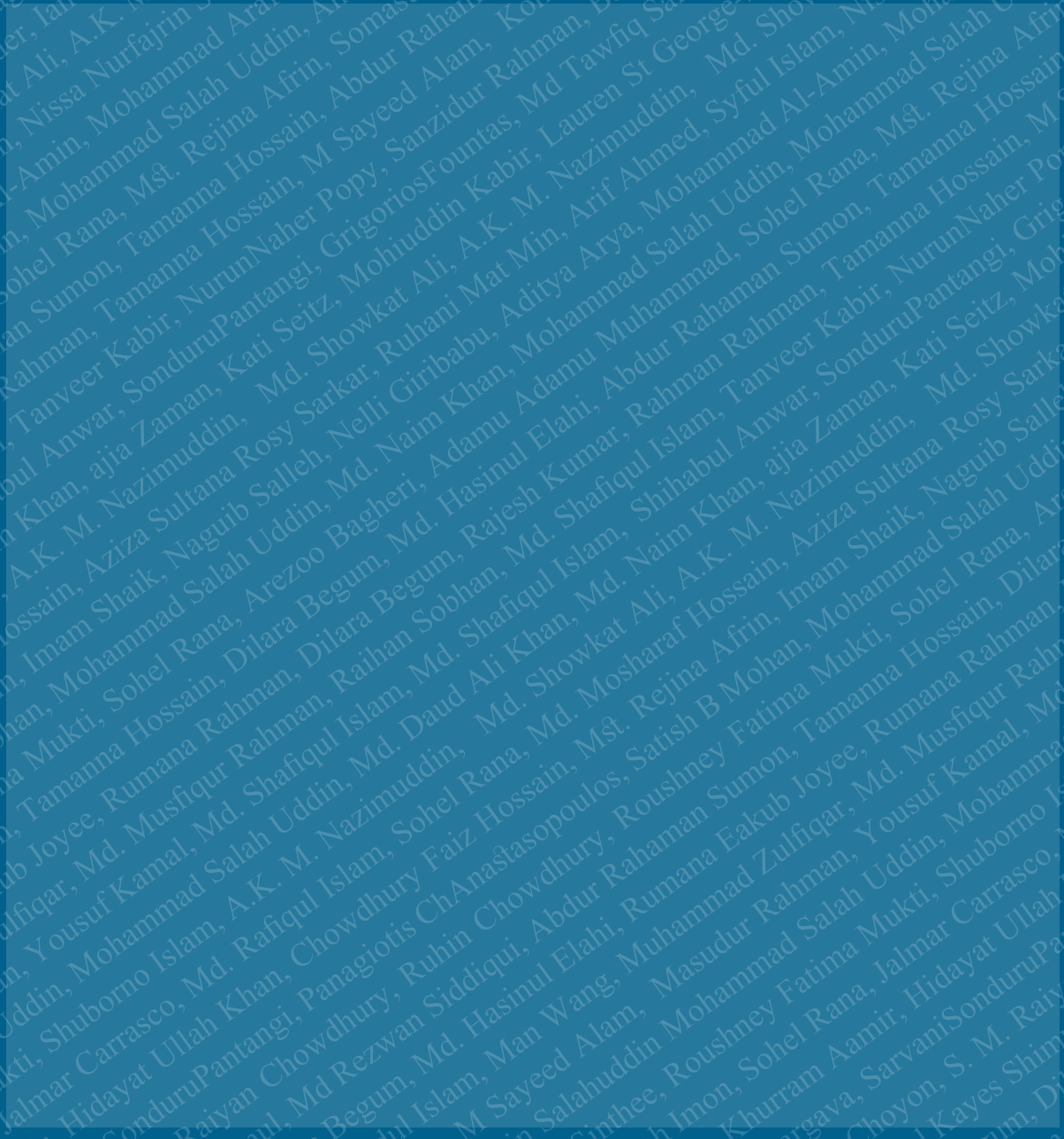
Abstracts of Published Papers 2019, Vol.14



East West University Center for Research and Training

East West University

PREFACE

It is my pleasure to write this introductory note for the fourteenth volume of the Abstracts of Published Papers 2019. The Abstracts of Published Papers is an annual publication of East West University Center for Research and Training (EWUCRT) with an objective to keep an official log of academic publications of the faculty members of East West University. It includes the abstract of published research articles, book chapters, books, and conference papers of our colleagues.

It is indeed a matter of great satisfaction for East West University Center for Research and Training (EWUCRT) to publish the fourteenth volume of the Abstracts of Published Papers, which contains abstracts of the academic publication published in 2019. This publication is a collective effort of the faculty members of the university. Our scholars have enthusiastically and immensely contributed in areas of business, economics, social sciences, engineering, telecommunications, liberal arts and literature, population health, computer science, pharmacy, and technology. This volume contains abstracts of 66 research articles. Among them, 34 articles were published in international and one in national journal, two book chapters were published abroad, as well as 29 papers were published in international conference proceedings. Considering their academic achievements, we sincerely congratulate all the research scholars.

