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Plot # 426, Block J/3, M.A. Johar Town, Lahore (Pakistan)
Tel: +92-42-5314437-5314438, Fax: +92-42-5752547
Email: secretary@isoss.com.pk, URL: www.isoss.com.pk



**University of Gujrat
Faculty of Social Sciences**

Hafiz Hayat Campus, Gujrat (Pakistan)
Tel: 053-3643112/118/408/097, Fax: 053-3643167
Email: <zahoor_ahmed_stat@yahoo.com> <info@uog.edu.pk>

**DEVELOPMENT OF SIMPLIFIED EQUATION FOR WIND LOAD
CALCULATION FOR TALL BUILDINGS**

Muhammad Azhar Saleem

Department of Civil and Environmental Engineering,
Florida International University, Miami, FL 33174, USA.
Email: azhar696@hotmail.com

ABSTRACT

Various wind standards and building codes are available for evaluating wind loads on buildings with common shapes. International wind standards such as ASCE 7-05 and NBC 2005 are among the most commonly used building codes in various parts of the world. This research work is mainly focused on developing simplified equations for the approximate calculation of wind forces. A sixty storey tall building with box structure is analyzed for wind loads for different exposure conditions provided by these building codes. Based on these results, simplified equations are developed for the calculation of wind forces by using nonlinear regression. For each exposure condition a different equation is developed. These equations will help the beginners in the field of civil/structural engineering to calculate wind forces without going into the lengthy details.

002:

**IS COST OF INTELLECTUAL PROPERTY RIGHTS
A RIVAL OF ECONOMIC GROWTH?**

Nazia Zubari

Management & Social Sciences Department, Institute of Business & Technology, Karachi
Email: naziazubari@biztekian.com; naziazubari@yahoo.com

ABSTRACT

According to many previous researchers there is a significant relationship between Intellectual Property Right protection and growth for a developing country when its reaches a certain level of development as measured by initial GDP. On this basis this paper attempts to find out relationship between Intellectual Property Rights Cost and Economic Growth in Pakistan. This also investigates how can people of a developing countries like Pakistan spend their specific income upon huge expenses of Intellectual Property Rights (license and registration fees etc) to groom themselves, to increase their standard of living and to meet the challenges of globalization. This study helps us to understand the impact of the cost of Intellectual Property Rights (IPR) on economic development which is important for inter-temporal decision making. The purpose of this paper is to test the relationship among various economics variables and IPR protection cost policy based on annual data. This study also distinguishes the relationship dynamics during different regimes in Pakistan.

003:

**GESTATIONAL DIABETES IN IRAN: INCIDENCE,
RISK FACTORS AND PREGNANCY OUTCOMES**

Babae Gholamreza and P. Ashkvari P.

Islamic Azad University, Karaj Branch-Iran

Email: babae_g@modares.ac.ir; babae99@yahoo.com

ABSTRACT

The objective of this study was to determine the incidence of gestational diabetes mellitus (GDM) and compare fetal, maternal and neonatal complications amongst women with GDM and pregnant women with normal glucose tolerance in an urban Iranian population. In a prospective cohort study, universal screening for gestational diabetes mellitus was performed for 1310 pregnant women who were referred from private clinics and community health care centers to Fatemiyeh Hospital in Shahrood City. Screening was performed with a 50-g oral Glucose Challenge Test (GCT) with 130mg/dl cut-off point, then a diagnostic 100-g Oral Glucose Tolerance Test (OGTT) was done according to Carpenter and Coustan criteria. The incidence of GDM was 4.8%. There were differences in risk factors: age>30yr, family history of diabetes, obesity, previous macrosomia, glycosuria between the two groups ($P<0.001$). Women with GDM had a higher rate of stillbirth ($P<0.001$; odds ratio 17.1, 95% CI=4.5-65.5), hydramnios ($P<0.001$; odds ratio 15.5, 95% CI=4.8-50.5), gestational hypertension ($P<0.001$; odds ratio 6, 95% CI=2.3-15.3), macrosomia ($P<0.05$; odds ratio 3.2, 95% CI=1.2-8.6) and caesarean section ($P<0.001$). We have found that the incidence of GDM in an urban Iranian population is similar to developed countries. Complications were more common in the GDM group than in the normal group and outcomes for women with persistent diabetes post-partum were particularly poor. We recommend screening for GDM in Iran, but further evaluation of selective screening and cost effectiveness will need to be performed. Measures to improve the outcome of GDM pregnancy will also need to be addressed in the future.

004:

**ESTIMATION OF POPULATION SIZE, MEAN AND VARIANCE FROM
INCOMPLETE SAMPLING FRAME UNDER TWO-STAGE SAMPLING DESIGN**

Bhawna Agarwal¹ and P.C. Gupta²

¹ Institute for Integrated Learning in Management,
New Delhi, India. Email: bhawna.agrawal@iilm.edu

² Veer Narmad South Gujarat University, Surat (Gujarat),
India. Email: pcgupta44@yahoo.com

ABSTRACT

Estimators have been developed so far assuming that the sampling frame at hand is complete. But experience dispels this belief. In real life problems, particularly in case of large scale surveys, mostly the frames are incomplete for various reasons. Also there are no revising frames at short intervals. Nor it is possible to update the frames so often.

Two-stage sampling design is one of the most suitable designs to estimate various characteristics of the population under consideration especially in large scale surveys.

Therefore, the authors have developed modified estimators. Under this scheme some large units are selected known as first stage units by random selection procedure and the units within a first stage unit (cluster) are more homogeneous than the units in other stage units. Therefore, it is always better to select some of the second stage units from each unit rather than studying each of them i.e. two-stage sampling. So far it is considered that complete sampling frame for second stage units is always available. But the experience is not the same. Often one comes across situations when all second stage units are not on records for various reasons e.g. Wards are fixed in a city but there are quite many households which are missing in the records. In all such circumstances, we have completed records of first stage units but an incomplete frame for second stage units. Studies somewhat related with the estimation from incomplete frames available in the literature are due to Foradori (1961), Hartley (1962, 1974), Singh et al (1986), Srinath (1971).

In this paper, estimators for population total, mean and variance of the character (variable) under study etc. are developing taking into consideration the incomplete frame for second stage units. It is expected that this new approach will bring about a meaningful improvement in our estimates.

A real live problem has been considered consisting complete records of first stage units but an incomplete frame for second stage units. Also it is calculated how much accuracy in estimators has increased by using modified estimators.

The study of estimation for incomplete sampling frame is totally a new area of research and has tremendous scope and utility in future research and applications.

005:

LAGUERA'S POLYNOMIALS OF ONE OR MORE VARIABLES

Ahmed Ali Elwakshi

7th October University, Faculty of Science, PO Box: 2478, Misurata, Libya.

Email: Elwakshi2007@yahoo.com

ABSTRACT

For $x \in [0, \infty [$ we define functions $\omega_r(x) = (e^{-x})^r = e^{-rx}$ ($r = 1, 2, \dots$) and polynomials

$$\int_0^{\infty} L_n^2(x) e^{-rx} dx = 1 \quad L_n = L_n(x) = \sum_{i=0}^n a_i^{(n)} x^{n-i} \quad (0 \leq n) \text{ where } a_i^{(n)} (0 \leq i \leq n) \text{ unknown coefficients.}$$

Polynomials are orthogonal if $\int_0^{\infty} L_i(x) L_n(x) e^{-rx} dx = 0 \quad (0 \leq i < n)$

We also define function $\omega(x, y) = e^{-(x+y)}$ ($x, y \in \pi = (0 \leq x, y < \infty)$) and polynomials orthogonal if $L_{i,j}(x, y)$ ($x, y \in \pi$) ($0 \leq i, j$) of two variables

$$\int_0^{\infty} \int_0^{\infty} L_{k,j}(x, y) L_{l,i}(x, y) e^{-(x+y)} dx dy = \lambda_{i,j}^2 \delta_{ik} \delta_{jl} \quad (0 \leq k \leq i; 0 \leq l \leq j).$$

we prove $(L_{i,j}(x, y) = L_i(x) L_j(y))$ If $\int_0^{\infty} \int_0^{\infty} L_i(x) L_j(y) L_k(x) L_l(y) e^{-(x+y)} dx dy = \delta_{ik} \delta_{jl}$

We can construct two orthogonal systems for any coefficients .The first is

$$L_{2n+1}(x, y) = \sum_{j=0}^n b_j^{(n)} (y^{2n-2j} + x^{2n-2j})(y-x) \quad (n=0,1,2,\dots) \quad (II)$$

$$L_0(x, y) = a_0, L_{2m}(x) = \sum_{l=0}^m a_l^{(m)} (y^{2m-2l} + x^{2m-2l})x^l y^l, (m=1,2,\dots) \quad (III)$$

$$L_{2n+1}(x, y) = \sum_{j=0}^n b_j^{(n)} (y^{2n-2j} + x^{2n-2j})(y-x)x^j y^j, (n=0,1,2,\dots) \quad (IV)$$

For three variables we define function $\omega(x, y, z) = e^{-(x+y+z)}$ $(x, y, z) \in \pi$ and polynomials $L_{i,j,k}(x, y, z) \in \pi = (0 \leq x, y, z < \infty)$ $(0 \leq i, j, k)$

which are orthogonal on respect to the weight function $\pi = e^{-(x+y+z)}$
 We give orthogonal systems

$$L_{2m} = \sum_{l=0}^m a_l^{(m)} (x^{2m-2l} y^{2l} + y^{2m-2l} z^{2l} + z^{2m-2l} x^{2l}) \quad (m \geq 0) \quad (I)$$

$$L_{2n+1} = \sum_{j=0}^n b_j^{(n)} (x^{2n+1-2j} (y^{2j} - z^{2j}) + y^{2n+1-2j} (z^{2j} - x^{2j}) + z^{2n+1-2j} (y^{2j} - x^{2j})) \quad (II)$$

$$\text{and } L_{2m}(x, y, z) = \sum_{l=0}^m a_l^{(m)} (x^{2l} + y^{2l} + z^{2l}) \quad (m \geq 1) \quad (III)$$

$$L_{2n+1}(x, y, z) = \sum_{j=0}^n b_j^{(n)} (x^{2j} (y-z) + y^{2j} (z-x) + z^{2j} (x-y)) \quad (n \geq 0) \quad (IV)$$

For many variables we define function $\omega = e^{-(x_1+x_2+\dots+x_h)}$ and polynomials orthogonal $L = L_{i_1, i_2, \dots, i_h}(x_1, x_2, \dots, x_h)$ $(i_1, i_2, \dots, i_h \geq 0)$ on $Q = [0 \leq x_j < \infty (1 \leq j \leq h)]$ where polynomials mean

$$\int_0^{\infty} \int_0^{\infty} \dots \int_0^{\infty} L_{i_1, i_2, \dots, i_h}(x_1, x_2, \dots, x_h) L_{j_1, j_2, \dots, j_h}(x_1, x_2, \dots, x_h) \omega dx_1 dx_2 \dots dx_h = \lambda_{i_1, \dots, i_h}^2 \delta_{i_1, i_2, \dots, i_h, j_1, \dots, j_h}$$

We give two orthogonal systems .
 First is

$$L_{2m} = \sum_{l=0}^m a_l^{(m)} (x_1^{2m-2l} x_2^{2l} + x_2^{2m-2l} x_3^{2l} + \dots + x_h^{2m-2l} x_1^{2l}) \quad (m \geq 0) \quad (I)$$

$$L_{2n+1} = \sum_{j=0}^n b_j^{(n)} (x_1^{2n+1-2j} (x_2^{2j} - x_3^{2j}) + x_2^{2n+1-2j} (x_3^{2j} - x_4^{2j}) + \dots + x_h^{2n+1-2j} (x_1^{2j} - x_2^{2j})) \quad (II)$$

$$\text{Second is } L_{2m} = L_{2m}(x_1, x_2, \dots, x_h) = \sum_{l=0}^m a_l^{(m)} (x_1^{2l} + x_2^{2l} + \dots + x_h^{2l}) \quad (m \geq 0) \quad (III)$$

$$L_{2n+1} = \sum_{j=0}^n b_j^{(n)} (x_1^{2j} (x_2 - x_3) + x_2^{2j} (x_3 - x_4) + \dots + x_h^{2j} (x_1 - x_2)) \quad (n \geq 0) \quad (IV)$$

006:

FINGER PRINT VERIFICATION BY NEURAL NETWORK

Ali Mohamed Ramadan¹, Lobna M. Gabo and Aisha Abid²

7th October University, Faculty of Information Technology and Computer Science,
 Misurata, Libya.

Email: ¹aramdan45@yahoo.com; ²henaish@yahoo.com

ABSTRACT

This work gives idea about the system wide spread use to identification personality and different between people, it is system of fingerprint verification gives introduction about work use in this system and the stage design of system.

The work finished by building simple models to fingerprint verification. This system processes the image that inter by scans, and extraction the special feature to each image, and

deals with this images as matrix. This is the difficult stage in this program the fingerprint will process to get specific details that use in the comparison. Stratification Images and the image store in Database by neural network.

The type of network use knows a (Back propagation multi- layer percept- none). Mat lab language uses to write the program because it is designed to mathematical object and it is better language use in images process and neural network.

007:

**FLUCTUATING DYNAMICS OF STRATOSPHERIC OZONE WITH
REFERENCE TO ATMOSPHERIC REGION OF PAKISTAN**

**M. Ayub Khan Yousuf Zai¹, M. Rashid Kamal Ansari,
Jawaid Quamar, M. Arif Hussain and Jawaid Iqbal**

Atmospherics Research Center, Department of Applied Physics and
Institute of Space and Planetary Astrophysics, University of Karachi. Karachi
Email: ¹ayubzai@yahoo.com

ABSTRACT

The study of fluctuating dynamics of stratospheric ozone layer depletion (OLD) for Pakistan atmospheric region has been introduced by mentioning the production and annihilation of ozone exhibiting solar activity and Chapman mechanism. Technological and natural causes of OLD include enhancement in ozone layer depletion due to Polar Stratospheric Clouds (PSCs), due to Supersonic transport (SST) and volcanic eruptions. In this communication behaviour of ozone is explained on the basis of ozone profile, effects of periodic, a-periodic change in OLD, effect of monthly and seasonal variations. We tried to emphasize the role of central limit theorem in AR-processes to study OLD. This kind of study is useful for predicting and forecasting the salient features of ozone at this region. If data of ozone layer depletion are available for different parts of the world then the same approaches could be helpful for the study.

008:

**STOCHASTIC ANALYSIS OF EFFECT OF SOLAR FLARE OCCURRENCE
ON OZONE LAYER DEPLETION**

Saifuddin Ahmed Jilani¹ and M. Ayub Khan Yousuf Zai²

Department of Physics, Department of Applied Physics and Institute of
Space and Planetary Astrophysics University of Karachi, Karachi.
Email: ¹jilani_saif@yahoo.com; ²ayubzai@yahoo.com

ABSTRACT

During the past few years, satellite and ground-based observations have particularly contributed to our understanding of the general features of the vertical ozone distribution and latitude variations in stratosphere and lower mesosphere. Neither natural nor man-made processes are independently responsible for ozone layer depletion (OLD) but the combined effect of both is evitable. Man- made causes of OLD are providing a threshold for OLD.

The energies of solar energetic particles are too small to allow them to penetrate down to ground. Lower energetic solar particles also can reach the denser atmosphere. Their interaction with the atmosphere leads to increasing ionization, which in turn leads to the absorption of radio waves. Owing to the propagation time between the sun and the earth, a polar cap absorption (PCA) starts a few hours after the flare. It has been found that the protons emitted during solar storms penetrate the earth's upper atmosphere. These energetic protons deposited in air generate NO and HO which catalytically react with ozone. The large SPE of August 1972 caused a maximum ozone depletion of 20 % at 40 km.

In this communication, some approaches are presented to relate the Solar flares interaction with the ozone layer Depletion (OLD). Different parameters are found to establish a link between this solar activity and thus developing a quantitative aspect of these phenomena for the data points covering the specified period of the occurrence of solar flares and ozone layer depletion. The main data source for this study is the SUPARCO, HQ, Pakistan situated at Karachi and Islamabad.

009:

ESTIMATING THE EFFECT OF OZONE LAYER DEPLETION ON LAND PLANTS

S.M. Zia-ul-Haque and M. Ayub Khan Yousuf Zai¹

Institute of Space and Planetary Astrophysics and Department of
Applied Physics, University of Karachi, Karachi
Email: ¹ayubzai@yahoo.com

ABSTRACT

In this communication we have presented some approaches to relate the depletion process with the plants life. Developing a quantitative treatment for data covering a specific period, this paper reported for Pakistan an explorative assessment of the ozone layer depletion (OLD) so that we would be able to predict future changes in the concentration of ozone on the basis of the CFC emissions and possibly forecast the UV-B radiation reaching the sea surface. We have also examined the effects of UV-B due to OLD. Our study was focused on the growth of land plants and the influence of ozone layer depletion on the chlorophyll of the plants. This study will also be helpful in obtaining the estimates of UV-B and establishing a correlation with the growth of plants and chlorophyll, then suitable predictions can be made globally for agricultural departments

010:

DIVIDEND POLICY IN PAKISTAN AND SIGNALING THEORY

Choudhary Slahudin

Department of Finance and Economics, University of Management and Technology, Lahore.
Email: salahuddin@umt.edu.pk

ABSTRACT

A sample size of 70 companies from Karachi Stock Exchange has been used to analyze the relationship between dividend changes and earning changes. Does dividend theory apply in Pakistan? The question being asked is: Do positive dividend changes point to good past

performance, good current performance, or signal growth in future performance. The findings show that there is no statistically significant relationship between positive dividend changes and current, past or future good performance. Moreover, few evidences found that dividend changes are negatively correlated with future earnings in Pakistan.

