : | Hypertext Preprocessor |
| PK | : | Persepsi Kebergunaan |
| PKG | : | Persepsi Kemudahgunaan |
| PKS | : | Persepsi Keseluruhan Kualiti Servis |
| PPR | : | Paparan (skrin) |
| PPSB | : | Panitia Pendaftaran Siswa Baru |
| PSB Terpadu | : | Pendaftaran Siswa Baru Terpadu |
| PSB | : | Pendaftaran Siswa Baru |
| $R$ | : | Koefisien Korelasi Berganda |
| $r$ | : | Koefisien Korelasi Linear |
| $R^2$ | : | Koefisien Determinasi Regresi Berganda |
| $r^2$ | : | Koefisien Determinasi Regresi Linear |
| RAD | : | Rapid Application Development |
| RAM | : | Reka Bentuk Antara Muka |
| RDO | : | Remote Data Objects |
| RICE | : | Regional IT Center of Excellence |
| ROM | : | Rust and Oliver Model |
| RSF | : | Responsif |
| RSQS | : | Retail Service Quality Scale Model |
| SD | : | Sekolah Dasar |
| SERVQUAL | : | Service Quality |
| Sig. | : | Signifikan |
| SM | : | Sistem Maklumat |
| SMA | : | Sekolah Menengah Atas |
| SMAN | : | Sekolah Menengah Atas Negeri |
| SMK | : | Sekolah Menengah Kejuruan |
| SMKN | : | Sekolah Menengah Kejuruan Negeri |
| SMP Terbuka | : | Sekolah Menengah Pertama Terbuka |
| SMP | : | Sekolah Menengah Pertama |
| SMPN | : | Sekolah Menengah Pertama Negeri |
| TAM | : | Technologi Acceptance Model |
| TAM2 | : | Technologi Acceptance Model 2 |
| TAM3 | : | Technologi Acceptance Model 3 |
| TBS | : | Tindak Balas Sistem |
| TIMSS | : | Trends in International Mathematics and Science Study |

| | |
|---|---|
| TKS | : Teori Kognitif Sosial |
| TM | : Teknologi Maklumat |
| TRA | : Theory Reasoned Action |
| TRM | : Terminologi dan Maklumat |
| UK | : United Kingdon |
| UNCED | : United Nations Conference on Environment and Development |
| UNDP | : United Nation Development Program |
| UNESCO | : The United Nations Educational, Scientific and Cultural Organization |
| US | : United States |
| USA | : United States of America |
| UTAUT | : Unified Theory of Acceptance and Use of Technology |
| VB | : Visual Basic |
| WSIS | : World Summit on the Information Society |

# SENARAI PENERBITAN

**Jurnal:**

1. Dalle, J. & Norshuhada, S. (2009). Konstruk penilaian dalaman dan luaran sistem informasi. *Jurnal Sistem Teknik Industri*, 10(3), 889-897.
2. Dalle, J. (2010). An earlier perception study of new student placement (NSP) system. *UTEM's exclusive Advanced Manufacturing Technology (AMT) journal*, special edition, 1-4.

**Persidangan:**

1. Dalle, J. (2009). Model konseptual sistem pengurusan pendaftaran dan penempatan persekolahan atas talian e-PSB: Kajian kes Banjarmasin. *Konferensi Se-Borneo Kalimantan* (pp. 1-11). Sabah: Univerisiti Malaysia Sabah.
2. Dalle, J. (2009). Model konseptual sistem pendaftaran siswa (PSB Terpadu). *Seminar Antarabangsa Pendidikan ICT Bernuansakan Islam* (pp. 1-12). Aceh: Kerjasama UUM dan UNSYIAH.
3. Dalle, J. (2010). An earlier perception study of new student placement (NSP) system. *The 2nd International Conference On Engineering and ICT (ICEI2010)* (pp. 1002-1005). Melaka: Univerisiti Teknikal Melaka.
4. Dalle, J. (2010). The relationship between PU and PEOU towards the behavior intention in New Student Placement (NSP) System of Senior High School in Banjarmasin, South Kalimantan, Indonesia. *International Conference on Arts, Social Sciences, and Technology 2010 (ICAST2010)* (pp. 1-13). Penang: UiTM Kedah.

**Anugerah:**

**Best paper award** on the 2nd International Conference On Engineering and ICT (ICEI2010), Title: An earlier perception study of new student placement (NSP) system.

# BAB 1

# PENDAHULUAN

## 1.0   Motivasi Kajian

Kepesatan pembangunan di Indonesia dalam abad ini menitikberatkan aspek-aspek pemanfaatan Teknologi Maklumat (TM). Dalam rangka mengikuti perkembangan TM yang pantas dan pelaksanaan otonomi daerah yang sudah bermula hingga hari ini maka Negara Indonesia sebagai salah satu negara yang berpotensi besar untuk maju, tentunya tidak ingin ketinggalan dengan negara-negara yang ada di rantau Asia Tenggara.

Namun, teledensiti, sebuah angka untuk mengukur taburan infrastruktur Teknologi Maklumat dan Komunikasi (ICT) misalnya masih menunjukkan angka 11 – 25% untuk bandar besar, dan di pinggir pedalaman 0.2%. Masih terdapat lebih kurang 43,022 desa tanpa kemudahan telefon (64.4% dari 66,778 desa). Taburan infrastruktur telekomunikasi pula ialah

The contents of the thesis is for internal user only

# RUJUKAN

*Academic Express.* (2009). Akses Januari 3, 2010, dari http://3citsolutions.com/registrationAdmission.html.

Adams, D., Nelson, R., & Todd, P. (1992). Perceived usefulness, ease of use, and usage of information: A replication. *MIS Quarterly*, 16(2), 227-247.

Adams, L. A., & Courtney, J.F. (2004). Achieving relevance in IS research via the DAGS framework, *Proceedings of the Proceedings of the 37th Annual Hawaii International Conference on System Sciences (HICSS'04)* (pp. 80257.2). Hawaii: ACM.

Adi, S. (2007). *PSB-online di Bojonegoro membingungkan.* Akses Julai 18, 2007, dari Kompas: http://www.kompas.com.

Adikari, S., McDonald, C., & Collinggs, P. (2006). A design science approach to an HCI research project. *Proceedings of the 18th Australia conference on Computer-Human Interaction: Design: Activities, Artefacts and Environments* (pp. 429-432). Sydney: ACM Digital Library.

*AEIS.* (2005). Akses Julai 7, 2009, dari Ministry of Education Singapore: https://eservice.seab.gov.sg.

Agus, H., & Gatot, P. (2005). *Mobile internet center berbasis wireless connection sebagai solusi efektif media pendukung pembelajaran aplikasi teknologi Internet di daerah terpencil.* Akses Mac 8, 2008, dari www.geocities.com/gatot_prabantoro.

Ahn, T., Ryu, S. & Han, I. (2007). The impact of web quality and playfulness on user acceptance of online retailing. *Information and Management,* 44(3), 263-275.

Aladwani, A., & Palvia, P. (2002). Developing and validating and instrument for measuring user-perceived web quality. *Information & Management,* 39(6), 467-476.

Alavi, M. (1998). An assessment of the prototyping approach to information systems development. *Communications of the ACM,* 27(6), 556-563.

Alfarabius. (2008, November 25). *Pengujian perisian - Satu langkah awal dan wajib kepada pengaturcara.* Akses Disember 12, 2008, dari Sumber Informasi Graduan Sains Komputer & IT: http://firdaus-harun.com/index.php.

Al-Gahtani, S.S., & King, M. (1999). Attitudes, satisfaction and usage: Factors contributing to each in the acceptance of information technology. *Behaviour and Information Technology*, 18(4), 277-297.

Allport, I.R. (1967). Attitudes and other affective variables in learning mathematics. *Review of Educational Research*, 46, 293-311.

Alshare, K., Grandon, E., & Miller, D. (2004). Antecedents of computer technololgy usage: Considerations of the technology acceptance model in the acedemic environment. *CCSC: Central Plains Conference* (pp. 164-180). Consortium for Computing Sciences in Colleges.

Amalkhairy, C.A. (2003). *Kualiti perkhidmatan pelanggan bank islam cawangan Jitra.* Tesis Master, Sintok: Universiti Utara Malaysia.

Amira, S., & Muhammad, S. (2007). *Importance of capacity building for the Digital Content Industry in Malaysia.* Akses 9 Julai, 2008, dari www.skmm.gov.my/Admin/WhatIsNew/myicms886/session7/UMPaper.pdf.

Anwar, K. (2002). *Hubungan amalan pengurusan kualiti cemerlang dengan kepuasan pelanggan dalaman dan prestasi organisasi pihak berkuasa tempatan di Semenanjung Malaysia.* Tesis Ph.D, Sintok: Universiti Utara Malaysia.

Armstrong, J.S., & Overton, T.O. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14, 396-402.

Asunbonteng, P., McCleary, K.J., & Swan, J.E. (1996). SERVQUAL revisted: A critical review of service quality. *Journal of Services Marketing,* 10(6), 62-81.

Atchariyachanvanich, K., Okada, H., & Sonehara, N. (2007). Theoritical model of purchase and repurchase in internet shopping: Evidence from Japanesse online customer. *ICE'07* (pp. 243-251). Minneapolis, Minnesota, USA: ACM.

Atkinson, R.L. (1990). *Introduction to psychology* (10th ed.). New York: Harcourt Brase Jovanovich.

Azizah, A.R., & Rose, A.A. (2000). SERVQUAL dalam penilaian kuliti servis sistem maklumat. *Confrence on Mangement Science/Operational Research.* School of Mathematics Sciences, USM and MSORSM.

Azizan, A. (2002). *Sistem pengurusan kualiti ISO 9000: 2000 strategi kearah pensijilan.* Petaling Jaya, Selangor, Malaysia: Pearson Malaysia Sdn. Bhd.

Azleen, I., Mohd, R.Y., Mohd, Z.A.R., & Rahida, A.R. (2007). The study of end-user computing satisfaction (EUCS) on computerised accounting system (CAS) among labuan F.T. goverment sector: A case study in the responsibility centres. *Labue e-Journal of Muamalat and Society,* 1, 1-13.