The Center expresses its sincere thanks to Dr. Rafiqul Huda Chaudhury, Chairperson of EWUCRT and Member, Board of Trustees, and all the members of the Research Committee (RC) for their support and encouragement. Furthermore, thanks are also due to all the personnel of EWUCRT involved in this publication.

M. S. Haque

Professor Muhammed Shahriar Haque, PhD
Executive Director
EWUCRT, 2020

Table of Contents

Faculty of Business and Economics

Book /Book Chapter

1. Apon Coffee House: A Brand from Dhaka- What Lies Ahead?..... 1

International Journal

1. Financial Flexibility - A Synthesis of Literature Review……... 2

2. Branding in Informal Sector: Qualitative Analysis from a Developing Country Perspective…….. 3

3. Transformation from Traditional to Digital Marketing: A Case on Facebook Marketing for Micro Food Service Brands……. 4

4. Impact of Corporate Governance on Firms' Financial Flexibility in the Emerging Economy: Evidence from Bangladesh…… 5

5. Intellectual Capital Disclosure and Its Determinants: Empirical Evidence from Listed Pharmaceutical and Chemical Industry of Bangladesh……... 6

6. Consumer Behavior in Outbound Tourism: A Bangladeshi Perspective……... 7

7. Greening Modern Rice Farming Using Vermicompost and Its Impact on Productivity and Efficiency: An Empirical Analysis from Bangladesh…….. 8

8. Impacts of Vermicompost Manure on MV Paddy Production in Bangladesh: A Case Study of Jessore District…….. 9

9. Women's Gainful Employment in 'Gher' Farming System (Prawn–Carp–Rice Integrated Culture) in Bangladesh: Trends and Determinants…… 10

10. Income Inequality, Poverty and Food Security of Plain Land Ethnic Communities of Bangladesh…….. 11

National Journal

1. The Paradox of Foreign Loans and Grants: An Econometric Analysis in the Perspective of Bangladesh…….. 12

International Conference

1. Building Theories for Transforming Street Food Vendors in Dhaka: An Empirical Approach from Case Study Research (CSR) to Grounded Theory Approach (GTA)… 13

2. Grounded Theory Approach (GTA) to Develop a Theory of Branding for Street Food: A Marketing and Human Resource Interface……... 14

3. Impact of Technological Innovation on Energy Consumption Behavior in Bangladesh 15

4. The Post-Issue Operating Performance of IPO Firms: Evidence from an Emerging Economy…….. 16

Faculty of Sciences and Engineering

International Journal

1. A Preliminary Investigation of the Effectiveness of High Visibility Enforcement Programs Using Naturalistic Driving Study Data: A Grouped Random Parameters Approach……. 17

2. Embracing Localization Inaccuracy with a Single Beacon……. 18

3. Localization of a Single Sensor with Respect to a Single Beacon Using Received Signal Strength (RSS) in Terrestrial Environment…….. 19

4. Smart Toll Collection System for Bangladesh…… 20

5. Kitchen Grocery Items Monitoring System Based on Internet of Things……... 21

6. A Forster Resonance Energy Transfer Sensor for Live-Cell Imaging of Mitogen-Activated Protein Kinase Activity in Arabidopsis …… 22

7. Isolation and Characterization of Osmophilic Fermentative Yeasts from Bangladeshi Honeys……. 23

8. Metagenomic Approach: Transforming In-Silico Research for Improved Biogas Production……...… 24

9. Epigenetic Contributions on Mental Health, Neurodevelopmental and Neurodegenerative Disorders…….. 25

10. Periodic Pattern Formation Analysis Numerically in a Chemical Reaction Diffusion System……. 26

11. Pattern Formation in the Brusselator Model Using Numerical Bifurcation Analysis…. 27

12. Riemannian Geometry and Modern Developments…… 28

13. Symplectic and Contact Geometry with Complex Manifolds…… 29

14. Temperature Modeling of Rangpur Division, Bangladesh: A Comparative Study between Artificial Neural Network and Linear Regression Model……. 30

15. Identification of Influential Observation in Linear Structural Relationship Model With Known Slope…….. 31

16. Determining the l_x and Estimating the Force of Mortality for Children under Five in Bangladesh…… 32

17. Systematic Investigation into the Differences in the (+) APPI Efficiencies of Positional (Ortho, Meta, and Para) Isomers…… 33