011:
**ON LOGARITHMICALLY ASYMPTOTICALLY OPTIMAL HYPOTHESIS
TESTING OF SIX DISTRIBUTIONS FOR PAIR OF INDEPENDENT OBJECTS**

Leader Navei

Faculty of Mathematics, Payamnoor University Branch of Azarshahr, Iran.

Email: ashkan_11380@yahoo.com

ABSTRACT

In this paper the problem of hypotheses testing for a model consisting from two independent objects is considered. It is assumed that six probability distributions are known and objects independently from each other follow to one of them. In this paper is used, theorem in [1] that Navaei proved via the theory of large deviations and also the matrix of asymptotic inter-dependencies (reliability functions) of all possible pairs of the error probability exponents in optimal testing for this model is studied.

The case with two independent objects and two given probability distributions was researched by Haroutunian and Ahlswede.

012:
**USING MAXIMUM LIKELIHOOD RATIO TEST TO DISCRIMINATE
BETWEEN THE INVERSE GAUSSIAN AND GAMMA DISTRIBUTIONS**

Zakaria Y. AL-Jammal

Department of Computer Science and Mathematics, Mosul University, Mosul, Iraq.

Email: zak.sm_stat@yahoo.com

ABSTRACT

One of the problems that appear in reliability and survival analysis is how we choose the best distribution that fitted the data. Sometimes we see that the handle data have two fitted distributions. Both inverse Gaussian and gamma distributions have been used among many well-known failure time distributions with positively skewed data. The problem of selecting between them is considered. We used the logarithm of maximum likelihood ratio as a test for discriminating between these two distributions. The test has been carried out on six different data sets.

013:
**URBANIZATION OF KARACHI:
DIFFERENT STAGES OF POPULATION GROWTH**

Shaheen Abbas and Muhammad Rashid Kamal Ansari

Federal Urdu University of Arts Science & Technology, Karachi.

Email: mathscfuust@yahoo.com

ABSTRACT

The paper discusses the process of urbanization of Karachi considering population as a parameter. In the process of conversion from a little village to a mega-polis the city of Karachi has undergone abrupt increase in population in different eras ranging from 18th to 21st century. As the reasons for such changes have been different in different eras, the whole range cannot follow a single pattern. So in this study we will divide the above mentioned range in two parts and will develop most suitable model for each part to study the population growth of Karachi (**PGK**) in each part. We will construct three models viz. **LRM**, **EGRM** and **SGRM** (deterministic) models for **PGK** and will compare these to select the best fitted model to each part. These models will help to construct a better forecasted population data base which can be used in further analyses for a better management and planning of the city. Information developed in this way will be helpful for the city government in particular and other planners and researchers in general to make proposals for an optimal use of resources and funds.

014:

**EXTENDED COX PROPORTIONAL HAZARD APPROACH
FOR SURVIVAL ANALYSIS FOR RECURRENT EVENTS:
AN APPLICATION TO CLINICAL ISLET TRANSPLANT RESEARCH**

Abdus Salam^{1,2}, Zhao H.², Zafar Z.², Shapiro AMJ¹, and Peter S.¹

¹ Clinical Islet Transplant Program, University of Alberta, Canada.

Email: salama@email.chop.edu

² The Children Hospital of Philadelphia Biostatistics and Data
Management Core Philadelphia, USA.

ABSTRACT

Background: In clinical islet transplant research, one of the conventional analysis for looking the association of any covariates on post transplant outcome (e.g. graft survival) mainly focuses on time to first event, or time to graft failure post last transplant, which often misses large amounts of potentially important outcome information and may produce different results than evaluation of all recurrent events occurred post each transplant.

Objective: The aim of this study is to identify the most appropriate extended Cox-based model for graft survival in islet transplantation and compare the results with the classical Cox-regression (time to first event, or time to graft failure post last transplant).

Methods: Data on 91 subjects were used from type I diabetes patients who received multiple islet transplants at the University of Alberta between March 1999 and December 2006. We examined the relationship between pre transplant panel reactive antibodies (PRA) on post transplant outcome. C-peptide levels have been measured over time for transplant effect and if the value is <0.1 considered as a graft failure. Survival duration was calculated from the date of each transplant to time of event (C-peptide value <0.1) or until next transplant. Hazard ratio were compared by using Cox-based models for recurrent event data: Anderson and Gill (AG); Prentice, Williams and Peterson, total time (PWP-TT), gap time (PWP-GT);

and Lee, Wei and Amato (LWA). Results were compared with the classical Cox-regression model.

Results: Analysis was done on 182 islet transplants that were performed in 91 patients. The majority of patients received two Islet transplant, 13(14%) received one and 13 (14%) received three islet transplants. Pre transplant PRA of >15% was highly associated with graft failure. Results obtained from Cox-based models for recurrent event {(AG: HR: 4.334; 95% CI for HR: 1.8 -10.437), (PWP-TT: HR: 4.68; 95% CI for HR: 2.03 -10.8), (PWP-GT: HR: 5.15; 95% CI for HR: 2.25 -11.7), (LWA: HR: 4.334; 95% CI for HR: 1.87 -10.03)} and using classical Cox-regression model {(Time to first event: HR: 3.92; 95% CI for HR: 0.857 -17.9), (time to graft failure post last transplant: HR: 4.931; 95% CI for HR: 1.75 -13.87)}.

Conclusion: Extended Cox-based models that take recurrent events into account are potentially important in Islet transplantation because of consistent hazard ratio and narrow confidence interval while classical methods gave wide confidence interval for hazard ratio. Results form time to first event was differed considerably from extended Cox-based models.

015:
**EPIDEMIOLOGICAL PATTERNS AND RISK FACTOR ASSESSMENT
FOR HEARING DISABILITY (DEFECT)
AMONG IRAQI CHILDREN / SCREENING STUDY**

Hamid Yahya Hussain
Faculty of Medicine, Baghdad, Iraq.
Email: hussainh569@hotmail.com

ABSTRACT

Objectives: Hearing Disability in Children should be detected as early as possible to avoid any potential developmental disorder in Language, speech and psychological disorders, risk factors assessments greatly help in this preventive approach.

Methodology: This study was carried out on Two stages, first stage included comprehensive random sample survey of about 5000 Iraqi Child below 5 years of age, the sample have adequate and representative cross section of socio economic and demographic group, hearing screening was conducted for them after complete medical examination and history by ENT specialist, special questioner was used for data collection. The audiologist evaluated hearing using free field, pure tone screening audiometry and tympanometry, Auditory Brain stem response was done as well.

Second Stage: The associations of selected risk factors with sensnueral hearing impairments were assessed in case control study of 350 child age less than 5 years 150 affected child compared with 100 controls.

Results: About 46.3% were males, 53.7% were girls, prevalence of hearing defect was found to be 14. 4% and 9.6% were at risk of hearing disability.

The study revealed that prevalence rate was significantly higher among those parents are first cousin (17.8%) or relatives (13.3%) as compared with non related 9.9%.

As for risk factor analysis: Multiple logistic regression was used which reflect significant association of sensueral hearing defects with s positive family history(Odds Ratio 11.1) confidence interval 5.1-27.7, Parental consanguinity (OR 4.1, C I 2.1-9.9) that goes with hereditary tendency ., the study showed as well other acquired causes associated with this disability.

Conclusions:

1. High prevalence of hearing impairment reflected to wide extent the hereditary factor.
2. Pre, intra and post natal risk factors play significant role in pathogenesis on hearing defects.
3. Public awareness of risk factors and its effect on speech acquisition, family counseling, anti natal care and immunization.
4. Adopting policy of screening and early detection which is achievable in hearing defects.

016:

DYNAMICS OF ECONOMIC GROWTH, CREDIT BALANCES AND BANKING DEPOSITS: A VAR APPROACH FOR THE PALESTINIAN CASE

Gaber Hussain Abugamea

College of Business & Finance, Palestine University, Gaza Strip-Palestine.

Email: gaberh9@hotmail.com

ABSTRACT

Overall bank lending to deposit ratio in the Palestinian areas in the West Bank and Gaza Strip reached about 30% by end 1990s. Major banks pursue a relatively conservative lending policy as indicated by the low share of total loans to total deposits. Such lending policies can be explained by the high level of political risks perceived by the banks, especially as they continue to operate within the lack of a clear set of commercial laws. The purpose of this study is to provide an econometric characterization of the dynamic interrelationship among real gross domestic product (RGDP), real credit balances (RCF) and real banking deposits (RD), using Palestinian data for the period 1993-2006. The focal point of interest here is whether credit balances has significant effect on economic growth. This study uses a vector autoregressive (VAR) model. Particular attention will be given to the causality and response pattern of the variable involved. Mainly, Variance decomposition analysis shows that shock in real credit facilities at most explains 24% of the forecast error of real gross domestic product. Moreover, it is shown that shocks in RD explains from 60 to 75 percents of the forecast error variance of RGDP. However, shocks in RGDP explain just 1% of the forecast error variance of RD. This result denotes unidirectional relationship between RGDP and RD. Once again a unidirectional relationship was found between RCF and RD wherein RD shocks explain till 84 % of the forecast error variance of RCF, while RCF shocks explain at most 4% of the forecast error variance of RD. The overall results suggest that real credit facilities and real banking deposits are important factors affecting economic growth. However, there are indicators that suggest a weak relationship existing between real credit facility (banking lending) and economic growth. These findings suggests that a number of polices and regulations are needed to encourage more bank lending to induce economic growth which is urgently needed for the Palestinian economy.

017:

FACTORS DRIVING BRAIN DRAIN IN PAKISTAN: AN EXPLORATORY VIEW

Tahira Afridi and Ahmad Sohail Lodhi

Institute of Education & Research, University of the Punjab, Lahore.

Email: tahiraafriidi@hotmail.com

ABSTRACT

The intellectual level of Pakistani society has been dramatically decreased due to brain drain during last few decades. The continuous drainage of intellectual capital has put negative impact on economic, social, and political health of Pakistan. Number of empirical investigations report pull factors, which are playing important role in overseas relocation of highly skilled migrants. This empirical study will investigate the factors causing brain drain in three professions; medical, engineering and information technology. Three hundred professionals are approached based on stratified random sampling and their views are collected on a self-constructed research instrument. The research scale is composed of three variables; economic, political and social, and 21 items of the scale. Finally, the paper has reported quantitative findings and developed recommendation for policy makers, which may help to control rising talent drainage from Pakistan.

018:

**ASYMPTOTIC BEHAVIOR OF SOLUTIONS OF STOCHASTIC EQUATIONS
AND APPLICATIONS IN STATISTICAL PARAMETER ESTIMATION**

Hussein Salem Kaibah

Faculty of Science, Misurata, Libya.

Email: hu_mic99@yahoo.com

ABSTRACT

In different models that appear in numerical mathematics, stochastic optimization problems, statistical parameter estimation we come to the necessity to study the behavior of solutions of stochastic equations.

Let us consider the following example.

Example: suppose that we would like to find a solution of a deterministic equation

$$f(\theta) = 0,$$

where $f(\theta)$ is some continuous function, $\theta \in \Theta \subset R^r$ and Θ is some bounded region. But according to the real scheme of calculations we measure the function $f(\theta)$ with random errors in the form:

$$r_k(\theta) = f(\theta) + \varepsilon_k, \quad 1 \leq k \leq n$$

where $\{\varepsilon_k(\theta), \theta \in \Theta\}$, $k \geq 1$ are jointly independent families of random function (fields) such that $E\varepsilon_k(\theta) = 0$.

In this case it is reasonable to approximate the function $f(\theta)$ by the averaging

$$f_n(\theta) = \frac{1}{n} \sum_{k=1}^n r_k(\theta)$$

Therefore a natural question appears: in what sense and under which condition a solution of a stochastic equation

$$f_n(\theta) = 0$$

approximates a solution of the first equation as $n \rightarrow \infty$.

019:

**STATISTICAL SEMANTIC MODELING OF PREPROCESSED SOURCE CODE
TO IDENTIFY, MEASURE AND VISUALIZE THE COMPLEXITIES
IN SOFTWARE PRODUCT LINE APPLICATIONS**

Zeeshan Ahmed

Mechanical Engineering Informatics and Virtual Product Development Division
Vienna University of Technology (TU Wien), Vienna, Austria.
Email: zeeshan.ahmed@tuwien.ac.at; zeeshan.ahmed@hotmail.com

ABSTRACT

In this article a measurement analysis based approach is discussed to help software practitioners in managing the additional level complexities and variabilities in software product line applications. To meet aforementioned research goals, the conceptual architecture of proposed approach is designed which is based on the preprocessed source code analysis, calculation of several traditional and product line metrics and visualization of obtained results in two and three dimensional diagrams. Furthermore, the proposed approach is implemented as software application and its capabilities, features and potentials are validated by means of an experiment. Moreover using experimental statistical results we presented the correlation between traditional and product line measures.

020:

STATISTICAL TRADING USING TARGET ORIENTED TRADING AGENT

Zeeshan Ahmed

Mechanical Engineering Informatics and Virtual Product Development Division
Vienna University of Technology (TU Wien), Vienna, Austria.
Email: zeeshan.ahmed@tuwien.ac.at; zeeshan.ahmed@hotmail.com

ABSTRACT

In this article we briefly present our contributions toward Trading Agent Competition (TAC); an international forum for promotion of research into the trading agent problems. Moreover, we present some strategies proposed and used in the development of our TAC Agent and resultant brief information after its participation in a real time trading environment. In the end we conclude with needed improvements and future recommendations.

021:

**PROFESSIONAL AND EXECUTIVE SKILLS REQUIRED
IN ORGANISATIONAL DEVELOPMENT**

Sadia Qasim¹ and Muhammad Qasim Rind²

¹ School of Business, Leeds University, Leeds, UK.

Email: sweety_kool@hotmail.com

² Faculty of Management Sciences, Preston University,
Islamabad, Pakistan. Email: dr_rind@yahoo.com

ABSTRACT

The main objective of writing this paper is to know the qualities and abilities of the Professional and Executive skills required for achieving organizational goals and to know, which skill is better for managing the organization efficiently and effectively. After review of literature and analysis of available information. It is concluded that P&E skills includes analyse, plan and execution of disciplines including organisational goals, teamwork and performance. It is also observed that teamwork skills is very important which involves an ability to work effectively with other team members, have trust and confidence in others team members, ability to share ideas, skills and knowledge with others members and to stimulate discussions for achieving the better ideas. It is fuel that allows employees to attain uncommon results.

022:

**FRACTAL BEHAVIOR OF A FOLD SYSTEM
IN UPPER INDUS BASIN (PAKISTAN)**

Faisal Shahzad, Syed Amer Mahmood and Richard Gloaguen

Remote Sensing Group, Institut für Geologie, TU Bergakademie Freiberg,
Bernhard-Von-Cotta Str. 2, D-09596, Freiberg, Germany.

Email: geoquaidian@gmail.com

ABSTRACT

The Upper Indus basin is a part of the Northwestern Himalayan Fold and Thrust belt in northern Pakistan and consists of the Potwar sub basin and the Kohat sub basin. This area is a potential zone for oil exploration and consists of folded structures. Remote sensing and image processing has been applied in the area as an important tool to investigate the geological structures with good exposures and low vegetation. In this paper we use statistical methods on remote sensing data to model the process of folding in upper Indus basin. We use landsat ETM+, SRTM data and previously published material to prepare a data base of length of hing lines of anticlines and synclines. We apply fractal analysis on the fold lengths and we see

fractal behavior. This analysis helps us not only to model the fold growth and development but also quantifies the distribution and complexity of the geological structures. This distribution and complexity of geological structures is because of growth, interaction and connection of anticlines and synclines and hence forms a folds network. We apply these methods on both Potwar and Kohat sub basins separately and it shows that these networks are an Iterated Function System (IFS). We also plot rose diagrams to recognize the orientation of the folds in both sub basins. We observe almost similar orientations except for some observable changes in the western part of Potwar sub basin and eastern part of Kohat sub basin. This change is probably due to the presence of Kalabagh left lateral strike slip fault. These type of analysis help us to understand the structural evolution of a folded belts and possible existence of other folds.

023:

**ON BAYESIAN ESTIMATION OF SIZE-BIASED
MODIFIED POWER SERIES DISTRIBUTIONS**

Anwar Hassan¹ and Peer Bilal Ahmad²

P.G. Department of Statistics, University of Kashmir, Srinagar, India.

Email: ¹anwar.hassan2007@gmail.com; anwar_husan2007@hotmail.com;
²peerbilal@yahoo.co.in

ABSTRACT

In this paper we derive the Bayes estimators of functions of parameters of the Size-Biased Modified Power Series Distribution (SBMPSD) under squared error loss function and weighted square error loss function. The results obtained for Size-Biased MPSD are then applied to its particular cases like Size-Biased Generalized Negative Binomial (SBGNB), Size-Biased Generalized Logarithmic Series (SBGLS), Size-Biased Borel and Size-Biased Generalized Poisson Distributions. Finally an example is presented to illustrate the results.