Baderi, M.A., Al-Madani, A.W., & Abdulla, M. (2005). Information technology center service quality: Assessment and application of SERVQUAL. *International Journal of Quality & Reliability Management,* 22(8), 819-848.

Baecker, R.M., Grudin, J., Buxton, W.A.S., Greenberg, S. (eds.). (1995). *Readings in human-computer interactions: Toward the year 2000.* San Francisco: Morgan Kaufmann Publishing, Inc.

Bailey, J.E., & Pearson, S.W. (1983). Development of a tool for measuring and analysing computer user satisfaction. *Management Science,* 29(5), 530-545.

Bakharia, A. (2004). *Macromedia dreamweaver MX 2004, fast easy web development.* Boston: Premier Press.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Engelwood Cliffs, NJ: Prentice-Hall.

Bandyo-Padhyay, N. (2002). *E-commerce: Context, concepts and consequences.* McGraw Hill International.

Bariff, M.L., & Ginzberg, M.J. (1982). MIS and the behavioral sciences: Research patterns and prescriptions. *ACM SIGMIS,* 14, 19-26.

Barners, S.J., & Vidgen, R. (2003). Measuring web site quality improvements: A case study of the forum on strategic management knowledge exchange. *Industrial Management & Data Systems,* 103(5), 297-309.

Barnes, S.J., & Vidgen, R. (2001). An evaluation of cyber-bookshops the webqual method. *International Journal of Electronic Commerce,* 6(1), 11-30.

Bearden, W.O., & Netemeyer, R.G. (1999). *Handbook of marketing scales: Multi-item measures for marketing and consumer behavior research.* London: SAGE Publications, Inc.

Beck, L.C., Trombetta, W., & Share, S. (1986). Using focus group session before decisions are made. *North Carolina Medical Journal,* 47(2), 73-74.

Behrens, S., Jamieson, K., Jones, D., & Cranston, M. (2005). Predicting system success using the technology acceptance model: A case

study. *16th Australasian conference on information systems.* Sydney, Australia.

Benamati, J., & Rajkumar, T. M. (2002). A design of an emperical study of the applicability of the technology acceptance model to outsourcing decisions. *SIGCPR'02* (pp. 52-57). Kristiansand, Norway: ACM.

Bennet, S., Farmer, R., & McRobb, S. (2006). *Object-oriented system analysis and design using UML* (Third ed.). Kuala Lumpur: Mc Graw Hill.

Berry, L.L., & Parasuraman, A. (1997). Listening to the customer-the concept of a service-quality information system. *Sloan Management Review*, 38(3), 65-79.

Bertrand, M., & Bouchard, S. (2008). Applying the technology acceptance model to VR with people who are favorable to its use. *Journal of Cyber Therapy & Rehabilitation*, 1(2), 200-210.

Beynon-Davis, P., & Williams, M.D. (2003). The diffusion of information systems development methods. *Journal of Strategic Information Systems*, 12, 29-46.

Bhat, K.S. (2002). *Total quality management.* India: Himalaya Publishing House.

Bill, F. & Olaison, L. (2009). The indirect approach of semi-focused groups: Expanding focus group research through role-playing. *Qualitative Research in Organizations and Management: An International Journal.* 4(1), 7-26.

Binder, R.V. (1999). *Testing object-oriented systems: Objects, patterns, and tools.* New Jersey: Addison-Wesley Professional.

Boddy, C. (2005). A rose by any other name may smell as sweet but group discussion I not another name for a focus group nor should it b. *Qualitative Research,* 8(3), 248-255.

Bodnar, G.H., & Hopwood, W.S. (1995). *Accounting information systems* (6 ed.). Kuala Lumpur: Prentice Hall.

Boehm, B.W. (1988). A spiral model of software development and enhancement. *IEEE Computer,* 21(5), 61-72.

Bojanic, D. (1991). The use of advertising in managing destination image. *Tourism Management,* 12(4), 352-355.

Bolt, M., Killough, L. & Koh, H. (2001). Testing the interacti on effects of task complexity in computer training using the social cognitive model. *Decision Sciences*, 32(1), 1-19.

Bozelle, C., Betrancourt, M., Deriaz, M., & Pellizzone, M. (2008). Evaluation of technology acceptance of a computer rehabilitation tool. *IDC'08* (pp. 41-44). Chicago, UL, USA: ACM.

Brace, I. (2004). *Questionnaire design.* London & Sterling, VA: Kogan Page.

Brady, M.K., & Cronin, J.J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing,* 65, 34-49.

Brown, S., Massey, A., Montoya-Weiss, M., & Burkman, J. (2007). Do I really have to?, user acceptance of mandated technology. *European Jr. of IS*, 11, 283-95.

Bull, M. (1989). *Systems development using structured techniques.* London and New York: Chapman and Hall.

Burton-Jones, A., & Hubona, G. (2003). Modeling the user acceptance of e-mail. *6th Annual Hawaii International Conference on System Sciences (HICSS'03)*, 1, 25a.

Burton-Jones, A., & Hubona, G. (2005). Individual differences and usage behavior: Revisiting a technology acceptance model assumption. *The DATABASE for Advances in Information Systems*, 36(2), 58-77.

Buttle, F. (1996). SERVQUAL: Review, critique, research agenda. *European Journal of Marketing,* 30(1), 8-31.

Butzon, T. (2002). *PHP by example.* Indianapolis, Indiana: QUE.

Buzzetto-More, N.A. (2008). Student perceptions of various e-learning components. *Interdisciplinary Journal of E-Learning and Learning Objects*, 4, 113-135.

Cahyana, A. (2007). *Peran teknologi informasi dalam memberikan inspirasi Nasional bagi kebangkitan dan kejayaan negeri.* Akses Januari 7, 2008, dari http://www.cahyana-ahmadjayadi.web.id/wp-content/ uploads/ 2007/11/ lemhanas2510071.pdf.

Campbell, M. (2006). *Web guru guide to dreamweaver MX 2004.* New Jersey: Pearson Education, Inc.

Canning, R.G. (1956). *Electronic data processing for business and industry.* New York: Wiley.

*Capita.* (2005). Akses Ogos 5, 2007, dari https://secure.devon.gov.uk.

Carlsson, S.A. (2006). Towards an Information systems design research framework: A critical realist perspective. *First International Conference on Design Science Research in Information System Technology (DESRIST).* Claremont, CA.

Carroll, J., & Kellogg, W. (1989). Artifact as theory nexus: Hermeneutics meets theory-based design. *In Proceedings of CHI '89* (pp. 7-14). ACM Press.

Carson, P.P, Carson, K.D., Knouse, S.B. & Roe, C.W. (1997). Balance theory applied to service quality: A focus on the organization, provider, and consumer triad. *Journal of Business and Psychology,* 12(2), 99-253.

Carver, R.H., & Nash, J.G. (2000). *Doing data analysis with SPSS 11.0.* CA: Duxbury Thomson Learning.

Chan, H.C., & Teo, H.-H. (2007). Evaluating the boundary conditions of the technology acceptance model: An exploratory investigation. *ACM Transactions on Computer-Human Interaction,* 14(2), 1-16.

Chan, S., & Lu, M. (2004). Understanding internet banking adoption and use behavior: A Hong Kong perspective. *Journal of Global Information Management,* 12(3), 21-43.

Chatterjee, S., & Hadi, A.S..(2006). *Regression analysis by example.* USA: John Wiley & Sons, Inc., Publication.

Chau, P.K. (1996). An empirical assessment of a modified technology acceptance model. *Journal of Management Information Systems,* 13(2), 185-204.

Che, A.K. (2008, Julai 4). *Pengurusan berasaskan sekolah (school based management, SBM): Tinjauan amalan pengurusan berasaskan sekolah, satu pengalaman pembelajaran di New Zealand.* Akses Oktober 11, 2008, dari www.iab.edu.my/KertasKerjaSN15/che_ ku_ alam.pdf.

Checkland, P. (1981). *Systems thinking, systems practice.* Chichester: John Wiley & Sons.

Chen, K.-T., Huang, C.-Y., Huang, P., & Lei, C.-L. (2006). Quantifying skype user satisfaction. *SIGCOMM'06* (pp. 399-410). Pisa, Italy: ACM.

214

Chen, L.-d., Gillenson, M.L., & Sherrell, D.L. (2004). Consumer acceptance of virtual stores: A theoretical model and critical success factors for virtual stores. *ACM SIGMIS,* 35(2), 8-31.

Cheng, T.C., Lam, Y.C. & Yeung, C.L. (2006). Adoption of internet banking: An empirical study in Hong Kong, *Decision Support Systems,* 42(3), 1558-1572.

Chin, J.P., Diehl, V.A., & Norman, K.L. (1998). Development of an Instrument measuring user satisfaction of the Human-computer interface. *Proceedings of SIGGHI '88* (pp. 213-218). New York: ACM/SIGGHI.

Chua, Y.P. (2006). *Kaedah dan statistik penyelidikan, Buku 1: Kaedah penyelidikan.* McGraw Hill (Malaysia) Sdn. Bhd.

Chung, J. & Tan, F. (2004). Antecedents of perceived playfulness: An exploratory study user acceptance of general information-searching websites, *Information and Management,* 41(7), 869-881.

Coakes, S.J., & Steed, L. (2007). *SPSS Version 14.0 for windows: Analysis without anguish.* Sydney: John Wiley & Sons Australia, Ltd.

Collier, J.E., & Bienstock, C.C. (2006). Measuring service quality in e-retailing. *Journal of Service Research,* 8(3), 260-275.

Compeau, D., Higgins, C., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study, *MIS Quarterly,* 23(2), 145-158.

Cox, R., & Dale, B. (2001). Service quality and e-commerce: An exploratory analysis. *Managing Service Quality,* 77(2), 121-131.

Cronbach's, L. (1951). Coefficient alpha and the internal structure test. *Psychometrika,* 31, 93-96.

Dabholkar, P.A. (1996). Consumer evaluation of new technology cased self-service options: An investigation of alternative models of SQ. *International Journal of Research in Marketing,* 13(1), 29-51.

Dabholkar, P.A., Shepherd, C., & Thorpe, I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing,* 76(2), 139-173.

Dabholkar, P.A., Thorpe, D.I., & Rentz, J.O. (1996). A measure of service quality for retail stores: Scale development and validation. *Journal of the Academy of Marketing Science,* 24(1), 316.