18. Application of Silver-Assisted Laser Desorption Ionization Ultrahigh-Resolution Mass Spectrometry for the Speciation of Sulfur Compounds……. 34

19. Oral Toxicity of Arjunolic Acid on Hematological, Biochemical and Histopathological Investigations in Female Sprague Dawley Rats…… 35

20. Antimicrobial Activity of the Crude Extract, Fractions and Isolation of Zerumbone from the Rhizomes of Zingiber Roseum……. 36

International Conference

1. Public-Private Partnerships for Roadway Construction and Preservation, and Traffic Safety: An Exploratory Empirical Analysis of Crash Frequencies……. 37

2. Real-time Water Vehicle Monitoring and Tracking System for Bangladesh……. 38

3. Low Cost Lightweight Obstacle Detection System for Micro Aerial Vehicles……..… 39

4. Development of Wearable Emergency Response System for Women…….. 40

5. Detour Path Angular Information Based Range Free Localization with Last Hop RSSI Measurement Based Distance Calculation…… 41

6. A Narrative Analysis on Deep Learning in IoT based Medical Big Data Analysis with Future Perspectives……. 42

7. Performance Analysis of a CPDM-QPSK Direct Detection Optical Transmission System under the Effects of Cross-Polarization…….. 43

8. Reproductive and Socio-Demographic Factors Associated with Ovarian Cancer Risk among Bangladeshi Women…… 44

9. Outlier Detection in Poisson Regression Model: Evidence from Bangladesh Demographic and Health Survey Data…… 45

10. Robust Inference in the Presence of Heteroscedasticity and High Leverage Points…... 46

11. Hepatoprotective Effects of Le Carbone, A Dietary Supplement in Non-Alcoholic Steatohepatitis-Hepatocellular Carcinoma Mouse Model through Modulation of Lipogenesis and Oxidative Stress…… 47

Faculty of Liberal Arts and Social Sciences

Book /Book Chapter

1. Salinity, Standard of Living and Rights…….. 48

International Journal

1. Exploring English Language Learning Demotivation in Bangladesh……. 49

2. Incorporating Social Media into Library Services: Present Scenario at East West University Library……... 50

3. Mapping of Agriculture Research in Bangladesh: A Scientometric Analysis…… 51

4. Plea-Bargaining: Socio-Legal Impacts on the Criminal Justice System of Bangladesh 52

International Conference

1. Unique Strategies of Unionization of the Garment Workers in Bangladesh: Legal or Extralegal…… 53

2. Public Participation in Ecosystem-Based Adaptation: Myth and Reality……... 54

3. The Impact of Information Seeking Behavior of Library Users in Service Innovation: A Study of East West University Library……... 55

4. Research Data Management (RDM): Demystifying the Notion about Data Librarians 56

5. Measuring the Progress towards Attaining the SDGs: Bangladesh Government Initiative of SDG Tracker…… 57

6. A Proposed Framework for Meeting Sustainable Development Goals (SDGs) in Bangladesh: Library and Information Center (LIC) Perspectives…….. 58

7. Fake News and Its Consequences: Challenges towards Achieving SDGs…….. 59

8. Road to Meet 21st Century Challenges: A Scenario on LIS Education in Bangladesh... 60

9. Evolving Roles of Libraries and Librarians to Meet the 21stCentury Challenges…..… 61

10. Menstrual Literacy: Raising Awareness from Girlhood to Womanhood……... 62

11. Open Access Repositories in Asia: Present Status and Involvement in Sustainable Quality Education…… 63

12. Transformational Leadership Behavior Styles of Professionals in Private University Libraries of Bangladesh…….. 64

13. Faculty Perception, Adoption and Usage of Open Access Scholarly Publishing: Bibliometric Analysis from Last 10 years in Academia……. 65

14. The Literacies of the 21st Century: Catalyst for Achieving Sustainable Development Goals (SDGs) in Bangladesh…… 66

Faculty of Business and Economics

Sustainable Business and Competitive Strategies *Retail Industry and E-Marketing,* Edited by H Henna Lehtimäki & A.K Dey, ISBN 978-93-89449-65-5 (pp.173-182).Bloomsbury India

Apon Coffee House: A Brand from Dhaka- What Lies Ahead?