024:

**LOSS OF AMOUNT OF INFORMATION FROM THE RAYLEIGH DISTRIBUTION
IN CASE THE TOTAL NUMBER OF UNMEASURED OBSERVATIONS IN
THE TRUNCATED REGIONS JOINTLY KNOWN**

Ahmad Saeed Akhtar¹, Abdul Samad Hirai² and Azizullah Memon³

¹ College of Statistical & Actuarial Sciences, University of the Punjab, Lahore.

² 2-Mamdot Block, Mustafa Town, Wahdat Road, Lahore.

³ Department of Statistics, University of Sindh, Jamshoro-Hyderabad.

ABSTRACT

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025:
PAKISTAN STOCK MARKET CRASH OF MARCH 2005
AND THE ROLE OF MUTUAL FUNDS

Abdul Karim Langha
Additional District and Session Judge, Lahore.
Email: akarim50@hotmail.com

ABSTRACT

In this paper, an attempt has been made to find out the ways and means, adopted by the traders through stock exchange for manipulation of the business, resulting into heavy loss to one party and abnormal gains to the other, which may at occasions be taken as white collar crime i.e. the crime committed by the member of high class.

A highly bearish sentiment prevalent in the stock market over a very short span of time creates panic in the minds of investors. Some factors i.e. country economy, political and international change in oil prices, affecting such a crash are discussed with particular reference to Karachi Stock Exchange. The role played by the Mutual Funds floated by the Brokers of the Karachi Stock Exchange is discussed, and some remedial measures have been suggested. Majority of real investors suffered from the crash of March, 2005. The day traders who are the real driving force in a market have to quit the business, as for many days support is not available to stocks like Oil & Gas Development Corporation (OGDC) and Pakistan Telecommunication Corporation Limited (PTCL). The badla financiers immediately withdraw their funds, and KSE crumbles. The role played by the Fund Managers if analyzed indicates that they have taken away almost equal to the funds value to their own accounts.

026:
ON CERTAIN CHARACTERIZATIONS OF DISTRIBUTIONS

Masood Anwar¹ and Munir Ahmad²
¹Govt. Gordon College, Rawalpindi. Email: msdnwr@yahoo.com
²National College of Business Administration & Economics, Lahore
Email: drmunir@brain.net.pk

ABSTRACT

In this paper Negative moments of beta-binomial distribution in terms of hypergeometric series functions is obtained. Using the properties of hypergeometric series functions the recurrence relation between negative moments is developed. The relations are used to characterize beta binomial distribution.

027:
EXAMINING FACTORS INDUCING RURAL-URBAN MIGRATION IN SINDH

Mohammed Ilyas Rajput¹ and Pervez Ahmed Pathan²
¹Department of Statistics, University of Sindh, Jamshoro
Email: chair.stat@science.usindh.edu.pk; chairman_stat@yahoo.com
²SDSC, University of Sindh, Jamshoro.

ABSTRACT

Migration is harder to define and frequently poorly documented, one of the challenges towards study of migration are nature of its interdisciplinary linkages and, its historical context; it has involved contributions from economic and social historians and historical geographers as well as population specialists. Migration also has important social and cultural effects on patterns of languages religion, and literacy. In the Pakistan, migration has been a constant factor related with the development. This paper largely probes into migration of rural dwellers to urban centers in Pakistan. The paper examines various parameters such as, place of origin of migrants; population growth rates in the place of origin; public policies to curb population; unemployment; lack of health and education facilities and lawlessness. The findings are based upon the scientific methodology of randomly selecting study units. The process involves selection of statistically representative samples of respondents stratified by geographical distribution.

028:

CHARACTERIZATION OF SOME DISCRETE DISTRIBUTIONS

Kalsoom Akhtar Chaudhry¹ and Munir Ahmad²

¹Kinnaird College for Women, Lahore, Email: kalsoomkc@yahoo.com

²National College of Business Administration & Economics, Lahore,
Email: drmunir@brain.net.pk

ABSTRACT

Conway and Maxwell (1962) generalize the Poisson distribution to a two-parameter distribution, named as Conway-Maxwell Poisson distribution. Shmueli, et al (2005) explored the Conway-Maxwell Poisson distribution and discuss its utility for fitting discrete data. Ahmad (2007) generalized the Conway-Maxwell Poisson distribution to Conway-Maxwell hyper Poisson (CMHP) distribution using hypergeometric series function. In this paper, the probability generating function of class of power-series distribution is developed along with its special cases. Further, some statistical properties of one of the special case of power-series function, Conway-Maxwell hyper Poisson distribution are developed. It is observed that the mean and variance of the CMHP distribution is same. Another important property of CMHP distribution is that, CMHP distribution truncated at left and translated to the origin is itself a CMHP distribution. In past, efforts were made to characterize the discrete distributions using different properties of the distributions. We characterize some discrete distributions using property of proportions.

029:

JOB EMBEDDEDNESS AND TURNOVER INTENTION OF TEACHING FACULTY OF CHARTERED INSTITUTIONS IN LAHORE

Muhammad Shafique¹ and Munir Ahmad¹ and Rashid Rahman²

¹National College of Business Administration & Economics, Lahore.

Email: shafiqkarim@gmail.com; shafiq_karim@hotmail.com

²Department of Management Science, Gomal University, D.I. Khan.

Email: drrashid.rehman@gmail.com

ABSTRACT

In majority of studies, researchers have focused on work-related attitudes, employment alternatives, or an integrated version of work-related attitudes and alternatives to explain employee turnover. Whereas job embeddedness framework integrates work and non-work related factors that effects employee's turnover. This study has been conducted in chartered institutions of Lahore which validates multi-item and global item construct in a new context. It is found that organization embeddedness has full support from our findings but no support is available for community embeddedness. Some items of community and organization link dimensions of multi-item construct have been improved. Moreover, various group comparisons have been made for job embeddedness and leave intention of faculty.

030:

DIGITAL SIGNATURES PROCESSES AND ITS AUTHENTICATION SYSTEMS

Nadia Qasim¹, Muhammad Saleem Shaikh² and Muhammad Qasim Rind³

¹ Kings College, London, U.K. Email: nadia.qasim@kcl.ac.uk

² Electronics Department, Preston University, Islamabad.

Email: drmsaleemshaik@yahoo.com; drmsaleem@yahoo.com

³ Faculty of Management Sciences, Preston University, Islamabad

Email: dr.qasim1@gmail.com; dr_rind@yahoo.com

ABSTRACT

Digital authentication systems enable individuals and organizations to have confidence in electronic transfer of privacy related information, by providing a trust infrastructure that enables confidentiality, integrity, and non-repudiation of communications. The authentication structure must ensure that procedures are in place to control access to critical components of the system. Government must create and enforce laws to protect the public and build public confidence. The general populous should be made aware of their responsibilities in the management of their key material.

The Public-Key Infrastructure is capable of providing the biggest and most trustworthy authentication mechanism that is currently used in most of the countries. Opportunities for implementing of public key technology applications have improved the delivery of services both internally as well as externally and has improved work processes with existing business partners.

031:

CONCERNING GENERALIZATION OF DARBOUX INTEGRAL

Abdul Rauf Khan¹, Muhammad Qasim Rind² and Abdul Qayyum³

Faculty of Management Sciences, Preston University, Islamabad.

Email: ¹ kasim.rind@gmail.com

Email: ² dr.qasim1@gmail.com

Email: ³ drrind42@gmail.com

ABSTRACT

It is shown among others that if $\int f(x) P(dx)$ is a Darboux integral where P denotes probability measure defined on all right closed intervals (a, b] under δ -fine tagged partition $t_i \in I_i \subset [t_i - \delta(t_i), t_i + \delta(t_i)]$, $i = 1, 2, 3, n$; where t_i are tags, $\delta(t_i)$ is a positive function on $I \subset [a, b]$ and δ is a gauge on I. Further if $R^*[a, b]$ denotes the class of generalized Darboux integrable functions, $f: [a, b] \rightarrow R$ continuous function, $f: [a, b] \rightarrow R$ is compact $R^*[a, b]$ is uniquely determined containing Lebesgue integral as a corollary.

032:

QURANIC STUDIES: A STATISTICAL PROFILE

Muhammad Khyzer Bin Dost¹ and Munir Ahmad²

¹Hailey College of Commerce, University of the Punjab, Lahore
Email: khyzer_bin_dost@yahoo.com

²National College of Business Administration & Economics, Lahore
Email: drmunir@brain.net.pk

ABSTRACT

In a previous paper, Dost and Ahmad (2007) have discussed the probability approach in studying Quranic Suras by word-size and word-length of ayats. Many early authors have attempts to study the basic descriptive statistics of letters, words and ayats. (Al-Dargazelli, 2004).

In this paper, we have discussed the dispersion and shapes of word-size and word-length of makki and madni suras at other compositions of suras as introduced by Quran Mufassirs and Scientists.

033:

**STRATEGIC INTEGRATION AND DEVOLVEMENT OF
HUMAN RESOURCE MANAGEMENT IN PUBLIC AND
PRIVATE CHARTERED INSTITUTES OF PAKISTAN**

Muhammad Faisal Qadeer

National College of Business Administration & Economics, Lahore.
Email: mfaisalqr@hotmail.com

ABSTRACT

This research analyses the level of strategic 'integration' of human resource management (HRM) into corporate strategy and 'devolvement, of responsibility for HRM to the academic departmental heads of the chartered institutes of Pakistan. The findings are based on a questionnaire survey from 52 chartered institutes (public sector = 32; private sector = 20). The results show that 26.9% of the institutes under study practice high level of strategic integration. Where as, 38.5% of the institutes practice a high level of devolvement. A significant positive relationship between 'integration' and 'devolvement' has been found and prediction models have also been suggested. A comparison between public and private sector shows that except for age, size and regular workplace meetings the gap between the two sectors is not very significant. The research contributes to strategic HRM literature in our

context, documentation of indigenous HRM research in Pakistan and It will initiate integration-devolvement debate in our country.

034:
FALLING SPHERE VISCOMETRY

Abdul Qayyum Bhatti
Preston University, Islamabad.

ABSTRACT

In this study we consider the flow created by dropping spheres in complex geometries. In particular we present the results of an experimental investigation on the drag coefficients for sphere falling in the Boger fluid and a variety of non-Newtonian shear-thinning aqueous solutions of Polyacrylamide and Xanthan gum.

The drag was calculated for Boger fluids for different spheres to cylinder diameter ratios. Spheres with hole were also used to distinguish the drag from the solid ones of the same size. A strobe flash was used to highlight a number of dramatic changes in flow which can be brought about by fluid elasticity in the case of a sphere falling in an elastic liquid. In this way, the influence of fluid elasticity on the drag coefficient is unambiguously determined.

035:
**CONCOMITANTS OF ORDER STATISTICS FOR
BIVARIATE QUASI-GAUSSIAN DISTRIBUTION**

Saman Shahbaz¹ and Munir Ahmad²

¹Department of Mathematics, COMSATS Institute of Information
Technology, Lahore. Email: samans@ciitlahore.edu.pk

²National College of Business Administration & Economics, Lahore
Email: drmunir@brain.net.pk

ABSTRACT

In this paper we have obtained the distribution of the Concomitants of Order Statistics for Bivariate Quasi-Gaussian Distribution. Joint distribution of two concomitants has also been obtained. Single and product moments of the resulting distributions are also calculated.

036:
**ON COEFFICIENTS OF THE LAURENT SERIES OF THE ALPHA-PROBABILITY
FUNCTIONS AND ITS APPLICATION TO FATIGUE LIFE OF AIRCRAFT
STRUCTURAL ALUMINUM ALLOY**

Munir Ahmad
National College of Business Administration & Economics, Lahore
Email: drmunir@brain.net.pk

ABSTRACT

Alpha-distribution also known as Bernstein or Inverted Normal Distribution has been scarcely discussed in the literature. The distribution has been derived by Gertsbakh et al (1969), and independently developed by Vysokovskii (1966) as a result of wear analysis of broad nosed cutting tools. The distribution has been further discussed by Pandit and Sheikh (1980), Kendall and Sheikh (1979) and Ahmad and Sheikh (1981 a, b, c).

In this paper we obtain the Laurent-series expansion of Alpha probability function of a complex variable and coefficients of n th power of the variable are derived in terms of Hermite polynomials. We use the method of steepest descent to obtain moments of Alpha-distribution and used the moments to estimate the parameters. An example from the engineering design is given to illustrate the estimation procedure.

037:

**EXPECTED YEARS OF SCHOOL LIFE IN PAKISTAN:
REFLECTIONS FROM SCHOOL ENROLMENT DATA**

Ashraf K. Kiyani

Department of Sociology, Institute of Social & Cultural Studies
University of the Punjab, Lahore
Email: kayaniashraf@hotmail.com

ABSTRACT

In the present attempt, we use the life table technique to study average years of duration of school life in public sector schools in Pakistan. Public sector school data on enrolments from grade I through grade 10 are published by Ministry of Education on annual basis from 1995-96 to 2005-06. Mostly these data are in period form, that is, enrolments by grade and year.

Life table technique is primarily developed to measure expectation of life at a given age in mortality studies. The technique is also found extremely useful in measuring expected duration of most of the social events such as marriage, divorce, contraceptive use etc. In this paper, the technique is applied to school enrolment data.

038:

SIMULATION ANALYSIS OF GENERALIZED EXPONENTIAL MODELS

Muhammad Shuaib Khan¹, Muhammad Aleem² and Zafar Iqbal³

Department of Statistics, The Islamia University of Bahawalpur, Bahawalpur
Email: ¹skn_801@yahoo.com; ²drAleemiub@hotmail.com; ³zafariqbal101@hotmail.com

ABSTRACT

This article presents the simulation analysis of three parameter Generalized Exponential Models. The two-parameter generalized exponential distribution was recently introduced by Gupta and Kundu (1999). We presented the relationship of between shape parameter and other properties such as in probability function, cumulative distribution function, reliability function, hazard function, cumulative hazard function, median life, mode life and point of inflexion models are presented graphically and mathematically. Here we compare these relevant parameters such as shape, scale parameters by using Monte carol simulation.

039:

**AN UPPER TAILED TESTING PROCEDURE FOR TESTING
THE MEAN OF POSITIVELY SKEWED DISTRIBUTIONS**

Ijaz Hussain¹ and Munir Ahmad²

¹University of Klagenfurt, Department of Statistics, Klagenfurt,
Austria, Europe. Email: sweetferry786@yahoo.com

²National College of Business Administration & Economics, Lahore
Email: drmunir@brain.net.pk

ABSTRACT

A new test statistic t_3 for testing the mean of positively skewed distribution for upper tailed test is proposed. Further, the comparison of t_3 (Author's test) with Chen's t_2 (1995) t , t_1 , and t_2 and t_3 test statistics is made by using some positively skewed distributions. Critical points of Chen's t_2 (1995) and t_3 are estimated for Burr *XII*, Pareto and Log normal distributions. The comparison between the percentile points of Z , t , t_2 and t_3 are made. Type *I* errors are estimated and compared by using percentile points of Z , t , t_2 and t_3 . Powers comparison among t , t_1 , t_2 and t_3 statistics is made by using percentile points of Z , t , t_2 and t_3 estimated from some skewed distributions. It is observed by the simulation study that proposed t_3 test statistic is more powerful than t , t_1 and t_2 test statistics.

040:

**SKILL BASED MANAGEMENT PARADIGM: A COMPARATIVE STUDY
OFASKARI COMMERCIAL BANK AND BANK ALFALAH LTD**

Neelum Noureen, Shehryar Naveed and Shoaib Akhter

Department of Public Administration, Fatima Jinnah Women University, Rawalpindi.
Email: neelum.neelo@gmail.com

ABSTRACT

The present study was conducted to investigate the relationship between skill-based management and the productivity of organization. The study also looked at the level of skills and productivity in Askari Commercial Bank and Bank Alfalah Ltd. Since the deregulation of the financial sector in Pakistan, Banking Industry has grown from few local banks to the entry of MNB. The SBP regulations have improved tremendously over the last few years. In this competitive environment in Pakistan, traditional employment practices & transformation of work ethics have led to the development of new skills required for sustainability. Even though, the transition of traditional banking organizations to new organizational models involves changes. The present study Present study is co relational as well as comparative study and had a total of 50 participants out of which 20 were from Management, divided equally between Askari Commercial Bank and Bank Alfalah Limited. And 30 Participants were General Employees, divided equally between ACB & BAL. The study involved six variables, namely; Skill based management, Productivity, Team building skill, Innovation skill, Problem-solving skill, and Communication skill. In the following research all variables of skill were measured with the help of Skill assessment Questionnaire (standard Questionnaire), for measuring the productivity of organization, employee engagement

questionnaire was used. Primary and Secondary both types of sources were used for data collection. Permission was taken from the management of both banks for data collection. Rationale of the study was explained to the sample. Result of the study revealed that significant positive correlation was found between skills based management and productivity of organization. The study highlights the important of skills on an organization. It is confirmed with the help of this research that there is a positive relationship between skills and productivity of organization both directly and indirectly. Skill based management provides an opportunity to the employees to learn and grow in a competitive environment and it also provides an edge to employee success and organizational productivity.