215

Daffy, C. (2001). Customer experience management. *Eroupean Quality*, 8(4), 50-55.

Dalle, J. & Norshuhada, S. (2009). Konstruk penilaian dalaman dan luaran sistem informasi. *Jurnal Sistem Teknik Industri,* 10(3), 889-897.

Dalle, J. (2006, September 3). *Memahami PSB online.* Akses September 7, 2007, dari Banjarmasin Post: www.indomedia.com.

Dalle, J. (2009). Model konseptual sistem pengurusan pendaftaran siswa (PSB Terpadu). *Seminar Antarabangsa Pendidikan ICT Bernuansakan Islam* (pp. 1-11). Aceh: Kerjasama UUM dan UNSYIAH.

Dalle, J. (2010a). An earlier perception study of new student placement (NSP) system. *The 2nd International Conference On Engineering and ICT* (pp. 1002-1005). Melaka: Univerisiti Teknikal Melaka.

Dalle, J. (2010b). The relationship between PU and PEOU towards the behavior intention in New Student Placement (NSP) System of Senior High School in Banjarmasin, South Kalimantan, Indonesia. *International Conference on Arts, Social Sciences, and Technology 2010* (pp. 1-13). Penang: UiTM Kedah.

Darmawan, A. (2002, Jun 30). *SMKN Malang PSB online pertama di Indonesia.* Akses Ogos 5, 2006, dari http://groups.yahoo.com/ group/dikmenjur/ message/13320.

Davidson, S.J., Zwemer, F.L., & Nathanson, L.A. (2004). Where's the beef? The promise and the reality of clinical documentation. *Academic Emergency Medicine,* 11(11), 1124-1134.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13(3), 319-340.

Deitel, P.J., & Deitel, H.M. (2009). *Visual basic 2008: How to program.* Apper Saddle River, New Jersey: Pearson Prentice Hall.

DeJarnett, L.R. (1991). What can deming do for IS?. *Information Strategy: The Executive's Journal,* 7(30), 3-4.

DeLone, W.H., & McLean, E.R. (2004). Measuring e-commerce success: Applying the DeLone & McLean information systems success model, *International Journal of Electronic Commerce,* 9(1), 31-47.

216

Diknas. (2007). *Rancangan induk pengembangan sistem informasi pendidikan luar biasa.* Jakarta: Departemen Pendidikan Nasional.

Dix, A., Finlay, J., Abowd, G., & Beale, R. (1998). *Human-Computer Interaction.* London: Prentice Hall.

Dody, R., & Zulaikha. (2007). Pengujian model DeLone and McLean dalam pengembangan sistem informasi manajemen (kajian sebuah kasus). *Simposium Nasional Akuntansi X* (pp. 1-7). Makassar: Universitas Hasanuddin.

Doerr, J., Kerkow, D., & Landmann, D. (2008). Supporting requirement engineering for medical product-early consideration of user-perceived quality. *ICSE'08* (pp. 639-647). Leipzig, Germany: ACM.

Doll, W., & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction: Theoretical and methodological issues. *MIS Quartley*, 15(1), 5-10.

Dumas, J.S., & Redish, J.C. (1999). *A practical guide to usability testing.* Oregon, USA: Intellect Books.

Eade, D., & Wiliam, S. (1995). *The oxfam handbook of development and reflief.* Oxfam: Oxford.

Elista. (2007). *Kelemahan OOP.* Akses April 18, 2008, dari http://elista. akprind.ac.id.

Enochsson, A. (2005). A gender perspective on Internet use: Consequences for information seeking. *Information Research*, 10(4), 237-247.

Erathenurse. (2007, Disember 2). *Model konseptual keperawatan.* Akses Oktober 5, 2008, dari http://erathenurse.blogspot.com/2007/12/ model-konseptual-keperawatan.html.

Fah, L.Y., & Hoon, K.C. (2009). *Pengenalan kepada analisis data komputer dengan SPSS 16.0 for windows.* Batu Caves: Venton Publishing.

Fahmi, N.N. (2004). Teknologi informasi berdasarkan aspek perilaku (behavior ascpect). *USU Digital Library.*

Fang, R.J., Lee, C.P., Lou, S.J., Tsai, H.L. & Yang, H.J. (2008). Developing a model of online learning-technology acceptance model (TAM), *Proceedings of the American Conference on Applied Mathematics* (pp.331-336). Cambridge, Massachusetts.

Finn, A., & Kayande, U. (1998). The service quality literature: A generalizability persepective. *Advances in Service Marketing and Management,* 7, 97-129.

Fitzgerald, B., Russo, N., & Stolterman, E. (2002). *Information systems development - methods in action.* London: McGraw Hill.

Flaatten, P., McCubbrey, D., O'Riordan, P., & Burgess, K. (1989). *Foundations of business system.* Chicago: Dryden Press.

Freud, J.E. (1992). *Statistik permulaan moden.* (M.H. Othman Ismail, Terjemahan) Ampang/Hulu Kelang, Selangor Darul Ehsan. Malaysia: Percetakan Dewan Bahasa dan Pustaka.

Fuhr, N., Tsakonas, G., Aalberg, T., Agosti, M., Hansen, P., & Kapidakis, S. (2007). Evaluation of digital libraries. *International Journal on Digital Libraries,* 8(1), 21 - 38.

Furuholt, B., & Kristiansen, S. (2007). A rural-urban digital divide? Regional aspect of internet use in Tanzania. *Social Implications of Computers in Developing Countries.* Sao Paulo.

Furuholt, B., Kristiansen, S., & Wahid, F. (2008). Gaming or gaining? Internet café use in Indonesia and Tanzania. *The International Information & Library Review,* 40, 129–139.

Gefen, D. (2002). Customer loyalty in e-commerce. *Journal of the Association for Information Systems,* 13, 27-51.

Gefen, D., & Detmar, S. (2000). The relative imfortance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of Association of Information Systems,* 1(8), 1-24.

Gefen, D., & Straub, D.W. (1997). Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS Quarterl,* 21(4), 389-399.

Gemmel, M. (2003). A post-implementation evaluation of a student information system in the UK Higher Education sector. *Electronic Journal of Information Systems Evaluation,* 6(2), 95-106.

George, D., & Mallery, P. (2001). *SPSS for windows step by step: A simple guide and reference* (3th ed.). A Pearson Education Company.

Gerner, J., Naramore, E., Owens, M.L., & Warden, M. (2006). *Professional LAMP: Linux, Apache, MySQL, and PHP5 web development.* Indianapolis, Indiana: Wiley Pubhlishing, Inc.

Geschwinde, E., & Schonig, H.-J. (2002). *PHP and PostgreSQL advanced web programming.* Indianapolis, Indiana: Sams Publishing.

Ghobadian, A., Speller, S., & Jones, M. (1994). Service quality concepts and models. *International Journal of Quality & Reliability Management,* 77(9), 43-66.

Ghose, S., & Dou, W. (1998). Interactive functions and their impacts on the appeal of internet presence sites. *Journal of Adverstising Research,* 38(2), 29-34.

Ghozali, I. (2009). *Aplikasi analisis multivariate dengan Program SPSS.* Semarang: Badan Penerbit Universitas Diponegoro.

Gilbert. G.R. (2000). Measuring internal customer satisfaction. *Managing Service Quality,* 10(3), 178-186.

Glass, R. (1992). *Software sonflict: Essays on the art and science of software engineering.* New Jersey: Yourdan Press, Prentice Hall, Engle Wood Cliffs.

Glassberg, B.C., Grover, V., & Teng, J.T. (2006). Information system research with an attitude. *The DATA BASE for Advances in Information Systems,* 37(2&3), 76-85.

Goodwin, N. (1987). Functionality and usability. *Communications of the ACM,* 30(3), 229-233.

Gordon, V.S., & Biemen, J.M. (1995). Rapid prototyping: Lessons learned. *IEEE Software,* 12(1), 85-95.

Gray, N. (2003). *Web server programming.* West Sussex, England: John Wiley & Sons Ltd.

Green, S.B., & Salkind, N.J. (2008). *Using SPSS for windows and Macintosh: Analyzing and understanding data* (5th ed.). New Jersey: Pearson Prentice Hall.

Gregg, D., & Kulkarni, U. (2001). Understanding the philosophical underpinnings of software engineering research in Information systems. *Information Systems Frontiers,* 3(2), 169-183.

Griffiths, J.R. (2003). Evaluation of the JISC information environment: Student perception of services. *Information Research,* 8(4), 1-17.

Grimm, T. (1998). *The Human condition: A justification for rapid prototyping* (Vol. 3). Accelerated Technologies, Inc.

Gronroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing,* 18(4), 36-44.

Gronroos, C. (1982). An applied service marketing theory. *European Journal of Marketing,* 16(7), 30-41.

Gujarati, D. (2003). *Basic econometric.* New York: Mc-Grawhill.

Gummerus, J., Liljander, V., Pura, M., & Van Riel, A. (2004). Customer loyalty to content-based web sites: The case of an online health-care service. *Journal of Services Marketing,* 18(3), 175-186.

Hadinata, F. (n.d.). *Apa itu PHP?.* Akses Oktober 31, 2008, dari http://febryhadinata.wordpress.com/2008/06/10/apa-itu-php.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis* (6th ed.). Kuala Lumpur: Pearson Prentice Hall.

Hair, J.F., Money, A.H., Samouel, P., & Page, M. (2007). *Research methods for business.* West Sussex: John Wiley & Sons, Ltd.

Hair, J.J., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate data analysis* (5th ed.). New Jersey: Prentice Hall.

Halim, M. (2006, September & Oktober). Renungan khas. *Aspirasi Digital: Akses ICT untuk semua,* pp. 3. Malaysia.

Harmadi, A. & Hermana, B. (2005). Analisis karakteristik individu dan prilaku pengguna internet banking: Reliabilitas dan validitas instrumen pengukuran. *Seminar Nasional Aplikasi Teknologi Informasi 2005 (SNATI 2005)* (pp. E-39-E44). Yogyakarta: UII.

Hartson, H.R., Andre, T.S., & Williges, R.C. (2001). Criteria for evaluating usability evaluation methods. *International Journal of Human-Computer Interaction.* 13(4), 373-410.

Hartzel, K. (2003). How self-efficacy and gender issues affect software adoption and use. *Communication of the ACM,* 46(9), 167-171.

Haslina, M. (2009). *A mutiple perspectives technology acceptance model for electronic medical records.* Tesis PhD, Penang: Universiti Sains Malaysia.

Hassan, M.S. (2003). An empirical investigation of student acceptance of course websites, *Computers & Education,* 40(4), 343-360.

Heijden, H.v.d. (2000). *Using the technology acceptance model to predict website usage: Extensions and empirical test,* Serie Research Memoranda 0025, Uni. Of Amsterdam.

Hernandez, B., Jimenez, J. & Martin, M. (2009). The impact of self-efficacy, ease of use and usefulness on purchasing: An analysis of

experienced e-shoppers, *Interacting with Computers,* 21(1-2), 146-156.

Hernon, P. & Calvert, P.J. (1996). Methods for measuring service quality in New Zealand. *Journal of Academic Librarianship,* 22(5), 387-391.

Heskett, J.L., & Sasser, J. (1997). *The service profit chain: How leading companies link profit to layalty, satisfaction, and value.* New York: Free Press.

Hevner, A.R. (2007). A three cycle view of design science research. *Scandinavian Journal of Information System,* 19(2), 87-92.

Hevner, A.R., March, S.T., Park, J., & Ram, S. (2004). Design science in information systems research. *MIS Quarterly,* 28(1), 75-105.

Hjetland, T. (1995). *Technology and special education classroom.* Akses Ogos 11, 2008, dari http://www.eric.ed.gov.

Hodgson, L., & Peter Aiken. (1998). Organizational change enabled by the mandated implementation of new information systems technology: A modified technology acceptance model. *Proceedings of the 1998 conference on Computer personnel research* (pp. 205-209). Boston, Massachusetts, United States.

Hoffman, D., Novak, T., & Peralta, M. (1999). Building consumer trust online. *Communications of the ACM,* 42(4), 80-85.

Hoffman, M.E., & Vance, D.R. (2007). Gender difference trends in computer literacy of first-year students. *SIGCSE'07* (pp. 405-409). Convington, Kentucky, USA: ACM.

Hofstede, G. (1997). *Cultures and organizations: Software of the mind.* London: Mc Graw Hill.

Holzner, S. (2008). *The complete reference PHP.* Osborne: Mc Graw Hill.

Hong, S.J., Thong, Y.L., & Tam. K.Y. (2006). Understanding continued information technology usage behavior: A comparison of three models in the context of mobile internet, *Decision Support Systems,* 42(3), 1819-1834.

Horan, T.A., Abhichandani, T., & Rayalu, R. (2006). Assessing user satisfaction of e-government services: Development and testing of quality-in-use satisfaction with advanced traveler information system (ATIS). *Proceedings of the 39$^{th}$ Hawaii International Conference on System Sciences* (pp. 1-10). Hawaii: ACM.

Hornby, A.S. (2007). *Oxford compact advanced learners's English-Malay Dictionary.* Kuala Lumpur: Oxford Fajar Sdn. Bhd.

Hsiao, N., Chen, D., & Huang, T. (2002). *Transforming citizens' opinion to administrative knowledge: Perspectives from knowledge management and data mining.* Taipei, Taiwan: The Research, Development and Evaluation Commission, Taipei City Government.

Hu, J.H., Clark, H.K., & Ma, W.W. (2003). Examining technology acceptance by school teachers: A longitudional study. *Information and Management,* 41, 227-241.

Huang, E.Y., & Lin, C.Y. (2005). Customer-oriented financial service personalization. *Industrial Management & Data System,* 105(1), 26-44.

Huang, Z. (2006). E-government practices at local levels: An analysis of U.S. countries' websites. *Issues in Information Systems,* 7(2), 165-170.

Hubona, G., & Blanton, J. (1996). Evaluating system design features. *International Journal of Human-Computer Studies,* 44(1), 93-118.

Hudson, P. (2006). *PHP in a nutshell.* CA: O'Reilly Media, Inc.

Hussain, D.S., & Hussain, K.M. (1992). *Information management: Organization, management and control of computer processing.* Gale: Prentice Hall.

Ido, P.H. (2008). *Pengenalan dasar dreamweaver 4.0.* Akses November 1, 2008, dari http://faculty.petra.ac.id.

Iivari, J. (2007). A paradigmatic analysis of information system as a design science. *Scandinavian Journal of Information System,* 19(2), 39-64.

Iivari, J., & Maansaari, J. (1998). The usage of development methods:are we stuck to old practices?. *Information and Software Technology,* 501-510.

Indra, D.W., & Rully, S. (2008, November 21). *Analisis perancangan sistem informasi sumber daya manusia (SDM) di PT. Inti karya persada teknik Jakarta.* Akses Januari 29, 2009, dari http://mmt.its.ac.id/library.

Irfiandi. (2007). *Kebijakan desentralisasi pendidikan.* Padang: Diknas Kota Padang.

ITU. (2006). *International telecommunication union.* Akses April 3, 2007, dari http://www.itu.int/net/home/index.aspx.

Ives, B., Olson, M., & Baroudi, J. (1983). The Measurement of user information satisfaction. *Communication of the ACM*, 26, 785-793.

Jarvenpaa, S.L., & Ives, B. (1991). Executive involvement and participation in the management of information technology. *MIS Quarterly*, 15(2), 205-227.

Jarvinen, P. (2004). *On research methods.* Helsinki, Finland: Tiedekirjakauppa TAJU publisher.

Jarvinen, P. (2006a). On a variety of research output types. *Department of Computer and Information Sciences working paper.* Finland: University of Tampere.

Jarvinen, P. (2006b). Research questions guiding selection of an appropriate research method. *Department of Computer and Information Sciences working paper.* Finland: University of Tampere.

Jay, C. (2004). *E-services: Satisfying customer online.* Akses Oktober 25, 2007, dari http://www.buzle.com.

Jeongil, C. (2004). *An empirical study of customer adoption of fee-based online content services.* Tesis PhD, Lincoln: University of Nebraska.

Jhangiani, I., & Smith-Jackson, T. (2007). Comparison of mobile phone user interface design preferences: Persepectives from nationality and disability cultur. *MC'07 (Mobility'07)* (pp. 512-519). Singapore: ACM.

Jogiyanto, H.M. (1990). *Analisis dan desain sistem informasi pendekatan terstruktur: Teori dan praktek aplikasi bisnis.* Yogyakarta: Andi Offset.

Johnson, J., & Henderson. (2002). Conceptual model: Begin by designing what to design. *Interactions,* Jan/Feb, 25-32.

Johnson, R., & Zak, D. (2007). *Microsoft visual basic 2005: Reloaded, advanced.* United States of America: Thomson Course Technology.

Jones, A.R. (1999). *Visual basic developer's guide to ASP and IIS.* San Francisco: Sybex.

Jones, L.A., Anton, A.I., & Earp, J.B. (2007). Towards understanding user perception of authentication technologies. *WPES'07* (pp. 91-98). Alexandria, Virginia, USA: ACM.

Jordan, P.W. (1998). *An introduction to usability.* London: Taylor & Francis.

Joshi, K., & Bostrom, R.P. (1986). Some new factors influenze user information satisfaction: Implication for systems professional. *ACM*, 27-42.

Jun, M., Yang, Z., & D, K. (2004). Customer's perceptions of online retailing service quality and their satisfaction. *International Journal of Quality & Reliability Management*, 2(8), 817-840.

Kamus Dewan. (2007). Kuala Lumpur: Dewan Bahasa dan Pustaka.

Kaner, C. (2006). Exploratory testing. *Quality Assurance Institute Worldwide Annual Software Testing Conference.* Orlando, Florida: Florida Institute of Technology.

Kaynama, S.A., & Black, C.I. (2002). A proposal to assess the service quality of online travel agencies: An exploratory study. *Journal of Professional Services Marketing*, 2(1), 63-88.

*Kementerian Pelajaran Malaysia.* (2004). Akses Julai 7, 2007, dari http://www.moe.gov.my/

Kerlinger, F.N. (1973). *Foundations of behavioral research.* New York: Mc Graw Hall Book Company.

Kerlinger, F.N., & Lee, H.B. (2000). *Foundations of behavioral research.* FL: Hartcourt Inc.

Kettinger, W.J, & Lee, C.C. (1997). Pragmatic perspectives on the measurement of information systems service quality. *MIS Quartley*, 21(2), 223-240.

Kettinger, W.J., & Lee, C.C. (1994). Perceived service quality and user satisfaction with the Information service function. *Design Sciences*, 25(5/6), 737-766.

Kettinger, W.J., Lee, C.C., & Lee, S. (1995). Global measures of information service quality: A cross-national study. *Design Sciences*, 26(5), 569-588.

Khumalo, R., & Sibanda, R. (2006). Using focus group interview method to investigate the bringing of information and communication technologies (ICTs) to rural women in Southern Africa as a way of bridging the digital divide and gender in equalities. *5th European Conference on Research Methodology for Business and Management Studies* (pp. 205-210). Trinity College Dublin, Ireland: Academic Conference International.

Kimery, K.M., & McCard, M. (2002). Third party assurances: Mapping the road to trust in e-retailing. *Journal of Information Technology Theory and Application*, 4(2), 63-82.

King, R.C., & Gribbins, M. (2002). Internet technology adoption as an organizational event. *An Proceedings of the 35th Hawaii International Conference on System Sciences* (pp. 1-10). Hawaii: IEEE.

Kirkpatrick, L.A., & Feeney, B.C. (2001). *A simple guide to SPSS for windows.* Belmont, CA: Wadsworth Thomson Learning.

Kit, C.C. (2000). *Reka bentuk pangkalan data untuk kajian demografi di Bandar George Town.* Akses Oktober 5, 2008, dari http://www.hbp.usm.my/ Thesis/HeritageDB/hbp.htm

Klemke, E.D., Hollinger, R., & Kline, A.D. (1980). *Introductory readings in the philosophy of science.* New York: Prometheus Books.

Koch, T. (1994). Establishing rigor in qualitative research: The decision trail. *Journal of Advanced Nursing,* 19(5), 976-986.