041:

**ENTREPRENEURIAL ACHIEVEMENTS AND HIGHER EDUCATION
(A SURVEY STUDY OF SMALL BUSINESS ESTABLISHMENTS)**

Nida Rehman, Shehryar Naveed and Shoaib Akhter

Department of Public Administration, Fatima Jinnah Women University, Rawalpindi.

ABSTRACT

The present study was conducted to analyze whether the successes gained by the entrepreneur is positively related to higher education or not. Entrepreneurial Achievements signify that the achievements gained by the local entrepreneurs are dependent on Higher Education. Whereas Higher Education Signify that the Educational degree related to work of the entrepreneurs is one of the reasons of their success. Sample was selected by non-probability convenience sampling technique. Sample comprised of 50 local entrepreneurs who were taken in order to check the acceptance or rejection of the hypothesis. The entrepreneurs were taken randomly from the area of Rawalpindi and Islamabad. The entrepreneurs who are well established were taken randomly from the areas of Rawalpindi and Islamabad. The inclusion criterion in the study was to have an experience of self-business for at least five years. Questionnaire (Self made) was used in order to check the validity of our hypothesis. The reliability value of questionnaire was found to be 0.760, which signifies that the questionnaire was reliable for future researches on the same topic. So the questionnaire used was at 95% confidence level. A questionnaire based on categorical scale was prepared containing 12 items rating, Yes and No. A number of primary sources consisted of self-made questionnaire (Reliability Level 0.760) and secondary sources like articles, journals, were used. Data is entered in SPSS software and then results were to be analyzed by frequency distribution. From the interpretation of the results and discussion it has become obvious that the local entrepreneurs consider basic skills and knowledge related to their profession as fundamental key to operate their business and after regarding them most of the successful entrepreneurs also acquired the basic skill in order to run their business smoothly but they do not think that higher education is important to run business because they believe that after being educated entrepreneurs become more conscious for taking bold steps in business operations. It was also come to light that education is not only the motivation for entrepreneurs to start the business most of them were in this business because their parents, and from our research it was also concluded that although education is important to run any business but at the time of hiring entrepreneurs do prefer those people who are less educated but experienced. Results showed that there is non-significant relationship between higher education and successful enterprises.

042:

DESIGN ARTIFACTS, PRINCIPLES, GOALS, PROBLEMS, AND IMPORTANCE

Zeeshan Ahmed¹ and Sudhir Kumar Ghanti²

¹Mechanical Engineering Informatics and Virtual Product Development
Division, Vienna University of Technology (TU Wien), Vienna, Austria.
Email: zeeshan.ahmed@tuwien.ac.at; zeeshan.ahmed@hotmail.com

²Blekinge Institute of Technology, 371 79 Karlskrona, Sweden,
Email: gsukdum@gmail.com

ABSTRACT

Designing human computer interaction interface is an important and a complex task, but it could be simplified by decomposing task into subcomponents and maintaining relationships among those subcomponents. Task decomposition is a structured approach, applicable in both Software Engineering and Human Computer Interaction (HCI) fields depending on specific processes and design artifacts. Using design artifacts applications could be made for analysis and design by making the hand draw sketches to provide high level of logical design based on user requirements, usage scenarios and essential use cases. To design hand draw sketches there are some strategies to be followed i.e., planning, sequential work flow, and levels of details. In this research paper we are presenting design artifacts, goals, principles, guidelines and currently faced problems to human computer interaction design community. Moreover in the end concluded with assessed observations in a case study.

043:

**REAL CAUSES OF SICKNESS IN SMALL-SCALE INDUSTRIES:
PROBLEM AND REMEDIES (A CASE STUDY OF SUKKUR ESTATE AREA)**

**Mumtaz Ali Junejo, Muhammad Nawaz Chand
and Muhammad Abdul Majid Makki**

¹Department of Commerce, Shah Abdul Latif University,
Khairpur Mirs, Email: prof.junejomumtazali@yahoo.com

²Faculty of Arts, Shah Abdul Latif University, Khairpur Mirs.

³Department of Commerce, The Islamia University of Bahawalpur,
Bahawalpur. Email: abdul7896@yahoo.com.au

ABSTRACT

The purpose of this study is to analyze the actors and factors of sickness in Small-Scale Industries, managerial competencies and causes of emergence of entrepreneurs at Sukkur Estate Area of Sindh Province. This study examines the role of Directorate of Sindh Small Industries Corporation Sukkur for growth of small-scale industries in the region.

In this research paper, we have found the high relationship between education factors and net sales of industries. Strong evidences emerge that majority of small industrial firms are family concerns having low educational base, inadequate feasibility, lack of marketing and managerial knowledge and rigid attitude result in under utilization of capacity.

Characteristics of small business owners for the success of enterprise were analyzed in the light of McClelland model.

044:

A GENERAL FAMILY OF ESTIMATORS FOR SINGLE AND TWO-PHASE SAMPLING USING TWO AUXILIARY ATTRIBUTES

Inam-ul-Haq

National College of Business Administration & Economics, Lahore
Email: inam-ul-haq786@hotmail.com; nm_haq@yahoo.com

ABSTRACT

In this paper we have suggested some new estimators and improved version of Jhaji et al. (2006), using two auxiliary attributes. Comparisons of the estimators have been made. Empirical study has also been conducted.

045:

A CHAIN RATIO ESTIMATOR FOR FULL PARTIAL AND NO INFORMATION CASE USING TWO AUXILIARY ATTRIBUTES

Inam-ul-Haq

National College of Business Administration & Economics, Lahore
Email: inam-ul-haq786@hotmail.com; nm_haq@yahoo.com

ABSTRACT

In this paper we have suggested a new estimators and improved version of Naik and Gupta (1996) estimator, using two auxiliary attributes. Empirical study has also been conducted to compare various cases considered in this paper.

046:

A TIME-SERIES ANALYSIS OF PSO AND SHELL VOLUME INDICES AT KSE-100

Asia Catherine¹ and Kalsoom Akhtar Chaudhry²

Department of Statistics, Kinnaird College for Women, Lahore.
Email: ¹asiacathy@hotmail.com; ²kalsoomkc@yahoo.com

ABSTRACT

Bloomberg ranks the KSE-100, the benchmark Pakistani index, as the world's top-performing stock market in 2002. This year, the KSE 100 has jumped 54 percent, led by a doubling in the share price of Pakistan Telecom and Oil & Gas Development Co., the country's largest exploration company. The benchmark climbed 9.2 percent last week for its biggest weekly gain in three years. Saleem(2007) model the most prominent features of the time series of KSE such as volatility clustering, excess kurtosis, and fat-tailedness by applying the most popular techniques like Garch(1,1) and Egarch(1,1). Mamoon(2007) examines the short to medium term trends and volatility in Karachi Stock Exchange and further explore the nature of relationship between stock market activities and a set of macroeconomic variables in

1990s. We have taken the daily volume index of PSO and Shell for 13 years (1995-2007) of Karachi stock exchange. The data is based on stock exchange's opening, closing, high and low values and also the turnover of PSO and Shell. The variable of interest is the turnover of PSO, Shell and KSE-100 index respectively. The main objective of this paper is to compare the stability of PSO, Shell and KSE-100 volume index on yearly and monthly basis. And, further to foresee the trend in the two series. The specific statistical model is also suggested to make the forecasts.

047:

DISSIMILARITY BASED MINING FOR FINDING FREQUENT ITEMSETS

Abdus Salam¹, Saif-ur-Rehman² and Irshadullah

Email: ¹abduslam@hotmail.com; ²saifeyabbas@yahoo.com

ABSTRACT

The task of association rule mining is to find correlation among a set of items in a database. This is a two step process. The first step involves finding the frequent itemsets. This step has shown to be NP-Complete. The second step derives inferences from these itemsets. Most of the popular algorithms require setting up of different kinds of heuristic thresholds. These user provided thresholds are generally inadequate because a) the user may be naïve and may not set effective thresholds and b) the thresholds may not be optimally efficient. This may cause an algorithm to fail in finding the true patterns and may report spurious patterns that do not really exist.

We present a novel algorithm for finding frequent itemsets without user provided thresholds which is fundamentally different from the known algorithms. This method is based on measuring dissimilarity using Jaccard's Dissimilarity Coefficient and demonstrates that to find frequent itemsets it is not necessary to generate all candidate itemsets and also without setting support threshold. We have also shown that the Agglomerative clustering technique can successfully be applied to Boolean Databases for extracting frequent itemsets. The experimental results have proved that the same FIS can be generated by our technique as compared to other Apriori based algorithms.

048:

INCOME, DEPRESSION AND LIFE SATISFACTION

Zahid Iqbal¹ and Junaid Saghir Siddiqi²

¹ Institute of Clinical Psychology, University of Karachi, Karachi.

Email: zahidstat@yahoo.com

² Department of Statistics, University of Karachi, Karachi

ABSTRACT

Satisfaction with one's life is the ultimate goal of us all, yet it seems to remain so elusive. But what is satisfaction? Is it the same for everyone, and what steps or accomplishments need to be obtained in order to realize this stage of life? People have, and continue to search for, satisfaction with their lives. This study was conducted to determine if the variables of gender,

age, or income were related to life satisfaction among a group of 207 participants. The participants were chosen at random from a work environment, two classroom settings, faculty of a community college, and a senior adult social setting. They were asked to fill out a 7-question survey that would measure their general attitude with relation to Life Satisfaction. The survey was then graded and the scores were separated by the categories of age, gender, and income. The results suggest that we become more satisfied with our lives as we get older. This could be that as we age we come to realize that most of the important things in life are not for sale. Among these are work satisfaction, friendship, and pleasures of solitary thought, reading, and other forms of non-commercial leisure (Robert Lane, 1994).

049:

MOBILE COMMERCE AND ITS APPLICATION

Suman Chahal

Mech (IT), University School of Information Technology
Guru Gobind Singh Indraprastha University, Delhi, India.
Email: smn_chahal@yahoo.com

ABSTRACT

In this paper we define the meaning of mobile commerce, how mobile commerce is different from electronic commerce. We also discuss the characteristics of wireless vs. wired and architecture. This paper also deals with various services and product available on mobile like mobile banking, mobile ticketing and location based services. We also mention advantage and risk involved in mobile commerce and essentials of mobile commerce. Here, we also briefly discuss about benefits of mobile commerce.

050:

OPEN ARCHITECTURE ROBOTIC MANIPULATOR DESIGN PHILOSOPHY

Syed Wahab-ul-Hassan

CS&IT Department, University of Gujrat, Gujrat.
Email: wahab@uog.edu.pk; wahab_cool@yahoo.com

ABSTRACT

This paper presents a generic and universal architecture design for robotic manipulators. A flexible approach is taken to develop the design philosophy throughout, resulting in a hardware architecture that is portable, can be integrated and enables the implementation of advanced control methods. The application of many such controls has, traditionally, often been severely restricted in partial commercial robotic systems because of limitations associated with their controllers; rather than the arms themselves.

Beginning with an in-depth and independent study of robot controller technology and architecture, made in the context of the recent advances in the computer technology and intelligent methods in control, the concept of an open architecture controller and the various attempts to implement it both commercially and experimentally are examined.

The architectural presented has three layers, each of which can be decomposed into further functional sub-modules. The high level reference model for controlling intelligent sensor based manipulators. The Architecture can essentially be considered to operate in two main states: design time and runtime. In the design stage the library modules are configured for a particular manipulator and application. In the runtime stage, the architecture is considered operational and performing defined control methods.

Subsequently the best generic features of such architectures are identified and incorporated into the design philosophy. Suitable controller hardware implementation architecture is then suggested and constructed.

051:

**CIRCULAR BINARY BLOCK SECOND AND HIGHER ORDER
NEIGHBOR DESIGNS**

Munir Akhtar¹ and Rashid Ahmed²

¹ COMSATS Institute of Information Technology, Lahore.

Email: drmunirakhtar@ciitlahore.edu.pk

² Department of Statistics, The Islamia University of Bahawalpur,
Bahawalpur. Email: rashid701@hotmail.com

ABSTRACT

Some new neighbor balanced designs are presented here. Second order neighbor balanced designs for different configurations are generated in circular binary blocks. Third order neighbor balanced designs for some cases are also constructed. In all cases circular blocks are well separated and these designs are obtained through initial block/s. At the end of this study some new fourth order neighbor balanced designs and all order neighbor balanced designs are presented.

052:

ENERGY DEMAND IN PAKISTAN: AN ECONOMETRICS ANALYSIS

Mehmood Khan Kakar¹, Mahpara Sadqat² and Ikramullah³

Applied Economics Research Centre, University of Karachi, Karachi.

Email: ¹mehka1@yahoo.com; ²mahparasadaqat@yahoo.com; ³jahanzebian@gmail.com

ABSTRACT

Using a national database of end-user local energy data and the recently developed Autoregressive Distributed Lag (ARDL) bounds testing approach to cointegration, we estimate the long-run elasticities of the Pakistan energy demand function at both aggregated level and by type of energy (electricity, Gas and oil) for the period 1971 to 2005. Our main results show that energy consumption responds positively to changes in GDP and negatively to changes in energy price and air temperature. We do not find any significant cross-price elasticities between different fuel types.

053:
**THE BINARY MODEL WITH RESPONSE VARIABLES
SUBJECT TO RANDOMIZED RESPONSE**

Velo Suthar and Habshah bt. Midi

Laboratory of Computational Statistics and Applied, Institute for Mathematical Research,
University Putra Malaysia, Serdang, Selangor, Malaysia.
Email: vsutahar@yahoo.co.uk

ABSTRACT

The maximum likelihood estimation of the parameter vector β in the logistic regression model, where some of the covariates are subject to randomized response is discussed. Randomized response (RR) is an interview technique that can be used when sensitive questions have to be asked and respondents are reluctant to answer directly. RR variables are described as misclassified categorical variables where conditional misclassification probabilities are known. The likelihood of the univariate logistic regression model with RR covariates is derived to obtain maximum likelihood estimates. The univariate model is revisited and is presented as a generalized linear model. Standard software can be easily adjusted to take into account the RR design. The approach is illustrated by analyzing RR data taken from a sample study in regulatory non-compliance regarding unemployment benefit.

054:
**A STUDY AS THE CAREER AND DOMESTIC RESPONSIBILITIES
OF WORKING WOMEN**

Muhammad Azhar Sheikh¹ and Jamal Abdul Nasir²

¹ Department of Commerce, The Islamia University of Bahawalpur.
Email: sheikhazhar2005@yahoo.com

² Department of Statistics, The Islamia University of Bahawalpur.
Email: njamal76@hotmail.com

ABSTRACT

Career and domestic responsibilities are collectively known as dual responsibilities. These dual responsibilities play a key role in measuring the professional productivity under the scope of human development paradigm. In this study, an attempt is made to explore the professional productivity of women involved in income generating activities. By using the standard statistical strategies, husband sharing of responsibility, hours for rest and supporting family members are found to be most influential factors of professional productivity.

055:
A STUDY OF RESIDENTS OF AN ORPHANAGE HOME

Haleema Azhar and Saleha Naghmi Habibullah

Statistics Department, Kinnaird College for Women, Lahore
Email: salehahabibullah@hotmail.com

ABSTRACT

This paper presents a statistical study of experiences of the children who are residing in Dar-ul-Shafkat, Chowk Yateem Khana, Lahore. The main objectives of the study were to analyze the causes that lead children to orphanage home, the extent to which they are satisfied and happy with the facilities which are being provided to them, and to explore the areas in which there is some room for further improvement. It was interesting to find that although, by and large, children are satisfied with the facilities provided to them, approximately half of the residents wants to go back to there homes. Not only does this finding generate a number of recommendations for the administration for Dar-ul-Shafkat but also provides food for thought for the society at large.

056:

**A STUDY OF THE PROBLEMS FACED BY PHYSICALLY
HANDICAPPED CHILDREN IN OUR SOCIETY**

Amina Zahoor and Munaza Zafar Bajwa

Statistics Department, Kinnaird College for Women, Lahore

Email: munazabajwa@hotmail.com

ABSTRACT

Disability is a social problem for whole of the world and especially in developing countries like Pakistan. The physically handicapped children are not considered very seriously disabled. The hindrance of movement is equally as pinching as is somebody being unable to watch or listen. The same lack of confidence / emotional disorder is produced with physically disabled children. This paper investigates the problems faced by the physically handicapped children in our society. The research has been conducted on the basis of data that has been collected from Alkhawarzmi Center, the only governmental institute for the physically handicapped children in Lahore, Pakistan. The analysis of the collected data throws light on the potential role of the government and the society at large in the progress of physically handicapped children.

057:

A STUDY OF THE EFFECTS OF INTERNET USAGE ON TEENAGERS

Hina Rana and Itrat Batool Naqvi

Statistics Department, Kinnaird College for Women, Lahore

ABSTRACT

This paper elucidates the effects of internet usage on teenagers. In particular, we explore whether or not home internet usage influences the academic performance, the impact of internet on the personality of a teenager, and the influence of internet usage on the relationships with family and others. The analysis of the collected data indicates that there is a noticeable impact of internet on college-going girls.

058:

**A STUDY ON FOREIGN TOURISTS' PERCEPTION REGARDING
FACILITIES AND BEHAVIOUR OF LOCAL POPULATION**

Asenath Naeem and Farah Anjum

Statistics Department, Kinnaird College for Women, Lahore

ABSTRACT

The focus of this study is on foreign tourists' perception regarding the facilities and behavior of the local population. An interview schedule comprising of eighteen questions was used as a tool for data - collection. The foreign tourists who were interviewed belonged to different cultural backgrounds and had different perceptions regarding the facilities and behavior of the locals. Analysis of the collected data reveals that most of the foreign tourists are not satisfied with the facilities in Pakistan but are highly satisfied with the behavior of the locals.

059:

A STUDY ON LIFE IN WOMEN WELFARE CENTER

Bushra Mukhtar and Farah Anjum

Statistics Department, Kinnaird College for Women, Lahore

ABSTRACT

A women welfare center is defined as a place committed to the betterment and uplift of women in society, to provide them with good health, comfort and happiness. Dar-ul-Aman is one of the well – known women welfare centers of Lahore. They provide shelter, food, medical and many other facilities to women. In this paper, we present an analysis of data collected from the residents of this center regarding the facilities that are provided to them in order to assist them in developing some skills by which they are able to earn in the future. In addition, we investigate (a) the causes that lead women to welfare centers, (b) whether or not they are in contact with their families, and (c) whether or not they are desirous of going back home.

060:

**A STUDY ON HARASSMENT FACED BY FEMALE
STUDENTS AT THEIR CO-EDUCATION INSTITUTE**

Aisha Ehtisham and Kalsoom Akhtar Chaudhry

Department of Statistics, Kinnaird College for Women, Lahore.

Email: kalsoomkc@yahoo.com

ABSTRACT

A recent study by Huda (2003) on harassment faced by females indicates that professional women including lawyers, teachers, doctors, staff of private companies, government officials, bankers, journalists and NGO workers within the age - bracket of 20-60 years complain about harassment by male colleagues in the form of teasing, sexually explicit jokes, bad behavior, unwanted touching and insinuated comments. Although the state constitution guarantees

equal protection and equal access to the law, it does not seem to guarantee security to the vulnerable and powerless. This paper presents a similar study that has been carried out in a renowned university of Lahore. The objectives of our study were to ascertain the problems faced by female students due to the behavior of their college fellows / teachers towards them, to determine the extent to which they were aware about harassment and about the policies that are in place to overcome harassment. Data was collected from female students of Bachelors, Masters or M.Phil/Ph.D. who were single, committed, engaged or married, and whose ages ranged from 16-30. Analysis of the collected data has led to some recommendations for the general public and the government, and particularly for the university authorities.

061:

**A STATISTICAL STUDY ON THE CELLULAR
MOBILE INDUSTRY OF PAKISTAN**

Mehreen Ashraf¹ and Waqas Samiullah Mahmood²

¹ Statistics Department, Kinnaird College for Women, Lahore

² College of Statistical & Actuarial Sciences, University of the Punjab, Lahore

ABSTRACT

Telecommunications services play a vital role in the growth of an economy because they promote efficiency and growth across a wide range of user industries in any country. In addition to improving the performance in response to the growing demand, firms may innovate more in order to compete with others. This paper evaluates and studies customer preferences regarding cellular service as well as the factors (such as price, services being offered, quality, reliability, advertising, etc.) that motivate consumers to switch their service providers. Moreover, an attempt has been made to find out how the sales of mobile connections have been affected by converting from APMS (Analogue Mobile Phone System to GSM (Global Mobile System). Further, we explore whether there exists a relationship between the price and the usage of a cellular mobile service, usage preferences of males and females, the factors that play an important role in enhancing customer awareness and attitudes towards a particular brand.

062:

REVIEW OF APPLICATIONS OF INTELLIGENT METHODS IN PHYSICS

**Adeel Akram¹, Rana Usman Ali¹, Muhayyuddin Gillani¹,
Khalil Ahmed¹, M. Saleem Khan² and Wajahat M. Qazi²**

¹ School of Computer Sciences, National College of Business
Administration & Economics, Lahore

² Physics Department, GC University, Lahore, Pakistan
Email: wmqazi@yahoo.com

ABSTRACT

Intelligent methods, especially with reference to machine learning have gained significant importance in theoretical, experimental and computational physics. These intelligent methods include artificial neural networks, bayesian networks, fuzzy logic, hidden markov models and

evolutionary algorithms. These methods have played an important role in mining implicit models from data where theories or analytical solution may not exist in physics. Significant applications of these methods exist in the analysis of neutron noise data, modeling of nuclear ground state masses, pattern recognition of particle tracks, chaotic time series prediction and etc. This paper intends to describe and review important application of these intelligent methods in physics.

063:

A CONCEPTUAL FRAMEWORK FOR WOMAN POVERTY ALLEVIATION USING DECISION SUPPORT STRATEGIES

Tooba Batool and Khalil Ahmed

School of Computer Sciences, National College of Business
Administration & Economics, Lahore, Lahore
Email: tooba_b@hotmail.com

ABSTRACT

It is a universally recognized phenomenon that sustainable patterns of socioeconomic development cannot be attained without mainstreaming women as equal contributors for the development process. Therefore it is essential to increase the female empowerment by their training, awareness and utilizing the recourses of rural area for economic stability.

This paper presents a conceptual framework for developing practicable business patterns to facilitate all phases of local woman's decision-making process for sustainable income generating activity. It provides complete support and awareness so that the talents and skills of female sector can be brought into practice through various partnerships and e-technologies.

064:

GENERATION OF EMOTIONS IN NEURAL NETWORKS BASED ON EXPERIENCE

Atifa Athar and Khalil Ahmed

National College of Business Administration & Economics, Lahore, Lahore
Email: atifaathar@yahoo.com

ABSTRACT

Human mind has a complex structure and an emotion can be considered as a unit of it. The human brain has the capability to respond to the real time situation while continually reviewing the past emotional experience. By the implementation of this ability of mind, this paper presents a conceptual model of neural networks to cater the process of emotion regeneration by simulating the brain processing phenomenon for the same, in transitory and evolving patterns based on experience.

065:

EXPONENTIATED RAYLEIGH DISTRIBUTION

Bilquees Qamar and Ayesha Roohi

Statistics Department, Lahore College for Women University, Lahore.
Email: ayesha_roohi_2004@yahoo.co.uk

ABSTRACT

In 1995, Mudholkar et al. introduced the Exponentiated Weibull distribution as the generalization of standard Weibull distribution. In this paper we introduce the Exponentiated Rayleigh distribution as the generalization of standard Rayleigh distribution. The Exponentiated Rayleigh distribution is a unimodal positively skewed distribution. We have derived some mathematical properties of this distribution. The characteristic function, mean-deviation about mean and median and hazard rate function have been obtained. An expression for the n th order moment about the origin (where $n > -2$) has been derived for both integer and non-integer values of the shape parameter. Even order moments have been expressed in the form of digamma function. Formulas to calculate variance, measures of skewness and kurtosis are given. We have also dealt with the problem of estimation using the method of maximum likelihood. Graphical illustrations of probability density function and hazard rate function, for different values of the shape parameter keeping the scale parameter constant are given. We also observe that simple transformations of Exponentiated Rayleigh random variable lead to the Exponentiated Exponential, Exponentiated Weibull, Exponentiated Gamma and Exponentiated Fréchet distribution.

066:

A NEW CONCEPTUAL MODEL OF MACHINE TRANSLATION

Muhammad Anwar Saeed and Khalil Ahmed

School of Computer Sciences, National College of Business
Administration & Economics, Lahore, Lahore
Email: m_a_saeed@yahoo.com

ABSTRACT

With the advancement and implementation of technology in every field throughout the world, machine translation has become an essential requirement, especially for online information exchange. Computer programs are available for multi-lingual translation of technical manuals, scientific documents, commercial prospectuses, administrative memoranda, and medical reports but it still needs improvement. In this paper a conceptual model for automatic machine translation environment is proposed for an evolving multi-lingual translation mechanism.

067:

STATISTICAL BEHAVIOR OF EARTHQUAKE OCCURRENCE IN HINDUKUSH-PAMIR-KARAKORUM REGION

Syed Amer Mahmood, Faisal Shahzad and Richard Gloaguen

Remote Sensing Group, Institut für Geologie, TU Bergakademie Freiberg,
Bernhard-Von-Cotta Str. 2, D-09596, Freiberg, Germany.
Email: amerpakistan@gmail.com

ABSTRACT

The seismic characteristic of Hindukush–Pamir and its vicinity is very peculiar and has experienced many widely distributed large earthquakes. Seismicity of Hindokush region is driven by the subduction and relative northward movements of Arabian and Indo-Pak plate under Eurasia. Beneath the Hindu Kush of northeastern Afghanistan and the Pamirs of adjacent Tajikistan, numerous mantle earthquakes occur within a steeply dipping, northeast-trending, tabular zone that is 700 km long and extends nearly to 300 km depth. The study zone (27N to 37N and 66 E to 84E) includes the Hindukush, Pamir, and Karakorum regions, which lie to the north of the northern apex of the Indian subcontinent. From a seismic point of view, this region is one of the most active in the world. In this region lies the junction of several mountain ranges such as the Himalayas, Karakorum, Pamirs, Hindukush, and Kunlun. This region experiences a large number of shallow and intermediate-depth earthquakes. A few weak known faults are reported to be seismically active, and the seismicity is attributed to the Herat fault ((north of Kabul), the Chaman fault to the south, and the mountain ranges in the Pamir knot. Owing to lack of high-quality instrumental data, it is difficult to develop an earthquake generation model for this region. In this study we prepare the earthquake catalogue compiled from various sources i.e. United States geological survey (USGS), Harvard Moment tensor solution (HMT), International Seismological Center UK (ISC) and some local resouces. We prepare the seismicity map of the region using this earthquake catalogue. This map shows a NE-SW orientation of the seismicity. In order to understand the seismological parameters in detail, we prepare the bar graphs and seismicity maps for Magnitude, depth and time. These maps suggest that the area is active in the magnitude range of 3.5 to 5.5 mb and depth 100 to 300 Km beneath Hindukush and 120 to 200 Km beneath Pamir. The cumulative number of earthquakes shows sudden increase in the seismicity of the events particularly after the devastating earthquake of October 08, 2005. This event has shifted the stress to the other nearby seismic zones. The effect of the seismicity can be studied in detail by mapping the lineaments in this region. We use previously published geological maps and LANDSAT digital images to extract lineaments and faults to make a seismotectonic map of the region. These earthquake events show correlation with the mapped lineaments. We apply fractal analysis on the earthquake events and it shows that the seismicity behavior is associated with subsurface asperities and barriers. These barriers release seismic energy with the activation of subsurface geological structures.

068:

**BOOTSTRAP CONFIDENCE INTERVAL FOR PARAMETER ‘P’
OF TRUNCATED NEGATIVE BINOMIAL DISTRIBUTION**

Muhammad Ibrahim Shamsi¹ and Ghulam Hussain²

¹ Department of Humanities & Science, NUCES-FAST,
Karachi Campus, Email: ibrahim.shamsi@nu.edu.pk

² Department of Statistics, University of Karachi
Email: ghussain1212004@yahoo.com

ABSTRACT

In formula based inferential statistics, many problems deal with the estimation of unknown parameters. This paper considers interval estimation. Two bootstrap confidence intervals for the parameter ‘p’ of an unknown population are discussed. They are obtained by the residual

bootstrap and the two-stage wild bootstrap method. The results are illustrated with an example in which the investigated variable has the Truncated Negative Binomial distribution. We do not have to know the population distribution for determining the bootstrap confidence intervals for the parameters. This is the great advantage of bootstrap methods. The authors have developed a computer program that computes confidence limits using the procedure in this paper.

069:

A REVIEW ON GRID COMPUTING ARCHITECTURE:

Muhammad Qasim Sadiq¹ and Abdus Salam²

Department of Computer Science, City University of Science and Technology
Email: ¹ms_research@yahoo.com; ²abduslam@hotmail.com

ABSTRACT

Grid computing is a critical shift in thinking about how to maximize the value of computing resources. It has emerged as an important new field, distinguished from conventional distributed computing by its focus on large-scale resource sharing, innovative applications, and, in some cases, high-performance orientation. In this paper, we review a number of approaches and alternatives that will help research communities in understanding well on Grid Architecture, in which protocols, services, application programming interfaces, and software development kits are categorized according to their roles in enabling resource sharing, so that one can know Grid Computing Architecture in detail. We also discuss the services in Grid Architecture namely Open Grid Services Architecture (OGSA). We also highlight future of grid computing in Pakistan at the end of the paper.

070:

A CLASS OF REGRESSION-CUM-RATIO ESTIMATORS FOR TWO-PHASE SAMPLING USING MULTI-AUXILIARY VARIABLES

Zahoor Ahmed¹, Muhammad Hanif² and Munir Ahmad³

¹University of Gujrat, Gujrat. Email: zahoor_ahmed_stat@yahoo.com

²Lahore University of Management Sciences (LUMS), Lahore.
Email: hanif@lums.edu.pk

³National College of Business Administration & Economics,
Lahore. Email: drmunir@brain.net.pk

ABSTRACT

Mohanty (1967) has suggested two regression-cum-ratio estimators by combining the regression and ratio techniques for estimating population mean of variable of interest for two-phase sampling using two auxiliary variables for partial information and no information case. In this paper we suggest three classes of regression-cum-ratio estimators for estimating population mean of variable of interest for two-phase sampling using multi-auxiliary variables for full information, partial information and no information case. The expressions for mean square errors are derived and special cases of suggested classes are also identified.

071:

WTO POLICIES AND ITS IMPACT ON TEXTILE INDUSTRY OF PAKISTAN

Hafsa Riaz

National Textile University, Faisalabad.

Email: hrntu@hotmail.com

ABSTRACT

The World Trade Organization (WTO) is the successor to the General Agreement on Tariffs and Trade (GATT) established in 1948. Founded in 1995, though WTO is one of the youngest of the international organizations, the multilateral trading system that was originally set up under GATT is already 50 years old. Pakistan was one of the founding members of WTO. WTO has considerable impact on different sectors of country. As far as industrial sector is concerned, textile sector is very important in terms of production, employment and foreign exchange. Textile account for two third of the total export (2005/2006). Share of textiles in GDP as compared to its competitors are more. Since 1995, the ATC (agreement on textile and clothing) was taken over by MFA (Multiple fiber arrangement). MFA was also expired in 31 December 2004. It imposes quotas on different categories of textile and clothing import to the European Union. On January 1, 2005, WTO (Global free trade regime) was commenced.

After WTO Pakistan has been unable to benefit from the quota abolition due to its high costs, low labor productivity, and inefficient production processes. Major cost drivers are power, raw material and wages. Pakistan textile industry is losing its competitiveness in international market. This sector faces stronger competition in major market. Pakistan's current image is "low quality, non-consistent and unreliable supplier". Pakistan could not meet lead time demand for textile & fashion products. The textile exports have shown a decline of 5 percent up till now in the ongoing fiscal year. The first six months (July 2007-December 2007), the total textile exports have been recorded worth \$5.228 billion as compared with the corresponding period last year when textile exports were \$5.489 billion.

The objective of this paper is to assess the likely impact of liberalization, causes of decline of export by using fishbone diagrams, Pareto charts, forecast the future trade patterns by using different statistical tools like graphs, tables charts, recent technological and managerial developments in the sector. The paper also emphasizes on social accountability and labor safeguards which is the requirement of WTO. The paper also taken into account the growth of competitor's country like China, India etc. by using different statistical applications. The conclusion from this study suggests that textile manufacturers of Pakistan should seriously consider the opportunities and challenges of WTO, for economic growth of country and some recommendations are given.

072:

AUGMENTED BOX-BEHNKEN THIRD ORDER RESPONSE SURFACE DESIGNS

Hafiz Muhammad Arshad¹ and Munir Akhtar²

¹ Department of Statistics, The Islamia University of Bahawalpur.

Email: hmarshadphd@yahoo.com

² Department of Mathematics, COMSATS Institute of Information
Technology Lahore. Email: drmunirakhtar@ciitlahore.edu.pk

ABSTRACT

Box-Behnken Designs are very popular with the experimenters, wishing to estimate a second order model. It is due to their three levels, simplicity and high efficiency. However, in case of serious lack of fit in the analysis it becomes necessary to augment these designs up to third order. We have augmented the Box-Behnken Designs and developed catalogues for three to twelve factors. These designs can be used to estimate the parameters of a third order response surface model.

073:

ON FUZZY BOUNDED LINEAR OPERATORS

Miss Umber Zaki

National College of Business Administration & Economics, Lahore

Email: umberzaki@yahoo.com

ABSTRACT

The study of spaces of all bounded linear operators from one normed linear space to another normed linear space is a topic of interest and importance for mathematicians working on operators, transforms and functionals. The collection of well defined and distinct objects, called set, has been a basic tool for defining spaces like metric spaces and normed spaces. After the evolution of idea of fuzzy sets these spaces are to be studied in context of fuzzy settings. The classical spaces are now named as crisp spaces and their fuzzy counterparts are being studied taking into consideration the fuzziness of data collected from physical world problems. Fuzzy metric structure is being implemented from two different perspectives of fuzziness. One includes the collection of fuzzy objects and a metric structure on them and the other includes a set and a fuzzy structure that generalizes and fuzzifies the characteristic of a metric on the set. Similarly the normed spaces can be studied in two ways. In this paper definition of fuzzy norm on a linear space has been considered and some properties of bounded linear operators defined on fuzzy normed linear spaces have been studied. Basic aim of the paper is to grasp the idea of fuzzy bounded linear operators and to study some of the properties which seem helpful in development of fuzzy functional analysis.