Kock, N. (2004). The psycho biological model: Towards a new theory of computer-mediated communication based on Darwinian evolution, *Organization Science,* 15(3), 327-348.

Kompas. (2006, Julai 8). *Penerimaan siswa baru di Jakarta kacau.* Akses Ogos 5, 2006, dari Kompas: www.kompas.com

Kontio, J., Lehtola, L., & Bragge, J. (2004). Using the focus group method in software engineering: Obtaining practitioner and user experiences. *ISESE'04.* IEEE.

Kotler, P., & Keller, L. (2006). *Marketing management.* Upper Saddle River, New Jersey: Prentice-Hall.

Kotler, P., & Armstrong, G. (2008). *Principles of marketing.* New Jersey: Prentice-Hall.

Krueger, R.A. (1994). *Focus groups: A practical guide for applied research.* Thousand Oaks, Calif: SAGE Publications, Inc.

Kuechler, W. & Vaishnavi, V. (2008a). On theory development in design science research: Anatomy of a research project. *European Journal of Information Systems*, 17(5), 1-23.

Kuechler, W., & Vaishnavi, V. (2008b). The emergence of design research in information systems in North America. *Journal of Design Research,* 7(1), 1-16.

Kuechler, W., Vaishnavi, V., & Petter, S. (2005). The aggregate general design cycle as a perspective on the evolution of computing communities of interest, *Computing Letters*, 1(3), 123-128.

Kuei, C.H. (1991). Internal service quality: An empirical assessment. *International Journal of Quality and Reliability Management,* 16(8), 783-791.

Kukafka, R., Johnson, S.B., Linfante, A., & Allegrante, J.P. (2003). Grounding a new information technology implementation framework in behavioral science: A systematic analysis of the literature on IT use. *Journal Biomed Inform,* 36(3), 218-227.

Lai, J.-Y. (2006). Assessment of Employees' perceptions of service quality and satisfaction with e-business. *ACM,* 236-243.

Landrum, H., & Prybutok, V. (2004). A service quality and success model for the information service industry. *European Journal of Operational Research,* 156(3), 628-642.

Landrum, H., & Prybutok, V., Zhang, X., & Peak, D. (2009). Measuring IS system service quality with SERVQUAL: Users' perception of relative importance of the five SERVPERF dimensions. *The International Journal of an Emerging Transdiscipline,* 12, 17-35.

LaRose, R., & Eastin, M.S. (2004). A social cognitive theory of internet uses and gratifications: Toward a new model of media attendance, *Journal of Broadcasting & Electronic Media,* 48(3), 358-372.

Laudon, K.C., & Laudon, J.P. (2001). *Essential of management information systems: Organization and technology* (4th ed.). New York: Prentice Hall.

Leclercq, A. (2007). The perceptual evaluation of information system using the construct of user satisfaction: Case study of a large French group. *The DATA BASE for Advances in Information Systems,* 38(2), 27-60.

Lederer, A., Maupin, D., Sena, M., & Zhuang, Y. (2000). The technology acceptance model and the www. *Decision Support Systems,* 29(3), 269-282.

Lederer, A.L., Maupin, D.J., Sena, M.P., & Zhuang, Y. (1998). The role of ease of use, usefulness and attitude in the prediction of world wide web usage. *CPR 98* (pp. 195-204). Boston MA USA: ACM.

Lee, B.C., & Yoon, J.O. (2009) In Lee, Learners' acceptance of e-learning in South Korea: Theories and results, *Computers & Education,* 53(4), 1320-1329.

Lee, C.B., & Lei, U.L. (2007). Adoption of e-goverment services in Macao. *ICEGOV 2007* (pp. 217-220). Macao: ACM.

Lee, G., & Lin, H. (2005a). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33(2), 161-176.

Lee, M.K., Cheung, C., & Chen, Z. (2005b). Acceptance of Internet-based learning medium: The role of extrinsic and intrinsic motivation. *Information & Management*, 42(8), 1095-1104.

Lee, T.M., & Jun, J.K. (2007). The role of contextual marketing offer in mobile commerce acceptance: Comparison between mobile commerce users and nonusers, *International Journal of Mobile Communications*, 5(3), 339-356.

Lee, Y., Lee, J., & Lee, Z. (2006). Social influenze on technology acceptance behavior: Self-identity theory perspective. *The DATA BASE for Advances in Information Systems*, 37(2&3), 60-75.

Leo, R. & Vijayasarathy. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model, *Information and Management*, 41(6), 747-762.

Levin, R.I., & Rubin, D.S. (2000). *Statistic for management*. (S. Munisamy, & H. Awang, Trans.) Kuala Lumpur: Pearson Education Asia Pte. Ltd.

Liao, Z., & Cheung, M.T. (2002). Based e-banking and consumer attitudes: An empirical study. *Information and Management*, 39(4), 283-295.

Liao, Z., & Landry, R. (2000). An empirical study on organizational acceptance of new information systems in a commercial bank environment. *Proceedings of the 33rd Hawaii International Conference on System Sciences* (pp. 213-221). Hawaii.

Lim, J-S. (2006). M-Loyalty: Winning strategies for mobile carriers. *Journal of Consumer Marketing*. 23(4), 208-218.

Little, L. (2003). Attitudes towards technology use in public zones: The influence of external factors on ATM use. *Conference on Human Factors in Computing Systems* (pp. 990-991). Ft. Lauderdale, Florida, USA: ACM.

Liu, Y., Bian, J., & Agichtein, E. (2008). Predicting information seeker satisfaction in community question answering. *SIGIR'08* (pp. 483-490). Singapore: ACM.

Loiacono, E., Watson, R., & Goodhue, D. (2002). WEBQUAL: A measure of website quality. *AMA Winter Confrence*. Austin, TX.

Lynch, D., & Lundquist, L. (1996). *Digital Money*. New York: John Wiley.

Ma, Q., & Liu, L. (2004). The technology acceptance model: A meta-analysis of empirical findings. *Journal of Organizational and End User Computing*, 16(1), 59-72.

Macmillan English Dictionary. (2007). Malaysia: Macmilan Publisher Limited.

Maditinos, D., Mitsinis, N., & Sotiriadou, D. (2008). Measuring user satisfaction with respect to websites. *4th International Conference An Enterprise Odyssey: Tourism-Governance and Enterpreneurship* (pp. 1-14). Cavtat-Dubrovnik Riviera, Croatia: Faculty of Economics and Business, University of Zagreb.

Madu, C.N., & Madu, A.A. (2002). Dimensions of e-quality. *International Journal of Quality & Reliability Management*, 19(3), 246-258.

Mahdzan, A.A. (1997). *Kaedah penyelidikan sosioekonomi* (2 ed.). Selangor: Percetakan Dewan Bahasa dan Pustaka.

Mahlke, S. (2002). Factor influencing the experience of website usage. *Conference on Human Factors in Computing Systems* (pp. 846-847). Minneapolis, Minnesota, USA: ACM.

Mahmood, M.A., & Becker, J.D. (1985). Impact of organizational maturity on user satisfaction with information systems. *Special Interest Group on Computer Personnel Research Annual Conference* (pp. 134-151). Minneapolis, Minnesota, United States: ACM.

Mahmood, M.A., Burn, M.J., Gemoets, A., & Jacquez, C. (2000). Variables affecting information technology end-user satisfaction: A meta-analysis of the empirical literature. *International Journal of Human-Computer Studies*, 52(4), 751-771.

Makridakis, S., Wheelwright, S.C., & McGee, V. (1988). *Metode dan aplikasi peramalan*. (U. S. Adriyanto & A. Basit, Trans.) Jakarta: Penerbit Erlangga.

Mallat, N., Rossi, M., & Tuunainen, V.K. (2006). An empirical investigation of mobile ticketing service adoption in public transportation. *Personal and Ubiquitous Computing,* 12, 57-65.

Manaf, A.B. (2006). *Isu-isu kontemporari koridor raya multimedia: Aplikasi teknologi pengurusan*. Petaling Jaya, Selangor: Prentice Hall, Pearson Malaysia.

Manaf, AB., Zakaria, N.H., Katuk, N., & Aji, Z.M. (2006). *Sistem maklumat dalam organisasi kontemporari* (1st ed.). Selangor: Prentice Hall Pearson Malaysia Sdn. Bhd.

Mao, E., & Palvia, P. (2006). Testing an extended model of IT acceptance in the chinese cultural context. *The DATA BASE for Advances in Information Systems*, 37(2&3), 20-32.

March, S.T., & Smith, G.F. (1995). Design and natural science research on information technology. *Decision Support System*, 15(4), 251-266.

March, S.T., & Storey, V.C. (2008). Design science in the information system discipline: An introduction to the special issue on design science research. *MIS Quartley*, 3(4), 725-730.

Martin, J. (1990). *RAD, rapid application development.* New York: MacMillan Publishing Co.

Martinez, J., & Martinez, L. (2010). Some insight on conceptualizing and measuring service quality. *Journal of Retailing and Consumer Services,* 17(1), 29-42.

Mathieson, K., & Chin, W.W. (2001). Extending the technology acceptance model: The influence of perceived user resources. *The DATA BASE for Advances in Informations Systems,* 32(3), 86-112.

Maxfield, W. (2001). *MySQL & PHP from scratch.* Indianapollis: Que Publishing.

Mayhew, D. (1992). *Principles and guidelines in software user interface design.* Englewood Cliffs. NJ: Prentice Hall.

Maziah, R. M. (2007). *Rentasan kognitif penerokan menyeluruh (RKPM) dalam perbandingan penilaian reka bentuk perisian kursus multimedia menggunakan kriteria dan ukuran penggunaan.* Tesis Master, Bangi: Universiti Kebangsaan Malaysia.

McCausland, R. (2004). Online payroll: The small firm conecttion. *Practical Accountant*, 4, 1-5.

McCormick, M.J., & Martinko, M.J. (2004). Identifying leader social cognitions: Integrating the causal reasoning perspective into social cognitive theory, *Journal of Leadership and Organizational Studies*, 10(4), 2-11.

McCracken, D.D., & Wolfe, R.J. (2004). *User-centered website development, A human-computer interaction approach.* New Jersey: Pearson Prentice Hall.

McKnight, D.H., & Kacmar, C.J. (2007). Factors and effects of information credibility. *ICE'07* (pp. 423-432). Minneapollis, Minnesota, USA: ACM.