074:

ON A CLASS OF POWERED NON-CENTRAL WEIBULL RANDOM VARIABLES

Abdur-Razaq and Ahmed Zogo Memom

National College of Business Administration & Economics, Lahore

Email: razaqfb18@yahoo.com

ABSTRACT

Memom and Razaq (2007) develop a powered function of non-central Weibull random variable that produces a symmetrical distribution for practical purposes. The powered function generates a large class of symmetrical distributions based on Weibull shape and non-

centrality parameters. This paper evaluates the coefficient of kurtosis of these distributions. It is discovered that each member of this class of distributions has a platykurtic behaviour. In addition, the test of hypothesis about non-central Weibull distributions is considered.

075:

**DISTRIBUTION OF THE NUMBER OF RECTANGLES
ARISING IN BINOMIAL TRIALS**

Zafar Iqbal and Ahmed Zogo Memom

National College of Business Administration & Economics, Lahore

Email: zafariqbal75@hotmail.com

ABSTRACT

The paper finds factorial moments of the number of rectangles that arise when independent binomial trials occur simultaneously at n^2 adjacent locations appearing in rows and columns. It is assumed that each trial results in some event e with the same probability. For $n = 3, 4$ we determine the exact distributions. We also find the asymptotic distribution of the number of rectangles.

076:

**A NOTE ON DAVID & JOHNSON METHOD FOR FINDING
MOMENTS OF ORDER STATISTICS**

Hafiz M. Salman and Ahmed Zogo Memom

National College of Business Administration & Economics, Lahore

ABSTRACT

F.N. David and N.L. Johnson (1954) provide a method of finding moments of order statistics when the sample size is not small. Little information is available about its precision, application or usefulness. This paper investigates the performance of their method for first, second and third quantiles based on rectangular, exponential and Weibull distributions. It is discovered that an increase in sample size improves the moments by David & Johnson method, but some values of a distribution's parameter may not favour the application of this method.

077:

**EMPLOYING SNA BASED MULTIDIMENSIONAL ANALYSIS FOR SOLVING
COMPLEX PROBLEMS IN SOCIAL SYSTEMS**

Suleman Aziz Lodhi¹ and Munir Ahmad²

¹Department of Management Sciences, The University of Lahore,
Lahore. Email: sulemanlodhi@yahoo.com

²National College of Business Administration & Economics,
Lahore. Email: drmunir@brain.net.pk

ABSTRACT

The environment in which individuals, groups and organizations interact has become increasingly complex; similarly interaction within these entities has also become too complex for monolithic analysis.

As the connectivity of entities has enhanced the environment containing these social systems has become larger and complex to understand. The performance pressure on the sub-systems that support the supra structure of present economic, social and political structures is escalating and as the sub-systems loses effectiveness and start to show symptoms of failure, the supra-system that it support loses stability and crashes. The paper proposes that system analysts faced with such challenges will have to look beyond the formal structures and procedural activity taking place in the supra-system and analyze the forces active behind the social interaction of its sub-systems. Analysis of such social system based on network statistics of groups and their interaction may provide the necessary clues for solving complex problems in social systems.

078:
**ON BAYESIAN ANALYSIS OF THE RAYLEIGH SURVIVAL
TIME ASSUMING THE RANDOM CENSOR TIME**

Muhammad Saleem and Muhammad Aslam
Department of Statistics, Quaid-i-Azam University, Islamabad
Email: selim.stat.qau@gmail.com

ABSTRACT

The Rayleigh distributed survival time with a Rayleigh distributed censor time is considered to derive the Maximum Likelihood and the Bayes estimators for the unknown parameters and their corresponding variances. The Uniform and the Square Root Inverted Gamma priors are assumed to find the Bayes estimators under the squared error loss function. The posterior predictive distribution of the future observation, the predictive intervals, the credible intervals and the highest posterior intervals are derived and evaluated. The Inverse transform method of simulation is used to generate data so that the performance of the derived point and interval estimators can be described in terms of numbers.

079:
**GEOSTATISTICAL ANALYSIS OF SEISMIC DATA
FOR DEPTH, ISOCHRONES AND ISOCHORS**

Muhammad Kashif Shahzad Baig¹ and Raja Qaiser Shahzad²
¹Exploration Department, Pakistan Oil Field Limited, Morgah,
Rawalpindi, Pakistan.
²Department of Electrical Engineering, Concordia University,
Montreal Canada. Email: chichali@gmail.com

ABSTRACT

We apply geostatistical methods in the Mari area, Sindh, Pakistan. The Mari Block is the part of southern Indus basin which is on the western margin of the Indo-Pakistan subcontinent. This area is traversed by various normal faults. The main structures in this area are Mari-

Khandkot high, Jacobabad Khairpur high and Pannu-Aqil Graben. This area has significant exploration history. The main reservoirs for this area are Sui-Main, Habib Rahi and Pirkoh Limestones. This example includes time-to-depth conversion, Isochron and Isochore estimation. The correct velocity model is an important tool in time-to-depth conversion, which is often difficult to obtain. The model developed from velocity analysis could be problematic due to the large number of variables that influence the velocities and/or structural complexity. The error may result in miss positioning of future wells or in miscalculation of potential reserves. We use well depth and two-way travel times to Sui Main Limestone and a cokriging depth structure map is generated. The estimated Sui Main Limestone depth in the area varies from 1320 m. to 1405 m. Cross validation test is used to evaluate the result and shows a very small absolute error in the range of less than 10m. In a similar fashion we calculated the Isochron and Isochore maps for the Sui Main Limestone in Mari area is obtained and cross-validation is computed. We notice a general trend of decreasing travel times and obviously in depth from the Northwest to the southeast. We apply geostatistical estimation algorithms with the assumption that our data is stationary over the area.

080:

**LEAST HALF SQUARES (LHS) AN ALTERNATIVE
TO LEAST MEDIAN SQUARES (LMS)**

Muhammad Raza Shah¹ and Fazli Qadir²

¹Govt. College Peshawar, Peshawar Email: razzashah@yahoo.com

²Department of Statistics, University of Peshawar, Peshawar.

Email: qadir_mf@yahoo.com

ABSTRACT

Least square estimates behave badly when the assumptions are violated or and if there are outliers in the data. Robust regression techniques are used to cope with the problem. Least Median Squares (LMS) is one of the important techniques of robust regression. Bootstrapping technique is used to obtain the estimates of LMS. In this article Least Half Squares (LHS) technique is introduced as an alternative to LMS. A real data and a simulated data are used for illustration.

081:

**EVALUATION OF SHORTEST PATH ALGORITHMS USING
ROAD NETWORKS OF PAKISTAN**

Farrukh Shehzad¹ and Muhammad Akbar Ali Shah²

¹School of Business Administration, National College of Business
Administration and Economics, Lahore, Email: farrukh_goshi@hotmail.com

²Department of Statistics, The Islamia University of Bahawalpur,
Email: akbar_alishah@yahoo.com

ABSTRACT

Optimization is a key factor in almost all topics of Operations Research, Management Sciences and Economics. The road networks can be optimized in terms of time, distance and traffic running on the roads. This study is based on optimization of real road networks by

means of distances. Two main objectives are pursued in this research: 1) road distances among different routes are composed in detail; 2) two standard algorithms (Dijkstra algorithm and Floyd-Warshall algorithm) are applied to optimize these distances for both single-source and all-pairs problems.

082:

**MODELING AND FORECASTING GROSS DOMESTIC
PRODUCT DEFLATOR FOR PAKISTAN**

Ghulam Mustafa¹, Iram Yasmin¹, Muhammad Yaseen and Sami Ullah

¹GC University, Faisalabad, Email: gmustafa_208@yahoo.com

²University of Agriculture, Faisalabad

³University College of Agriculture, University of Sargodha, Sargodha.

ABSTRACT

Gross Domestic Product Deflator (GDPD) is an important indicator of the economic status of a country. In this study the objective was to model and forecast the GDPD for Pakistan by using the ARIMA methodology and found that the ARIMA(1, 0, 0) model explained the behavior of GDPD for Pakistan appropriately. Then the selected model was used to forecast the GDPD for Pakistan if the same conditions prevail.

083:

**ROLE OF SMS / MOBILE MARKETING AND ITS GAINSAYS –
A NEW HORIZON FOR MICRO MARKETING.**

Muhammad Mazhar Manzoor

Department of Business Administration, Federal Urdu University of Arts Sciences and
Technology, Gulshan-e-Iqbal Campus, Karachi-75300
Email: mmazher@gmail.com

ABSTRACT

In general, there are four level of marketing segment such as mass marketing, segment marketing, niche and micro marketing. SMS marketing may equally fall by characteristics in niche and micro marketing but ideally it suited to the term micro marketing. As the mobile phone is becoming the ultimate personal communication device for users, SMS / Mobile Marketing can provide the opportunity for truly one to one interaction and relationship building with customers and the innovative use of SMS marketing can deliver real benefits to these companies. According to a survey conducted by a mobile marketing provider, approximately 89% of major brands are planning to market their products through text and multimedia mobile messaging by 2008. One-third is planning to spend about 10% of marketing budgets through mobile marketing. Also, in about 5 years over half of brands are expected to spend between 5% and 25% of their total marketing budget on their mobile marketing. Already, 40% of the firms that responded have implemented this feature for their audiences. Proponents say that if you're marketing entertainment or want to reach young people, SMS is the only way to stand out from the crowd.

“The opportunity is that if big companies want to reach out to people in new ways -- because they are afraid that they're not watching TV or not paying attention -- they are going to where young people are. And they're all talking on their cell phones,” said P Raghu Kumar, CEO at Hyderabad based JP Systems India Ltd, a mobile business enabling player.

In this paper I will try to pay focus on customer behavior specifically either right messaging criteria helping them out in selection of relevant good or services or annoying them i.e. ‘Prompt Customer response’. This paper based on survey, conducted to most audience of today’s mobile users such as youth and businesses. Meanwhile further scope of this paper is to analyze those surveys, if possible establish proper correlation among different variables such as mode, taste and reaction upon receiving such SMS and Mobile marketing. Furthermore I will try to highlight some legal and ethical issues of mobile marketing as well.

084:

**DETERMINATION OF STOCHASTIC vs DETERMINISTIC TREND
IN QUARTERLY GDP OF PAKISTAN**

Zahid Asghar and Zahid Khan

¹Deptt. of Statistics, Quaid-i-Azam University, Islamabad. Email: g.zahid@gmail.com

²Mansehra University, Mansehra.

ABSTRACT

Many economic and financial time series show evidence of trending behavior or non stationarity in the mean. An important econometric goal is determining the most proper form of the trend in the data. For example in ARMA modeling the data must be transformed to stationary form prior to analysis. If the data are trending, then some form of the trend removal is required. First differencing and time trend regression are used for removing trend component from the series. These transformations depend on whether the series is trend stationary or difference stationary. In this paper, study is conducted to declare the nature of trend component in quarterly GDP of Pakistan whether it is trend stationary or difference stationary. It is necessary to know, because trend stationary and difference stationary models imply very different short run and long run dynamics. We have explored the type of trend in GDP series by ADF unit root test and also support our arguments by empirical distribution instead of asymptotical ones i.e., bootstrapping test. The purpose of the paper is not only to investigate the type of trend in the series by conventional methods but also to motivate small distribution theory like bootstrapping techniques that can helps ones in selection of advocate model for observed series.

085:

STUDY OF INFLATION IN PAKISTAN USING STATISTICAL APPROACH

Arfa Maqsood¹ and S.M. Aqil Burney²

¹Department of Statistics, University of Karachi, Karachi.

Email: arfa_ku@yahoo.com

²Department of Computer Science, University of Karachi,
Karachi. Email: burney@computer.org

ABSTRACT

Trends and patterns of inflation, measured through consumer price index number (CPI), wholesale price index number (WPI), sensitive price index number (SPI), and GDP deflator. Several methods have been used to estimate the true rate of inflation such as Regression models, ARMA, ARIMA, and VAR.

Statistical approach is recent widely used technique of viewing index number in which uncertainty and statistical ideas play a central role. This approach provides not only the estimate of underlying rate of inflation, but it also provides the standard error for the indexes.

This paper presents the statistical approach to index number theory to measure the inflation rate in Pakistan. We will use the statistical models based on consumer price index number computed by the Laspeyre formula and try to find out the suitable model in order to estimate the rate of inflation.

086:

IMPACT OF FOREIGN DIRECT INVESTMENT IN PAKISTAN

Bushra Shamshad

Department of Statistics, University of Karachi, Karachi
Email: bushraahmed11@yahoo.com

ABSTRACT

Investment is capital formation or creation of resources to be used in production. Investment can be physical capital building and can be intangible and non profit human acquisition. Like investment undertaken by the government in development of land and improvement in natural resources. Investment is an asset or property right held for the primary purpose of conserving the wealth or earning as income. Holding this right in any other country by the non resident of that country is termed as Foreign Direct investment. The purpose of this paper is to explain the factors that plunged the economy of Pakistan in past years. Our aim is to show a clear view of Foreign Direct investment in Pakistan,- as it is the major influential factor in any economy-, by using Principal Component Analysis, in which scree plot shows a clear picture about the behavior of FDI in last years. It is a general overview of where had we been standing and where are we now and perhaps what will happen in near future.

087:

**SEASONAL ADJUSTMENT OF FINANCIAL TIME SERIES
USING THE X-12-ARIMA PROCEDURE**

Riaz Riazuddin and S.M. Husnain Bokhari

Statistics & DWH Department, State Bank of Pakistan, Karachi.
Email: husnain.bokhari@sbp.org.pk

ABSTRACT

State Bank of Pakistan has started to disseminate the seasonally adjusted financial time series data. The series chosen for seasonal adjustment are monthly series for currency in circulation,

demand deposits, advances, monetary aggregates (M1, M2), and call rates. The analysis is carried out using X-12-ARIMA seasonal adjustment program. The purpose of this working paper is to present and document the applied adjustment procedures. The paper is structured as a detailed guide to theoretical considerations and to the practical implementation.

The models and the seasonally adjusted data will be subject to annual/semi-annual revisions in accordance with the data revision policy as defined by Statistics & DWH department.

088:

**STOCK MARKET DAILY RETURNS VOLATILITY:
A CASE STUDY OF PAKISTAN (1993-2007)**

Khalid Sarwar Qureshi and Saghir Pervaiz Ghauri

Statistics & DWH Department, State Bank of Pakistan, Karachi.

Email: Khalid.Sarwar@sbp.org.pk

ABSTRACT

This paper investigates daily stock returns volatility of the Karachi Stock Exchange (KSE). Using 100 indices for the period 1993-2007, the close to close market standard deviation of returns, alternative estimators incorporating the daily high and low of the index, and a robust estimator was applied to measure the volatility of stock index returns. The normality assumption was also tested on the daily returns data and strongly rejected. We fit to the data four alternative specification namely; The Logistic Distribution, The Scaled-t Distribution, The Exponential Power Distribution and Mixture of Two Normal Distribution.

There is a strong evidence of persistence in variance in returns implying that shocks to volatility continue for a long period. We concluded that normality may be plausible assumption for monthly stock returns but not for daily returns.

089:

**FINANCIAL SECTOR REFORMS AND SOUNDNESS
OF NBFCs OPERATING IN PAKISTAN**

Azam Ali

Statistics & DW Department, State Bank of Pakistan, Karachi

Email: Azam.Ali@sbp.org.pk

ABSTRACT

The financial system of a country has crucial role to play in the mobilization of savings and their allocation to the most productive uses. Asian countries' financial crises shook whole the world and attentions diverted to build up such barometers to know the signs of crisis in advance. For sake of financial system, like India and Sri Lanka, Pakistan also implemented financial sector reforms.

NBFCs play a pivotal role in mobilizing savings, by accepting deposits and providing financing to a variety of sectors of the economy. They are essential to a country's financial system. Questions have been raised from time to time on the viability of the NBFCs.

Concerns have also been expressed about the deterioration in the quality of services provided by the NBFCs. The overall business environment has become quite challenging for NBFCs. Inter-industry competition with commercial banks, has increased following monetary tightening by the State Bank of Pakistan. It is high time for NBFCs to innovate considerably to maintain the size of their assets and to keep liability products to low cost financial resources. It is with a view to finding consequences of solutions to the NBFCs' problems that financial sector reforms initiated, the study is aimed to assess the implications of reforms on NBFCs performance. Performance of an NBFC depends on its soundness. To dig out the roots, we motivated to analyze the soundness of NBFCs operating in Pakistan from 1990 to 2006. The study attempts to answer the question; does financial sector reforms have any impact on the soundness of NBFCs?

090:

**A STUDY ON THE EFFECTS OF USING CELL PHONES
ON THE STUDIES OF STUDENTS**

Sonia Anjum and Nikhat Khan
Kinnaird College for Women, Lahore.

ABSTRACT

This paper presents a statistical study regarding the influence of using of cell phones on the studies of students. The focus group of this study was youth and the data was collected from the four top most institutions of Lahore i.e. Kinnaird College, Forman Christian College, Lahore College for Women University and the Government College University. Analysis of the collected data has generated some important findings. The paper ends with a number of recommendations for (a) the governmental authorities (regarding the implementation of laws/rules for colleges / universities), (b) the authorities of the colleges / universities, (c) the producers of cell – phone handsets, (d) the cell - phone connection companies, and (e) the parents of the young generation studying in colleges and universities.

091:

**INFLATION AND INFLATION UNCERTAINTY IN PAKISTAN:
EVIDENCE FROM GARCH MODELING**

Ikramullah, Waliullah and Mehmood Khan Kakar

¹ Applied Economics Research Centre, University of Karachi.
Karachi. Email: jahanzebian@gmail.com

² Economics Department, University of Malakand, NWFP.
Email: wali76@yahoo.com

³ Applied Economics Research Centre, University of Karachi.
Email: mehka1@yahoo.com

ABSTRACT

Inflation has been volatile during last years particularly after the Musharaf's era. The purpose of this study is to investigate the pattern of inflation volatility during the period 1970-2007 on monthly basis. Various models of conditional heteroskedasticity are used to empirically determine the evidence of asymmetry in inflation captured by quadratic GARCH

specification model. The study also compares the persistence of shocks into volatility before and after Musharaf's era where most changes came in monetary policy.

092:

INTERPRETATION AND APPLICATION OF LATENT CLASS ANALYSIS

Junaid Saghir Siddiqi and Bushra Shamshad

Department of Statistics, University of Karachi, Karachi

Email: bushraahmed11@yahoo.com

ABSTRACT

Latent Class Analysis is used to define variables – which can not be observed directly and which accounts for an association among observed items (manifest variables). If observed, in the presence of latent variables, association between the group of manifest variables vanishes. That is, the observed items within a class are independent of one another. Basically, Latent variables explain why the observed items are related to one another. In this paper, we will apply this technique on real data. Furthermore, detailed interpretation will be provided.

093:

A STUDY ON THE LIFE OF A DIABETIC TEENAGER

Samia Tanveer and Asifa Arif

Department of Statistics, Kinnaird College for Women, Lahore

ABSTRACT

In this paper, we present a study aimed at investigating the life of a diabetic teenager --- the extent to which it is similar to the life of a normal teenager, the manner in which young persons suffering from diabetes are managing this problem, the extent to which they refrain from unhealthy food, the exercises that they prefer, the difficulties that they experience in dealing with diabetes, the factors (e.g. studies) that are really getting affected due to diabetes, the areas where they feel that they need help from others / the extent to which they are independent and can take care of themselves. The overall objective of this research is to determine whether our teenagers suffering from this ongoing disease are competent enough to face the difficulties with courage and attain whatever they want to achieve in life. In addition, the study seeks to ascertain whether or not inheritance is the main cause of diabetes.

094:

A STUDY ON PARENT – DAUGHTER RELATIONSHIP

Khadija Tariq Cheema and Asifa Arif

Department of Statistics, Kinnaird College for Women, Lahore

ABSTRACT

In this paper, we present a study aimed at investigating the nature of the relationship that exists between parents and daughters --- how daughters are treated by their parents, and how much importance do the daughters give to their parents in their life. The data has been

collected from one of the top – most women’s colleges in Lahore. Analysis of the collected data has led to some important and interesting results.

095:
NEGATIVE MOMENTS OF ERLANG MIXTURE

Tassaddaq Hussain Kiani
National College of Business Administration & Economics, Lahore
Email: taskho2000@yahoo.com

ABSTRACT

In this paper, we obtain the negative moments and negative factorial moments of Erlang mixture and develop some recurrence relation between these negative moments. To do so, we consider the Erlang-Binomial, Erlang-Negativebinomial, and Erlang-Poisson mixtures. We get the expression in terms of hypergeometric function for negative moments and negative factorial moments of the above mentioned mixture by using moment generating and probability generating function technique.

096:
A NEW LIFE EXPECTANCY IN PAKISTAN

Jamal Abdul Nasir¹, Munir Akhtar² and Sana Nasir¹
¹Department of Statistics, The Islamia University of Bahawalpur.
Email: njamal76@hotmail.com
²Department of Mathematics, COMSATS Institute of Information
Technology, Lahore. Email: drmunirakhtar@ciitlahore.edu.pk

ABSTRACT

Modern social Indicator for society development has been used for a long time since 1966. The Literate life expectancy (LLE) is one of the modern social indicators which were introduced by Lutz (1995). The Literate life expectancy is aggregate average number of years that a person lived in a literate state. In this study we constructed The Literate life expectancy index for Pakistan. The obtained results show difference in the Literate life expectancy between men and women in Pakistan. Three different methods construction when Age-specific death rates are known were used for the construction of LLE. Finally, this index could be used to calculate future social development by adopting different mortality and educational scenarios.

097:
**MEASURING AND MODELING THE FERTILITY
PROFILE OF ARRIAN IN PAKISTAN**

Jamal Abdul Nasir¹ and Muhammad Riaz²
Department of Statistics, The Islamia University of Bahawalpur
Email: ¹njamal76@hotmail.com
²muhammad_riaz_riaz@yahoo.com

ABSTRACT

Usually the fertility profile termed as the collection of several indicators of general attitudes and possible future course of fertility. The present study was conducted keeping this view in mind, thereby to know about fertility profile among Arian women residing in Southern Punjab. The data for present study was collected by interviewing ever-married Arian women aged 15-49 years from a sample of 510 Households. An attempt was made to explore the gap between ideal and actual fertility experience of these women. The gender preference was also investigated among these women. Statistical modeling on the three distribution of fertility namely, Distribution of Age-Specific-Fertility Rates, Distribution of forward Cumulative Age-Specific-Fertility-Rates and Distribution of backward Cumulative Age-Specific-Fertility-Rate was carried out. Finally, to check the validity of these models, the cross validity prediction power (CVPP) technique had been applied.

098:

AN ASSESSMENT ABOUT QUALITY OF DEMOGRAPHIC DATA IN PAKISTAN

Jamal Abdul Nasir and Syed Sadaqat Hussain Shah

Department of Statistics, The Islamia University of Bahawalpur.

Email: njamal76@hotmail.com

ABSTRACT

The quality of census single year age data in Pakistan is considered in this study. The collection of age data depends on both interviewers and the respondents. Hence error can come from both the sides. An attempt has been made to examine the biasness in age reporting in the census over the years starting from 1972 to 1998. This biasness is assessed among the categories of total population, male and female population, urban and rural population, urban male and female, rural male and female. In this study Whipple's Index, Mayer's Index, Age ratio score are used for the analysis. The analysis has revealed that the quality of age data as judged by above indicators has much bettered during 1998 census as compared to 1981 and 1972. But the digit preference has remained more or less same in all censuses.

099:

ADULT ATTITUDES TOWARDS DOMESTIC VIOLENCE

Jamal Abdul Nasir¹, Muhammad Yousuf Aziz² and Taskeen Fatima

Department of Statistics, The Islamia University of Bahawalpur.

Email: ¹njamal76@hotmail.com

²yousufaziz_iub@yahoo.com

ABSTRACT

Violence against women is a public health concern for any country. Domestic violence is a kind of violence, which is an epidemic that is sweeping the nation. In the literature the main respondents in the studies on the attitudes towards domestic violence are either females or their counterparts. In this study an attempt has been made to explore statistically the attitudes towards domestic violence while considering unmarried adults as the key respondent. A total of 500 adults (≥ 15 years) were interviewed. Slapping, hitting or grabbing was most often

reported (34.2 %). Finally stepwise logistic regression analysis was used to find the significant predictor of domestic violence.

100:

**A STUDY ON JOB SATISFACTION OF WOMEN INVOLVED
IN PATIENT CARE PROFESSION**

Jamal Abdul Nasir and Nazra Ambreen

Department of Statistics, The Islamia University of Bahawalpur.

Email: njamal76@hotmail.com

ABSTRACT

The job related quality of service is an addition to the modern society and necessary for the efficient management. Quality of service of nursing in Govt hospitals is related to the job Satisfaction level. In this study we not only try to measure statistically the overall job satisfaction of nurses in Punjab but also explore the society perception towards patient care profession. The analysis shows a different job satisfaction level between the trainee and working nurses. However the analysis further shows that the nurses of the morning shifts have significant job satisfaction than the nurses of afternoon and night shifts.

101:

**BAYESIAN ANALYSIS OF THE TWO COMPONENT MIXTURE OF THE
EXPONENTIAL DISTRIBUTION ASSUMING THE UNINFORMATIVE AND
INFORMATIVE PRIORS UNDER THE CENSORED SAMPLING SCHEME**

Mirza Naveed Shahzad¹, Muhammad Aslam² and Muhammad Saleem²

¹Department of Statistics, University of Gujrat, Gujrat.

Email: naveedshahzad4@hotmail.com

²Department of Statistics, Quaid-i-Azam University Islamabad.

Email: aslamsdqu@yahoo.com

ABSTRACT

Exponential distribution, because of its memory-less property, is used for the life-testing of the products that do not age with time. In this paper, Bayesian analysis is made of the two component mixture of the Exponential distribution assuming the uninformative and informative priors. The motivation is to explore the most appropriate prior for the mixture of Exponential, including uninformative and informative priors. A numerical study is carried out by using a mixture data that is simulated and the censored sampling is assumed to be employed. A comparison is made of the capacity of the said priors. The elicitation of the hyper-parameters is made by the help of the trend of predictive interval for the future observation in terms of more favorable combinations of the hyper-parameters and by the expert's suggestions. A comparison is also presented of the Bayes estimates and Classical estimates by their variances.

102:

**BUSINESS PERFORMANCE IMPROVEMENT USING SIX SIGMA & LEAN
(A STATISTICAL APPROACH USING DMAIC / DMADV METHODOLOGIES)**

S. Nadeem Ahmed

Six Sigma MBB, PIA Engineering & Maintenance, JIAP, Karachi.
Email: nadeem.ahmed@piac.aero

ABSTRACT

In today's competitive business environment, only constant improvement will keep your organization ahead of the pack. Lean manufacturing and Six Sigma have yielded unprecedented benefits to those who have embraced it. The synergy of these two leading methodologies Lean Six Sigma is an incredibly powerful business improvement tool. Lean Six Sigma will improve your manufacturing operations in efficiency, cost effectiveness and quality.

Moving forward, companies cannot afford to falter due to inefficiencies in business operations. Multi-national companies are quick to realize this and are implementing Six Sigma in their processes. Both manufacturing and non-manufacturing companies are increasingly looking to deploy Six Sigma to improve on their bottom line. Successful implementation in Six Sigma has shown reduction operational costs and has created effective working relationships by using one common language, tools and processes. The dollar amount spent on Six Sigma is an investment that would reap benefits in due time!.

103:

PROCESS CAPABILITY INDICES A SIMULATION BASED STUDY

Suboohi Safdar

Department of Statistics, University of Karachi, Karachi.
Email: suboohisafdar@yahoo.com

ABSTRACT

A process is a set of inputs which may include materials, people, information, action, methods and operations into desired outputs in the form of the products, services or generally results. The out put of the process is that which is transformed to somewhere or to some one-the customer. To monitoring and controlling the input results necessary to get better outputs. Control charts could be used effectively to identify assignable causes creating out of control results. Designing better results ideal but an important question needs to be assumed for "Is our process capable to produce desired results?" process parameters estimate could be used to determine the process capability. Process capability refers to the control behavior of a process when operating in a state of statistical control. The process capability allows us to quantify how well a process can be produce acceptable product. In this paper we intend to simulate data from non normal distribution, construct the control charts and estimate the process parameters to determine the process capability

104:

**SOME NEW METHODS TO REDUCE THE NUMBER OF
BLOCKS REQUIRED FOR NEIGHBOR DESIGNS**

Rashid Ahmed¹ and Munir Akhtar²

- ¹ Department of Statistics, The Islamia University of Bahawalpur.
Email: rashid701@hotmail.com
- ² Department of Mathematics, COMSATS Institute of Information
Technology, Lahore, Email: munir_stat@yahoo.com

ABSTRACT

Neighbor balanced designs satisfy fairly restrictive combinatorial constraints; therefore, mostly such designs require large number of blocks. Partially neighbor balanced designs and generalized neighbor designs were suggested to avoid a large number of blocks. But in this study, some new methods are proposed to overcome this problem. The reduction in number of blocks is made by using some extra treatment/s which will not be included on analysis stage. Plan for saving experimental units by using one extra treatment and two extra treatments is also presented for $v \leq 50$.

**105:
ON CONSTRUCTION OF NEIGHBOR AND
GENERALIZED NEIGHBOR DESIGNS**

Rashid Ahmed¹ and Munir Akhtar²

- ¹ Department of Statistics, The Islamia University of Bahawalpur.
Email: rashid701@hotmail.com
- ² Department of Mathematics, COMSATS Institute of Information
Technology, Lahore, Email: munir_stat@yahoo.com

ABSTRACT

A method is proposed to generate first order neighbor designs for $v=2k+1$. Binary block neighbor designs for $15 \leq v \leq 25$ for different k are also presented. A new series of GN_2 -designs are constructed in v circular blocks for $v=2t+1$, $k=t+1+i$ where $t > i+1$ and $0 \leq i \leq v-2$. Another series of GN_2 -designs is constructed in $v-1$ blocks for $v=2t$, $k=t+1+i$ where $t > i+2$ & $0 \leq i \leq v-2$. Catalogues of the binary block GN_2 -designs constructed for some of the above cases are also presented.

**106:
ECONOMICAL NEARLY BALANCED NEIGHBOR DESIGN**

Fariha Yasmin¹ and Munir Akhtar²

- ¹ Department of Statistics, The Islamia University of Bahawalpur.
- ² Department of Mathematics, COMSATS Institute of Information
Technology, Lahore. Email: munir_stat@yahoo.com

ABSTRACT

Nearly balanced neighbor designs have their own importance to neutralize the neighbor effects when resources are limited, therefore, these designs are constructed with (a) $\lambda' = 0, 1$, (b) $\lambda' = 1, 2$ and (c) $\lambda' = 0, 1, 2$. A method to construct nearly balanced neighbor designs for $v=2m$ and $k=m-1$ with $\lambda' = 0, 1, 2$ is proposed. A catalogue of the designs generated through

the proposed method is also presented. The designs in which at least 70 % pairs of treatments appear as first order neighbors either once or twice are considered in this study.

107:
GINI'S MEAN DIFFERENCE BASED TIME VARYING EWMA CHARTS

Muhammad Riaz¹ and Saddam Akbar Abbasi²

Department of Statistics, Quaid-e-Azam University Islamabad
Email: ¹riaz76qau@yahoo.com; ²saddamabbasi@yahoo.com

ABSTRACT

The Exponentially Weighted Moving Average (EWMA) control charts are particularly designed to address smaller shifts in process parameters. The design structures of EWMA charts are by-default insensitive to the presence of outliers in the initially selected samples because of using all the past and current information. This is a very serious drawback of EWMA charts in general, and if some sample statistic, on which a particular EWMA designed structure is based, is sensitive to outliers it adds more to the seriousness of the aforementioned drawback of EWMA charts because it would cause stretching of the control limits so making detection of outliers difficult. We can overcome the added seriousness using the outlier resistant statistic in the design structure of EWMA charts for monitoring process scale and location parameters (Riaz and Abbasi (2007) & Khoo (2004) used this approach). The use of time varying control limits also helps in quick detection of outliers by further contracting the asymptotic control limits.

In this study the concept of time varying control limits with reference to EWMA charts is briefly introduced and a proposal of time varying control limits is given for the asymptotic control charts proposed by Riaz and Abbasi (2007) based on Gini's mean difference, which is a robust estimate of process standard deviation. A comparison of the proposed limits is made with those of Riaz and Abbasi (2007) asymptotic charts and different time varying EWMA control structures based on sample range R , sample standard deviation S and Downton's estimator σ^* . Time varying control limits have been computed for all the five methods by drawing samples from contaminated and un-contaminated normal distributions for different sample sizes. Simulations are carried out using MINITAB (version. 11). The results show that the proposed schemes for variability and location EWMA charts are better than asymptotic control charts proposed by Riaz and Abbasi (2007), and the well known R and S based time varying EWMA design structures. Also the proposed schemes are equally efficient to the time varying EWMA control charts based on Downton's estimator proposed by Riaz and Abbasi (2007), for scale and location parameters in terms of resistance against outliers while reasonably maintaining the Type-I error rates.

108:
GENERALIZATION OF RATIO ESTIMATOR FOR MULTI- PHASE SAMPLING

Muhammad Moeen¹ and Muhammad Hanif²

¹National College of Business Administration and Economics,
Lahore. Email: fdae4@yahoo.com

²Lahore University of Management Sciences (LUMS), Lahore.
Email: hanif@lums.edu.pk

ABSTRACT

In this article Ratio type estimators for two, three four and five phase sampling have been suggested and their Mean square errors have been derived. A generalized form estimator and its mean square error has also been suggested.