McMilan, J.H., & Schumacher, S. (1993). *Research in education: A conceptual introduction.* New York: Harper Collins College Publisher.

McMillan, J.H., & Schumacher, S. (2001). *Research in education: A conceptual introduction* (5th ed), New York: Addison-Wesley Longman.

Mildeberger, E. (1999). *Capacity building for sustainable development: Concepts, strategies and instruments of the German technical cooperation (GTZ).* Strategic Cooperate.

Moad, J. (1989). Asking users to judge IS. *Datamation, 35(21),* 93-100.

Mohler, J., & Bowen, K. (2004). *Exploring dreamweaver MX 2004.* Albany, NY: Delmar Learning.

Mokhamad, S. (2000). *About MySQL.* Akses November 2, 2008, dari http://www.geocities.com/mokhamadroni/artikel5.htm.

Montgomery, D.C., & Runger, G.C. (2003). *Applied statistics and probability for engineers* (3th ed.). Arizona: John Wiley & Sons, Inc.

Moon, M.J., Welch, E.W., & Wong, W. (2005). What drives global e-governance? An exploratory study at a macro level, *Proceedings of the 38th Hawaii International Conference on System Sciences* (pp. 456-480). Hawaii, Big Island: IEEE Computer Society Digital Library.

Morgan, D.L. (1996). Focus group. *Annual Review of Sociology, 22,* 129-152.

Morgan, D.L. (1998). *The focus group handbook.* Thousand Oaks, CA: Sage.

Morgan, G., A., Leech, N.L., Gloeckner, G., & Barrett, K. C. (2004). *SPSS for introductory statistics.* London: Lawrence Erlbaum Associates, Publishers.

Morris, M. G., & Dillon, A. (1997). How user perceptions influence software use. *IEEE Software*, 14(4), 58-65.

Muslim, N.A., Selamat, H. & Ibrahim, O. (2007). The relationship between PEOU and PU towards the behavior intention in online recruitment in Malaysia. *Postgraduate Annual Research Seminar 2007* (pp. 1-9). PARS'07.

Mwesige, P. (2004). Cyber elites: A survey of internet café users in Uganda. *The annual meeting of the International Communication Association* (pp. 1-26). San Diego: All Academic Research.

Nabeel, F. (2008). *A model for mobile learning service quality in university environment.* Tesis PhD, Sintok: Universiti Utara Malaysia.

Nagelkerke, N. (1991). A Note on a general definition of the coefficient of determination. *Biometrika,* 78(3), 691–692.

Nasution, R. (2003). *Teknik sampling.* Akses September 28, 2008, dari www.library.usu.ac.id/download/fkm/fkm-rozaini.pdf.

Nielsen, J. (1992). Finding usability problems through heuristic evaluation. proceedings of chi. *Conference on Human Factors in Computing Systems* (pp. 373-380). New York: ACM.

Nielsen, J. (1997). The Use and misuse of focus groups. *IEEE Software,* 14(1), 94-95.

NIST. (1997). *Metrology for information technology (IT).* National Institute of Standards and Technology.

Noor, A.N. (2005). *Keberkesanan kualiti perkhidmatan awam melalui program sehari bersama pelanggan kajian kes: Jabatan pendaftaran Negara Cawangan Ipoh, Perak.* Tesis Master, Sintok: Universiti Utara Malaysia.

Noorhayati, N.M. (2007). *Unikl web-based helpdesk solution for PC maintenance services.* Tesis Master, Sintok: Universiti Utara Malaysia.

Norshuhada, S., & Shahizan, H. (2010). *Design research in software development: Constructing and linking research questions, objectives, methods and outcomes.* Sintok: Penerbit Universiti Utara Malaysia.

Nuh, M. (2007). *Jurang digital Indonesia sudah sangat tinggi sekali.* Akses September 5, 2007, dari DetikInet: www.detik.com.

Nunally, J.C. (1978). *Pschometric theory* (2nd ed.). USA: McGraw-Hill.

Nunally, J.C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). USA: McGraw-Hill.

Nunamaker, J.J., Chen, M., & Purdin, T. (1991). System development in informations system research. *Journal of Management Information System,* 7(3), 89-106.

Nurmi, P., Forsblom, A., Floreen, P., Peltonen, P., & Saarikko, P. (2009). Predictive text input in a mobile shopping assistant: Methods and interface design. *IUI'09* (pp. 435-438). Sanibel Island, Florida, USA: ACM.

Oakland, J.S. (1989). *Total quality management.* London: Heinemann Professional.

Offermann, P., Levina, O., Schonherr, M., & Bub, U. (2009). Outline of a design science research proses. *DESRIST'09: Proceedings of the 4th International Conference on Design Science Research in Information Systems and Technology* (pp. 1-11). Malvern, PA, USA: ACM.

Openheim, A.N. (1983). *Questionnaires design and attitude measurement.* London: Biddles Ltd.

Orlikowski, W., & Iacono, C. (2001). Desperately seeking the "IT" in IT research - sa call to theorizing the IT artifact. *Information Systems Research*, 12(2), 121-134.

Padang Ekspres. (2007). *Pendaftaran ulang 9-12 Juli 2007.* Akses Julai 15, 2007, dari Padang Ekpres: http://www.padangekpres.co.id

Pagani, M. (2006). Determinants of adoption of high speed data services in the business market: Evidence for a combined technology acceptance model with task technology fit model, *Information and Management,* 43(7), 847-860.

Pallant, J. (2001). *SPSS survival manual.* Maidenhead, PA: Open University Press.

Parasuraman, A., & Zinkhan, M. (2002). Marketing to and serving customer through the internet: An overview and research agenda. *Journal of Academy of Marketing Science*, 30(4), 286-295.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implication for future research. *Journal of Marketing,* 49(5), 41-50.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1988). SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality. *Journal of Retailing,* 64(4), 35-48.

Parasuraman, A., Zeithaml, V.A., & Malhotra, A. (2005). E-S-QUAL: A multiple item scale for assesing electronic service quality. *Journal of Service Research*, 7(3), 213-233.

Pearce, M. (1998). Getting full value from focus-group research. *Ives Business Journal*, 63(2), 72-77.

Peffers, K., Tuunanen, T., Gengler, C.E., Rossi, M., Hui, W., & Virtanen, V. (2006). The design science research process: A model for producing and presenting information system research. *First*

*International Conference on Design Science Research in Information System Technology (DESRIST)* (pp. 83-106). Claremont: AIS.

Peffers, K., Tuunanen, T., Rothenberger, M.A., & Chatterjee, S. (2008). A design science research methodology for information systems research. *Journal of Management Information Systems*, 24(3), 45-77.

Perry, W.E. (2000). *Effective methods for software testing.* USA: John Willey & Sons, Inc.

Pincus, J. (2004). The consequences of unmet needs: The evolving role of motivation in consumer research. *Journal of Consumer Behavior*, 3(4), 375-387.

Pitt, L.F., Watson, R.T., & Kavan, C.B. (1995). Service quality: A measure of information system effectiveness. *MIS Quarterly*, 19(2), 179-187.

Preece, J., Rogers, Y., & Sharp, H. (2007). *Interaction design: Beyond human-computer interaction* (2nd ed.). USA: John Wiley & Sons, Inc

Preece, J., Rogers, Y., Sharp, H., Benyon, D., Holland, S. & Carey, T. (1994) *Human-computer interaction.* Essex, England: Addison-Wesley Longman Limited.

Premkumar, G., & Bhattacherjee, A. (2006). Explaining information technology usage: A test of competing models. *Omega*, 36(1), 64–75.

Pries-Heje, J., Baskerville, R., & Venable, J. (2008). Strategies for design science research evaluation. *Third International Conference on Design Science Research in Information System Technology (DESRIST)* (pp. 1-12). The Westin Buckhead, Atlanta, GA, USA: AIS.

Purao, S. (2002). *Design research in the technology of information systems: Truth or dare.* GSU Department of CIS Working Paper. Atlanta.

Raisch, W.D. (2001). *The e-marketplace: Strategies for success in B2B e-Commerce.* NY: McGraw-Hill.

Ramanathan, K. (2002). *Konsep asas pentadbiran awam.* Kuala Lumpur: DBP.

Rao, S.S. (2005). Bridging digital divide: Efforts in India. *Telematics and Informatics*, 22(4), 361 - 375.

Ratten, V., & Ratten, H. (2007). Social cognitive theory in technological innovations. *Eeuropen Journal of Innovation Management,* 10(1), 90-108.

*Rediker.* (2009). Akses Januari 3, 2009, dari http://www.rediker.com.

Reeves, C.A., & Bednar, D.A. (1994). Defining quality: Alternatives and implications. *Academy of Management Review,* 19, 419-445.

Reinicke, B.A., & Marakas, G. (2005). Exploring the psychological determinants of perceived ease of use and usefulness. *Proceedings of the Proceedings of the 38th Annual Hawaii International Conference on System Sciences* (pp.149.2). Hawaii: ACM.

Remenyi, D., Money, A., & Twite, A. (1995 ). *The effective measurement and management of IT cost and benefits.* Butterworth, Heineman: Oxford London.

Renaud, K., & van Biljon, J. (2008). Predicting technology acceptance and adoption by the eldery: A qualitative study. *SAICSIT 2008* (pp. 210-219). Wilderness Beach Hotel, Wilderness, South Africa: ACM.

Reynolds, J. (2000). *The completer e-commerce book: Design, build & maintain a succesfull web-based bussiness.* CMP Media Inc.

Rezabek, R.J. (2000). Online focus groups: Electronic discussions for research. *Forum: Qualitative Social Research,* 1(1). 1-67.

Rianingsih, D., Dwi, J., & Irfani, R. (2007). *Memberdayakan masyarakat dengan mendayagunakan telecenter.* Jakarta, Indonesia: BAPPENAS-UNDP.

Richardson, T.A. (1994). Measuring customer satisfaction with IS services. *Capacity Management Review,* 22(9), 1-6.

Riecheld, F., & Schefter, P. (2000). E-loyalty: Your secret weapon on the web. *Harvard Bussines Review,* 78, 105-113.

Riel, A., Liljander, V., & Jurriens, P. (2001). Exploring consumer evalutions of e-service: A portal site. *International Journal of Service Industry Management,* 12(4), 359-377.