109:

**QUALITY MANAGEMENT OF BUSINESS
ORIENTED INFORMATION TECHNOLOGY**

Mazhar Tajammal Hashmi

Blekinge Institute of Technology, 371 79 Karlskrona, Sweden.
Email: mazharthashmi@gmail.com

ABSTRACT

The development of large scale software projects is a complex venture, frequently facing problems like cost and schedule overruns as well as low quality. In order to manage the software project, it is beneficial to analyze all the components in every stage of development and to identify and trace the deviations from the target. The goal of this research was to analyze failure problem and to come up with the suggestions and recommendations which can be helpful for software practitioners and users with effective and efficient management of software products. To meet the goals of research we present and general discuss Information Technology, Business, their relationships and the impact of both on each other. Moreover we also present the contributions of Product Lifecycle Management (PLM), Total Quality Management (TQM), and Project management in cost reduction, time saving and product quality improvement.

110:

**DEVELOPMENT AND PREDICTION OF THE FINANCIAL
INDICATORS OF INSURANCE COMPANIES**

Bohdan Linda¹ and Jana Kubanová²

University of Pardubice, Faculty of Economics and Administration, Czech Republic
Email: ¹bohdan.Linda@upce.cz; ²jana.kubanova@upce.cz

ABSTRACT

The paper is focused on evaluation of the financial indicators of insurance companies in the Czech Republic, respectively on prediction of the development of selected financial indicators determining financial health of observed insurance companies. The first tasks of the analysis are estimates of the parameters of selected models. When exact methods were used some problems emerged because not all assumptions of used models were granted. The alternative solution can provide bootstrap method. We demonstrate two different ways of application of bootstrap methods in the autoregressive models.

111:
OPTIMAL CAPITAL STRUCTURE

S. Ehtesham-ul Hasan and Saadat Ali Hashmi
HIMS City Campus, Hamdard University, Karachi
Email: saadathashmi1110@hotmail.com

ABSTRACT

The long term funds acquired by a firm in a confirmation of debt and equity is called its capital structure. Optimal capital structure is that combination of debt and equity which accrues lowest cost of capital, thus the firm may be able to maximize its Earning per share (EPS) and Return on Equity (ROE). However, no formula exist for optimal capital structure.

It is usually thought that the more leverage (use of more debt) is better for high EPS and high ROE. The reason being the saving in tax. However, in our opinion, Debt may be better than equity in some cases, may be worse in other cases, and sometimes all financing choices may be equally worthwhile.

In this paper, we will discuss the tax advantage of borrowing risk of financial distress for a given capital structure, Dividend policy, and cost of issuing securities under alternative financing plans that must be considered in determining an optimal capital structure for a firm.

112:
ISLAMIC BANKING – AN ALTERNATIVE TO CONVENTIONAL BANKING

S. Ehtesham-ul Hasan and Habib-ur-Rehman
HIMS City Campus, Hamdard University
Karachi

ABSTRACT

Islamic Banking has now become an alternative banking system in place of conventional interest-based banking system. The first Islamic Bank was established in Dubai in 1970 named as Dubai Islamic Bank. Now Islamic Banks are operating and growing in many countries such as UAE, Bahrain, Malaysia, Sudan, Saudi Arabia, Pakistan, UK and North America. The successful operation growth of Islamic Bank over the last three decades indicates that the share of conventional banking system will be contracting while share of Islamic Banks will be increasing in the total banking system.

Keeping in view this trend I have chosen this topic to give a brief account of why and what Islamic Banking is? What are the implications of interest, Definition of money in Islam, Characteristics of Islamic Banks, Main objectives of Islamic Banks, Islamic Banks and Depositors relationship, Islamic Banks and traditional banks comparison. Islamic Banks' organizational structure, Islamic Financial Structure, Accounting Issues, challenges for Islamic Banks, and Future of Islamic Banks, Criticism on Islamic banking.

The successful operation and growth of Islamic Banking System can reduce the injustices to needy segments of society caused by the interest based banking system.

113:

A BRIEF SURVEY OF TEMPORAL DATABASES WITH ILLUSTRATIONS

S.M. Aqil Burney¹ and Nadeem Mahmood²

Department of Computer Science, University of Karachi, Karachi.

Email: ¹burney@computer.org; ²nadeemdcsku@yahoo.com

ABSTRACT

Time is the one of the most difficult aspect to handle in real world applications such as database systems. Relational database management systems proposed by Codd (1970) offer very little built-in query language support for temporal data management. The model itself incorporates neither the concept of time nor any theory of temporal semantics. Relational database without a temporal dimension, record single state of real world phenomena usually called as snapshot database. Many temporal extensions of the relational model have been proposed some of them are also implemented. This paper offers a brief introduction to temporal database research.

The relational model is based on the mathematical notion of a relation. Codd and others have extended the notion to apply to database design. Thus they were able to take advantage of the power of mathematical abstraction and the expressiveness of mathematical notation to develop a simple but powerful structure for databases.

The relational data model only support functionality to access a single state (most recent one) of the real world, called as snapshot, and to transition from one database state to another (updates) thereby giving up the old state. There exist, however, many application domains which need to have access not only to the most recent state, but also to past and even future states, and the notion of data consistency must be extended to cover all of these database states.

Many applications in the real world requires management of time varying data such as financial applications, inventory systems, insurance applications, reservation systems, medical information management systems and decision support systems. Efforts to incorporate the temporal domain into database management system have been ongoing for more than a decade and dozens of temporal models have been proposed.

In the first section we will discuss the important notions of time. It includes the concept of time point or time interval. It is also important to discuss the difference between FNF relations and NFNF relations. Time is used to distinguish between past, present or future states. The recording of time allows the identification when facts are true in the modelled reality (valid time) or when facts are current in the database (transaction time). Another important concept is time stamping, which can be done with either tuples or attributes in relations.

Second section presents a survey of temporal database models and proposed extensions to the relational algebra, with a classification of the different approaches presented in the literature. Third section provides a complete illustration of a mini world problem (employee database).

114:
**LOSSLESS PROGRESSIVE CODING FOR GRAYSCALE
IMAGES USING JBIG STANDARD**

Ahmed M. Abushaala

Faculty of Information Technology, 7th October University, Misurata-Libya.
Email: am_rata@yahoo.co.uk

ABSTRACT

A lossless method for compression of static grayscale Images using progressive coding is presented. It based on standard (Joint Bi-level Image Experts Group). Traditional lossless methods use techniques based on the elimination or reduction of the existent redundancy in the data (pixels), mainly applying methods based on statistical models (e.g. Shannon coding, Huffman coding, ...).

The JBIG defines a compression method for bi-level images (images consisting of a single bit-plane). However, the input grayscale image is divided into bit-planes. Each of them divides into D resolution layers.

In this work, four sub-blocks of the JBIG standard namely: Model Template, Typical Prediction, Adaptive Arithmetic Encoder and Resolution Reduction implemented to encode each bit-plane of a grayscale image. The Adaptive Binary Arithmetic Coding (ABAC) technique maps an input data string into a real number x between "0" and "1". It permits the compression of binary sequences where the statistics changes on a bit-to-bit basis. A model unit is used together with the Adaptive Arithmetic Encoder. The 10th and 12th order of Markov model with template of three lines will use for each pixel that is being encoded to compute an integer value (context). In addition, the JBIG standard uses a Typical Prediction algorithm to speed the implementation.

The progressive mode is used, that means, the differential layers for each bit-plane is encoded progressively from the highest up to the lowest resolution. From the experimental results, we can assert that the method of a progressive coding based on JBIG standard obtains a high compression ratio.

115:
THE ROBUSTNESS OF MIXED RENEWAL MODELS TO MISSPECIFICATIONS

Najeeb Haider

Head of the department of Statistics, Govt. Post-graduate College Dera Ghazi Khan
Email: haiderdr@yahoo.co.uk

Statistical modeling seeks to represent the systematic relationship of interest in data and to characterize the random, unexplained variations. The robustness of models to misspecification is an important issue in social science empirical research because we rarely have sound *a priori* justification for assuming any particular form for either the systematic or random relationship of interest. Mixed renewal models with different parametric and nonparametric specifications of unobserved heterogeneity have been used extensively for analysis of duration data. Mixed Models for longitudinal analysis are known to be sensitive to

the precise specification adopted for mixing distribution. This paper provides new evidence that this sensitivity can be due to misspecification of other features of the model. This evidence is based on a range of mixed renewal models fitted to data on multiple spells of unemployment.

116:
**ROBUSTNESS OF SUBSET RESPONSE SURFACE
DESIGNS TO MISSING OBSERVATIONS**

Tanvir Ahmad and Steven G. Gilmour
School of Mathematical Sciences, Queen Mary University of London, London E1 4NS, U.K.
Email: t.ahmad@qmul.ac.uk

ABSTRACT

Experiments designed to investigate the effect of a large number of factors on a process have wide application in modern scientific research. A series of experimental trials guides the researcher in modeling the effect of the input variables on the response of the process.

Missing observations can make the results of a designed experiment quite misleading. The problem becomes more serious specially in case of one-off experiments or high cost experiments. Designs robust to missing observations can attract the user since they are comparatively more reliable. Three level Subset designs, constructed by Gilmour (2006), are studied for their robustness to missing observations in different experimental regions. The robustness of subset designs is also studied for multiple levels by using minimax loss criterion.

117:
**FERTILITY DECLINE IN BANGLADESH: THE TREND AND
ROLE OF PROXIMATE DETERMINANTS**

Sabina Islam¹ and Mossamet Kamrun Nesa²
Department of Statistics, Shahjalal University of Science & Technology, Sylhet, Bangladesh
Email: ¹drsabinaus@yahoo.com; ²bappu_1912@yahoo.co.in

ABSTRACT

During the period 1975 to 1994, an incredible decline in fertility has been observed in Bangladesh. The total fertility rate (TFR) declined from 6.3 to 3.4 during this period. Since then the TFR has been stalled in a range of 3.3 to 3.0 from 1996 to 2004. This paper attempts to present the contribution of each major proximate determinants viz. marriage, contraception, postpartum infecundability and induced abortion on fertility using the nationwide data of Bangladesh Demographic and Health Survey, 2004. One of the major objectives is to depict the trend of each proximate determinants and hence to find fertility trend.

It is observed from the study that fertility rate has been fallen rapidly mainly in response to rising age at first marriage and increasing users of contraception. The results of the study show a significant decline in the index of marriage (13.6%) and contraception (19.3%) during

the period 1993 to 2004 indicating huge impact on fertility decline. The lower value of index has the higher inhibiting effect and the higher value has the lower inhibiting effect. So the analysis of fertility–inhibiting effects on fertility clearly indicates that practice of contraception and age at marriage were playing the key role in fertility decline in Bangladesh. These findings provide the basis for formulating some policy implications for further decline in TFR in Bangladesh.

118:
**LEVELS AND DETERMINANTS OF CHILD UNDER
NUTRITION IN BANGLADESH**

Sumonkanti Das¹ and M. Z. Hossain²

Department of Statistics, Shahjalal University of Science & Technology, Bangladesh
Email: ¹sumon_148@yahoo.com; ²mzhossain_bds@yahoo.com

ABSTRACT

The study explores the predictors of child undernutrition according to weight-for-age index by utilizing the data of nationwide Bangladesh Demographic and Health Survey 2004. The study considered all the variables that were identified by UNICEF modified conceptual framework. Multiple logistic regression models have been employed to identify the predictors of undernutrition according to the groups of causes: *basic, underlying, immediate* and *temporal*. It is observed that the prevalence of undernutrition varied significantly by most of the variables under study. Near half of the under-5 years children were found malnourished with 13% severely underweight. Undernutrition was found higher among the children of ages 12-23 months, illiterate and thin mothers, households with lowest wealth index, and food deficient in whole year.

The multiple logistic regression models identified several predictors including age of child, birth interval, region, mother's education, household's wealth & food insecurity status, antenatal-postnatal care, child feeding practices, receiving vitamin-A capsule, incidence of ARI and diarrhoea, mother's BMI and age at birth. Final model indicates that children belonging to *Chittagong* division, ages 12-23 months, lower birth interval, poor child feeding practices, suffered from ARI and diarrhoea, households with poor wealth index, and mothers who were illiterate, thin and insufficient maternal care recipient were in great risk to be undernourished.

119:
**TIME AND SEQUENCE OF ERUPTION OF PERMANENT TEETH IN
SCHOOLCHILDREN OF KARACHI, PAKISTAN**

Nazeer Khan

Dow University of Health Sciences, Karachi
Email: n.khan@duhs.edu.pk

ABSTRACT

The objectives of the this study were to determine the mean eruption time of permanent teeth, sequence of eruption and the relationship of eruption time with height, weight and Body

Mass Index (BMI) in schoolchildren of Karachi city. About twenty thousand children from 103 schools of age 5 to 14 years were screened 'free of charge' from all the 18 towns of Karachi. The number of private and public schools were 77 and 26, respectively. 4300 children showed at least one tooth 'just erupted' at the time of screening. Three dentists and one assistant were involved in this study. The dentists were calibrated by clinical pictures. This study was funded by Higher Education Commission, Islamabad and was the first cross-sectional study conducted in Pakistan.

120:

**EXTENT AND TYPE OF OUTSOURCING IN
HEALTH CARE INDUSTRY OF PAKISTAN**

Khurram Aziz Fani

GIFT Business School, GIFT University, Gujranwala
Email: khurram@gift.edu.pk

ABSTRACT

Health is a key driver of socioeconomic progress of a country. Health development is directed by ethical principles of equity. Poor health inhibits individuals from realizing their full potential. Good health has a positive, sizable, and statistically significant effect on aggregate output of an economy. Outsourcing received enormous attention in the recent times. A field study was conducted in health care industry *viz* hospitals of Pakistan. The idea was to analyze the extent and type of outsourcing practices in health care industry of Pakistan. Responses were collected from senior management of hospitals using structured questionnaires. Variety of Large and Small hospitals both from public and private (including trust) were surveyed in the research. The hospital services were divided into clinical and non clinical services. Principal component analysis method for factor extraction using statistical program for social sciences was used to identify the major reasons for outsourcing. Communalities, total variance explained with initial eigenvalues greater than one, component matrix, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity are reported in the paper.

121:

**DETERMINANTS OF BUSINESS FACULTY'S MOTIVATION TOWARDS
RESEARCH PRODUCTIVITY – A PAKISTANI PERSPECTIVE**

**Khurram Aziz Fani, Ansa Mahmood, Ammara Noshin,
Muhammad Rehman, Rizwan Altaf and Moneeb Qamar**

Gift Business School, Gift University, Gujranwala
Email: khurram@gift.edu.pk

ABSTRACT

Research productivity is important for achieving different rewards. As higher education institutions compete with each other for resources, being known as a research institution is becoming increasingly important. Many business schools, which previously thought of as teaching oriented, were required publications in refereed journals for permanent status and promotion. This study explores business school faculty's perceived importance of various

extrinsic and intrinsic factors as a determinant of motivation towards. A field study was conducted in public and private sector universities of Pakistan. Data was collected from two hundred and four permanent and visiting faculty members of twenty Universities. Sample include male and female faculty members from various discipline including accounting, finance, MIS, operating management, organizational behaviour, business law, marketing, etc. and selection technique was purposive, convenience based roll over sampling. Pearson's correlation coefficients were reported to analyze the relationship of faculty's motivation towards research productivity. Descriptive statistics (mean, standard deviation), component rotated matrix using principle component analysis, t-test were computed using Statistical Program for Social Sciences. Results show high correlation among business school Faculty's motivation towards research and their research productivity. Factor analysis reports both intrinsic as well as extrinsic factors including self-satisfaction, receiving permanent status, getting an administration assignment, peer recognition, reduced teaching load and better placement in other universities.

122:
**EDUCATED ILLITERATES PRACTICING FREEDOM WITH
NECESSARY EVIL, CELLULAR PHONE ETIQUETTE
AMONG COLLEGE AND UNIVERSITY STUDENTS OF PAKISTAN**

**Khurram Aziz Fani, Faiza Muzaffar, Maryum Arif,
Waqas Ilyas, Sana Zafar and Atif Amin**

Gift Business School, Gift University, Gujranwala

Email: khurram@gift.edu.pk

ABSTRACT

Mobile phone has become a rapidly emerging technology over the last decade. Cellular phones have become essential component of mobile-commerce. The purpose of this study was to explore cellular phone usage behavior of college students. People can use such devices whenever and wherever they want. This creates questions of their appropriate use in social settings. A stratified sample of 720 students (male and female students pursuing intermediate, bachelor and masters level qualifications in both Government and Private educational Institutions) was surveyed to access the extent of usage of technology in different settings and for different purposes. Specific differences were found as a function of gender, age, government college/university and private college/university. Data was collected using pre-printed structured questionnaires and was analyzed using Statistical Program for Social Science. Factor Loading using principal component analysis and correlation matrix was reported to identify important variables and to asses the inter relationships. Significant findings include respondent's strong negative perception about exchanging adult jokes and pictures, use of technology for cheating, wrong use of camera in college/universities, disagreement form placing and receiving a call in class, while driving, in library, worship place and in bath room. Most of the students are in favor of announcing Mobile Phone use policy in college/university.