Robinson, S. (2006). Issue in conceptual modelling for simulation: Setting a research agenda. *Paper presented at the 2006 OR Society Simulation Workshop.*

Rodriguez, M.C., Ooms, A., & Montañez, M. (2008). Students' perceptions of online-learning quality given comfort, motivation, satisfaction, and experience. *Journal of Interactive Online Learning,* 7(2), 105-125.

Rogers, E.M. (1995). *Diffusion of innovations.* New York: Free Press.

Rosander, A.C. (1991). *Deming's 14 points applied to services.* Milwaukee, WI: ASQC Quality Press.

Rose, A.A., & Azizah, A.R. (2001). Persepsi kualiti servis sistem maklumat di IPTA: Kajian kes Universiti Teknologi Malaysia. *Seminar Sosio-Ekonomi & IT.* Sintok: UUM.

Rossi, M., & Sein, M. (2003). Design research workshop: A proactive research approach. *Paper presented at the 26th Information Systems Research Seminar in Scandinavia (IRIS 2003).* Akses Julai 9, 2007, dari http://tiesrv.hkkk.fi/iris26/presentation/workshop_designRes.pdf.

Royce, W.W. (1970). Managing the development of large software systems: Concepts and techniques. *Proceeding IEEE Wetson,* Los Angeles CA: IEEE Computer Society Press.

Rubin, R. (1994). The development of a performance evaluation instrument for upward evaluation of supervisors by supervisors. *Library and Information Science Research,* 16, 315-328.

Rudi, R. (2003, Agustus). *Lebarnya jurang e-goverment.* Akses September 7, 2007, dari http://www.ebizzasia.com.

Rumbaugh, J.E., Jacobson, I., & Boch, G. (1999). *The unified modeling language reference manual.* MA: Addison-Wesley.

Rusbult, C.E., Martz, J.M., & Agnew, C.R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships,* 5(4), 357-391.

Rushinek, A., & Rushinek, S. (1985). The effects of sources of applications programs on user satisfaction: An emperical study of micro, min & mainframe computers using an interactive artificial inteligence expert-system. *ACM,* 118-125.

Rust, R.T., & Oliver, R.L. (1994). *Service quality: Insights and managerial implications from the frontier. In: Rust, R.T., Oliver, R.L. (Eds.), and service quality: New directions in theory and practice.* London: Sage Publications.

Ruvalcaba, Z., & Pizzi, M. (2005). *Knowledge solutions mastery macromedia dreamweaver MX 2004.* Canada: Sams Publishing

Sabherwal, R., & Elam, J. (1995). Overcoming the problems in information systems development by building and sustaining commitment. *Accounting, Management and Information Technologies,* 3-4, 283-309.

Santos, J. (2003). A model of virtual service quality dimensions. *Managing Service Quality,* 13, 233-246.

Santoso, S. (2000). *SPSS (statistical product and service solution).* Jakarta: Elex Media Komputindo.

Santoyo, A.S. (2003). Estimation and characterization of the digital divide. *Round Table on Developing Countries Acces to Scientific Knowledge,* 21-24.

Schwendiman, B. (2001). *PHP 4 developers's guide.* NY: McGraw Hill.

Scott, J.E. (2008). Technology acceptance and ERP documentation usability. *Communications of the ACM,* 51(11), 121-124.

Sekaran, U. (2003). *Research methods for business – A skill building approach* (4th ed.). USA: John Wiley & Sons, Inc.

*Sekolah Online.* (2005, Mac 26). Akses Oktober 19, 2007, dari www.kompas.com.

Shanks, G., Tansley, E., & Weber, R. (2003). Using ontology to validate conceptual models. *Communications ACM,* 46(3), 85-89.

Shin, K. (1996). *SPSS Guide for DOS version 5.0 and windows version 6.0 and 6.1.2* (2nd ed.). Wentzville, MO, USA: A Times Mirror Higher Education Group.

Shneiderman, B. (2004). *Designing the user interface: Strategies for effective human-computer interaction.* Reading, MA: Addison-Wesley Publishers.

Shneiderman, B., & Plaisant, C. (2005). *Designing the user interface.* Singapore: Pearson Addison Wesley.

Shukla, P., & Rogers, E.M. (2001). The internet and the digital divide in Latin America, Africa, and Asia: Paper presented at the International Communication Association and the International Association of Mass Communication Research. *Symposium on the Digital Divide.* Austin, Texas.

*SIAP PSB Online.* (2006). Akses September 9, 2007, dari http://siap-online.com/siap-psb.penjelasan.php.

Sidin, M., & Saryati, A. (2008). *Importance of capacity building for the digital content industry in Malaysia.* Akses September 30, 2008, dari www.skmm.gov.my

Sikorski, M. (2009). From user satisfaction to customer loyalty: Addressing economic values users-centered design of on-line services. *Proceedings of the COST 298 Conference* (pp. 1-9). Copenhagen: The User and The Future of Information and Communication Technologies.

Silver, M. (1988). User perceptions of decision support system restrictiveness: An experiment. *Journal of Management Information Systems*, 5(1), 51–65.

Simon, H.A. (1996a). *The Sciences of the artificial* (3rd ed.). Cambridge, MA: MIT Press.

Simon, R. (1996b). The trust factor in safety performance. *Professional Safety*, 41(10), 28-33.

*Sistem Permohonan Atas Talian.* (2009). Akses December 7, 2009, dari http://apps.emoe.gov.my.

Sittig, D., Krall, M., Kaalaas-Sittig, J., & Ash, J. (2005). Emotional aspects of computer-based provider order entry: A qualitative study. *Journal of the American Medical Informatics Association*, 12(5), 263-279.

Sjoquist, D.L., & Stephan, P.E. (1986). *Understanding regression analysis: An introductory guide.* London: Sage Publications.

Slamet, R. (2009). *Membangun web portal multibahasa dengan Joomla 1.5.x.* Jakarta: Elek Media Komputindo.

SM Pendaftaran Pelajar di UK (Devon School Admission Online). (n.d). Akses Februari 6, 2010, dari Devon County Council website: http://www.devon.gov.uk/ admissionsonline.

SM Pendaftaran Pelajar di US (Open Enrollment Application for 2010-2011). (n.d). Akses Februari 6, 2010, dari Wisconsin Department of Public Instruction website: https://www2.dpi.state.wi.us.

Sobreperez, P. (2008). Using plenary focus group in information systems research: More than collection of interviews. *The Electronic Journal of Business Research Methods*, 6(2), 181-188.

Sommerville, I. (2007). *Software engineering.* Edinburgh Gate: Pearson Education Limited.

Sproull, N.L. (1995). *A Handbook of research methods: A guide for practitioners and student in the social sciences.* New Jersey: The Scarecrow Press.

Sri, M. (1991). *Statistika untuk ekonomi.* Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.

Stapleton, J. (1997). *DSDM-dynamic systems development method: The method in practice.* Harlow, England: Addison-Wesley.

Stewart, D.W., & Shamdasani, P.N. (1990). *Focus groups: Theory and practice.* Thousand Oaks, CA : Sage.

Stobart, S., & Vassileiou, M. (2004). *PHP and MySQL manual.* UK: Springer.

Sugimoto, T. (2007). Non-existence of systematic education on computerized writing in Japanese schools. *Computers and Composition,* 24(3), 317-328.

Sugiyono. (2006). *Statistika untuk penelitian.* Bandung: Penerbit Alfabeta.

Suhaimi, I., Wan, M.N., Paridah, S., Rozlina, M., & Yazid, M.I. (2001). *Kejuruteraan perisian.* Skudai : Universiti Teknologi Malaysia.

Sukardika, K. (2001). *Pendidikan dalam rangka otonomi daerah.* Jakarta: Diknas.

Sukor, R.A.S., & Subhi, M.M. (2001). Teknologi maklumat dan komunikasi. *Issues in Education,* 24, 109-123.

Sun, Y., & Kantor, P.B. (2006). Cross-evaluation: A new model for information system evaluation. *Journal of the American Society for Information Science and Technology,* 57(5), 614-628.

Surjadjaja, H., Ghosh, S., & Antony, F. (2003). Perspectives determining and assessing the determinant of e-service operations. *Managing Service Quality,* 13(1), 39-53.

Syahyuti. (2007). *Penerapan pendekatan pembangunan berbasis komunitas: Studi kasus pada rancangan program primatani.* Akses Jun 9, 2008, dari http://www.geocities.com/syahyuti/ 2007.html.

Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics* (5th ed.). Selangor: Pearson Education, Inc.

Takeda, H., Veerkamp, P., Tomiyama, T., & Yoshikawam, H. (1990). Modeling design processes. *AI Magazine,* 11(4), 37-48.

Tassey, G. (2002). *The economic impacts of inadequate infrastructure for software testing.* Gaithersburg: National Institute of Standards and Technology (NIST), U.S. Department of Commerce's Technology Administration.

Telem, M. (1996). MIS implementation in schools: A systems socio-technical framework. *Computers and Education*, 27(2), 85-93.

Tempo Interaktif. (2006, Julai 7). *Sistem rusak, siswa gagal daftar SMA.* Akses Ogos 9, 2006, dari Tempo Interaktif: www.tempointeraktif.com.

Teo, T., Lim, V., & Lai, R. (1999). Intrinsic and extrinsic motivation in internet usage. *Omega International Journal of Management Science*, 27(1), 25-37.

Tesone, D.V., & Ricci, P. (2008). Student perceptions of web-based intstruction: A comparative analysis. *MERLOT Journal of Online Learning and Teaching*, 4(3), 317-324.

Thomas, C., & Fisher, G. (1996). *Using agents to improve the usability and usefulness of the world-wide web.* Akses September 19, 2007, dari http://www.um.org.

Thompson, R., Higgins, C., & Howell, J. (1994). Influence of experience on personal computer utilization: Testing a conceptual model. *Journal of Management Information Systems*, 11(1), 167-187.

Thompson, R.L., Higgins, C.A., & Howell, J.M. (1991b). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15(1), 125-143.

Thompson, R.L., Higgins, C.A., & Howell, J.M. (1991a). Influence of experience on personal computer utilization: Testing a conceptual model. *Journal of Management Information Systems*, 11(1), 167-187.

Thong, J.Y., Hong, W., & Tam, K.Y. (2002). Understanding user acceptance of digital libraries: What are the roles of interface characteristics, organizational context, and individual differences?. *International Journal of Human-Computer Studies*, 57, 215-242.

Thong, J.Y., Hong, W., & Tam, K.Y. (2004). What leads to user acceptance of digital libraries?. *Communications of the ACM,* 47(11), 79-83.

TIMSS. (2008). *Highlights from TIMSS 2007: Mathematics and science achievement of U.S. fourth-and eighth-grade students in an international context.* Institute of Education Sciences.

Townsend, P., & Gebhardt, J. (1988). The policy is still quality. *Best Review*, 8-15.

Trochim, W.M. (2006). *Correlation*. Akses Februari 10, 2010, dari Research Methods Knowledge Base: www.socialresearchmethods. net

Tuijnman, A.C., & Brummelhuis, A.C. (1992). Determinants of computer use in lower secondary schools in Japan and the United States. *Computers & Education,* 19(3), 291-300.

Turban, E., Rainer, R.K., & Potter, R.E. (2005). *Introduction to information technology* (3rd ed.). New Jersey: John Wiley & Sons. Inc.

Tyran, C., & Ross, S. (2006). Service quality expectations and perceptions: Use of the SERVQUAL instrument for requirements analysis. *Issues in Information Systems*, 7(1), 357-362.

Tyran, C., & Ross, S. (2007). User assesment of an advisory service system: Use of the E-S-QUAL instrument. *Issues in Information System*, 8(2), 26-31.

UNCED. (1992). United nations conference on environment and development. *The Earth Summit.* Rio de Janeiro.

UNESCO. (2007). *Global education digest 2007: Comparing statistic across the world.* Institute for Statistic, Montreal: UIS.

UNESCO. (2008). *Global education digest 2008: Comparing statistic across the world.* Institute for Statistic, Montreal: UIS.

United Nations Common Country Assessment Indonesia. (2004). *United Nations Common Country Assessment Indonesia.* Jakarta: United Nations in Indonesia.

Vaishnavi, V. & Kuechler, W. (2008). *Design science research methods and patterns: Innovating information and communication technology.* Broken Sound Parkway NW: Auerbach Publications.

Vaishnavi, V., & Kuechler, W. (2004). *Design research in information system.* Akses Januari 9, 2008, dari http://www.isworld.org.

Vaishnavi, V., & Kuechler, W. (2007). *Design research in information system.* Akses Januari 9, 2008, dari http://www.isworld.org.

Van Biljon, J., & Kotze, P. (2007). Modelling the factors that influence mobile phone adoption. *SAICSIT 2007* (pp. 152-161). Fish River Sun, Sunshine, Coast, South Africa: ACM.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 28(4), 695–704.

Van Dyke, T., & Kappelman, L. (1997). Measuring information system service quality: Concerns on the use of the SERVQUAL questionnare. *MIS Quartley*, 21(2), 195-209.

Van Dyke, T., & Kappelman, L. (1999). Cautions on the use of SERVQUAL measure to asses the quality of information system services. *Decision Science*, 30(3), 877-891.

Van Iwaarden, J.D., & Van Der Wiele, A. (2003). A study on the applicability of SERVQUAL dimensions for web sites. *International Journal of Production Engineering and Computers*, 5(6), 43-53.

Venable, J. (2006). The Role of theory and theorising in design science research. *First International Conference on Design Science Research in Information System Technology (DESRIST)* (pp. 1-18). Claremont, CA: AIS.

Venkatesh, V., & Morris, M.G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technololgy acceptance and usage behavior. *MIS Quertly,* 24(1), 115-139.

Vitri, D.K. (2006). Evaluasi kelayakan program layanan penerimaan siswa baru (PSB) online tingkat SMUN/SMKN di Kotamadya Bandung. *STT Telkom Library*, 2-3.

Vonk, R. (1990). *Prototyping: The effective use of CASE technology.* Englewood Cliffs: Prentice Hall.

Vora, P. (1998). Designing for the Web: A survey, *Interaction*, 5(3), 13-30.

Voss, C. (2000). Developing an e-service strategy. *Business Strategy Review, 11*(1), 21-33.

Wager, K.A., Zoller, J.S., Soper, D.E., Smith, J.B., Waller, J.L., & Clark, F. C. (2008). Assessing physician and nurse satisfaction with an ambulatory care EMR: One facility's approach. *International Journal of Healthcare Information Systems and Informatics,* 3(1), 63-74.

Wahid, F. (2007). Adopsi metode pengembangan sistem informasi di Indonesia: Studi eksploratori awal. *UII Press*, 1-7.

Walls, J.G., Widmeyer, G.R., & El-Sawy, O.A. (1992). Building an Information system design theory for vigilant EIS. *Information Systems Research*, 3(1), 36-59.

Wang, Y.S. (2003). Assessment of learner satisfaction with asynchronuous electronic learning system. *Information Management*, 41, 75-86.

Warner, J., & Gardner, S. (2004). *Dreamweaver MX 2004 for dummies.* NY: Wiley Publishing, Inc.

Web, H.W., & Web, W.L. (2004). SiteQual: An integrated measure web site quality. *Journal of Enterprise Information Management*, 17(6), 430-440.

Weinberg, S.L., & Abramowitz, S. K. (2008). *Statistics using SPSS: An integrative approach.* New York, NY: Cambridge University Press.

West, R., & Muck, T. (2004). *The complete reference dreamweaver MX 2004* (2nd ed.). Osborne: Mc Graw Hill.

White, J.D. (2007). *Managing information in the public sector.* New York: M.E. Sharpe.

Williams, K. (2001, Ogos). *What is the digital divide?* Akses 11 23, 2008, daripada www-personal.umich.edu/~katewill/kwd3workshop.pdf.

Wingreen, S.C., Blanton, J.E., Kittner, M.L., & Fentriss, R.A. (2003). Toward a social cognitive basis for the IT Professional's person-organizations fit, *SIGMIS Conference* (pp. 179-182). Philadelphia, Pennsylvania: ACM.

Winter, R. (2008). Design science research in Europe. *European Journal of Information System*, 17, 470-475.

*Wisconsin Department of Public Instruction.* (2008). Akses Julai 9, 2009, dari http://www2.dpi.state.wi.us/Opal2010/Too_late.aspx.

Wixom, B., & Todd, P. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85-102.

Wolfinbarger, F., & Gilly, C. (2003). eTailQ: Dimensionalising, measuring and predicting eTail quality. *Journal of Retaling*, 79(1), 183-198.

Wong, P. K. (2002). ICT production and diffusion in asia digital dividends or digital divide?. *Information Economics and Policy*, 14(2), 167-187.

Wong, Y.K., & Hsu, C.J. (2006). A confidence-based framework for business to consumer (B2C) mobile commerce adoption. *Pers Ubiquit Comput,* 12, 77-88.

Woodroof, J.B., & Kasper, G.M. (1995). A synthesis of equity, expectation, and needs theories as a conceptual foundation for the user satisfaction construct in information systems research. *SIGCPR'95* (pp. 253-254). Nashville, TN, USA: ACM.

Yang, K.C. (2005). Exploring factors affecting the adoption of mobile commerce in Singapore. *Telematics and Informatics*, 22(3), 257-277.

Yang, Z., & Jun, M. (2002). Consumer perception of e-service quality: From internet purchaser and non-purchaser perspectives. *Journal of Business Strategies*, 3(2), 122-137.

Yang, Z., Jun, M., Peterson, R.T. (2004b). Measuring customer perceived online service quality. *International Journal of Operation & Production Management*, 24(11), 1149-1174.

Yang, Z., Shaohan, C., Zhouc, Z., & Zhou, N. (2004a). Development and validation of an instrument to measure user perceived service quality of information presenting web portals. *Information and Management*, 42, 575-589.

Yeh, S.C., & Chu, P.Y. (2008). Exploring internal and external service chains of electronic government services. *Taiwan e-Governance Research Center*, 1-12.

Yi, Y. (1991). *A critical review of consumer satisfaction. Review of Marketing.* Chicago: American Marketing Association.

Yi, Y., Wu, Z., & Tung, L. (2006). How individual differences influence technology usage behavior? Towards an integrated framework. *The Journal of Computer Information Systems*, 46(2), 52-63.

Yi, Y.M., & Hwang, Y. (2004). Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies*, 59(4), 431-449.

Yu, B.W. (2008). *Using SERVQUAL to measure user's satisfaction of computer support in higher educational environments.* Tesis PhD, Texas: University of North Texas.

Yu, R. (2005). *The improvement strategy of Kaohsiung Mayor's Mailbox via internal customer orientation.* Tesis Master, China: National Sun Yet University.

Zamri, B.A., & Rusmini, A.K. (2008, Julai 4). *Implementasi ICT dan kepemimpinan sekolah: Kajian kes di sekolah-sekolah BESTARI dan SMJKC.* Akses Oktober 11, 2008, dari http://www.iab.edu.my/ KertasKerjaSN15/ DR_RUSMINI.pdf.

Zeithaml, V.A., Parasuraman, A., & Malhotra, A. (2000). A conceptual framework for understanding e-service quality: Implications for future research and managerial practice. *MSI Monograph, Report#00-115.*

Zeithaml, V.A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Academy of Marketing Science Journal*, 30(4), 362-375.

Zhang, P., & Li, N. (2005). The importance of affective quality. *Communications of the ACM*, 48(9), 105-108.

Zhu, F.X., Waymer, W., & Chen, I. (2002). IT-based services and services quality in consumer banking. *International Journal of Service*, 13(1), 69-90.

Zikmund, W.G. (2000). *Business research methods* (6th ed.). Forth Worth, Texas: Dryden Press.

Zol, B.R. (2004). Reka bentuk sistem elektro-pneumatik: Pendekatan perisian simulasi berasaskan animasi. *Penyelidikan dan Pendidikan Kejururateraan*, 1, 35-43.

Zulkarnain, Z. (1991). *Ekonometrik: Kaedah penganggaran kuasa dua terkecil.* Sintok: Peneribit Universiti Utara Malaysia.

Zulkarnain, Z. (2001). *Statistik pengurusan.* Sintok: Penerbit Universiti Utara Malaysia.