M Sayeed Alam* and **Kohinoor Biswas****

ABSTRACT

This case study is based on the last twelve years of Apon Coffee House, Dhaka's most successful coffee brand in low price segment. Mr. Zia, the brand's founder, had to go a long way to popularize this brand. Apon coffee is synonymous with cold coffee in Dhaka. Poverty ridden life and low academic profile did not dissuade his dream to become an entrepreneur. He moved to Dhaka after end of school and started his earnings with a very little amount of Taka 300 per month (around 3.55 USD). From this point of start till now where he stands is indeed fabulous as an entrepreneur. This exploratory case study seeks to contribute to the theoretical and empirical understanding of transformation of a micro enterprise in to a successful formal one. The ontological position taken in this research is interpretivist in nature where the actors' knowledge, views, understandings, interpretations, experiences, and interactions constitute social reality. Seeing through the lenses of the owners per se actors' is revealed that innovative idea of cold coffee clicked the market since the offering was pioneer in the category of cold coffee and in that middle-income segment. At every turn of the challenge the entrepreneurs demonstrated a great deal of market sense by changing place decision four times. By leveraging place strategy i.e. having two shops in the close vicinity, Apon Coffee has optimized customer pooling. With time, the menu card has expanded to include fruit juice, fast food and desert. In the backdrop of unfavorable ground per se lack of education and lack of capital the entrepreneurs of Apon Coffee House built a brand that stands out as a case in the classical literature of branding per se marketing. What lies ahead for this brand is worth exploring.

Keywords: Apon Coffee House, Dhaka, Informal, Formal, Brand, Transformation

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeed@ewubd.edu

**Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email:kohinoor@ewubd.edu

***International Journal of Accounting and Financial Reporting*,** ISSN 2162-3082, 2019, Vol. 9, No.1. doi:https://doi.org/10.5296 /ijafr .v9i1.1319 5

Financial Flexibility - A Synthesis of Literature Review

Md. Rashidul Islam*, Man Wang** and **Leo Vashkor Dewri*****

ABSTRACT

Financial flexibility has engrossed considerable interest of researcher over the last three decades. It is considered as most critical element of capital structure decision. The objectives of this research are to synthesize the existing literature on financial flexibility and find the literature gap. First, we show the relationship between theories and financial flexibility from existing literature and discuss the relationship between cash holding, leverage, payout policy and impact on firm performance during and after financial crisis. Second, we discuss how off balance sheet instruments impact on leverage and financial flexibility. We also discuss the relationship between corporate governance, corporate social responsibility and financial flexibility. We evidence from existing literature that financial flexibility has positive relationship with investment and firm performance during and after financial crisis. In addition to that we conclude that the off-balance sheet instrument financing is increasing abnormally, and it has effect on debt policy and financial flexibility which are yet to be studied verified. We further document from the current literature that corporate social responsibility and corporate governance may also widen financial flexibility in the US market but no significant researcher addressed these issues in the developed markets. While using Altman's Z-Score for measuring financial flexibility it is unable to accommodate off-balance sheet items therefore market demands for adjusted Z-Score.

Keywords: Financial Flexibility, Cash Holding, Off Balance Sheet Financing

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: mrdi@ewubd.edu, rmislam2002@yahoo.com

**School of Accounting, Dongbei University of Finance and Economics /Internal Control Research Centre in China 217, Jianshan Street, Liaoning Province, Dalian, China

***Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: lvd@ewubd.edu

SEDME (Small Enterprises Development, Management & Extension Journal),
Volume: 46 issue: 3, page(s): 161-170. https://doi.org/10.1177/097084641987 1125

Branding in Informal Sector: Qualitative Analysis from a Developing Country Perspective

Shamsul Huq Bin Shahriar*, Sayed Arafat** and **M Sayeed Alam*****

ABSTRACT

This article discusses branding in informal sector. Unlike the informal organisations, informal business setups have different strategies for branding. Branding has always been projected with the vastness of any business with certain level of sustainability and growth. Nevertheless, its association with informal sector has not been discovered yet. In this article, the authors have attempted to explore some basic characteristics of informal businesses and informal brands. A qualitative research approach was adopted for this study. This research provides significant insights regarding the elementary thoughts of informal brands; those will help approaching the researchers to develop comprehensive concepts in the field of branding.

Keywords: Informal Sector, Branding, Informal Brand, Transformation, Sustainability

*Enroute International Limited, Email: shahriarhuq002@gmail.com

**University of Dhaka, Dhaka, Bangladesh

***Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeed@ewubd.edu

Journal of Business & Economic Analysis, Volume 2, Number 2, 166–187.
https://doi.org/10.36924/sbe.2019.2201

Transformation from Traditional to Digital Marketing: A Case on Facebook Marketing for Micro Food Service Brands

Shamsul Huq Bin Shahriar*, Sayed Arafat** and **M Sayeed Alam*****

ABSTRACT

This study analyzes the transformation of marketing strategies from traditional to 'digital' and finds out the efficacy of 'Facebook' marketing for small or micro-enterprise brands; in the case of the restaurant industry. The study looks for the answers to questions such as How 'Facebook' has changed the means of marketing in the case of small restaurant brands. Two restaurant brands were considered for the study. A qualitative case approach was adopted for the study. Major findings of the study have revealed that Facebook marketing is the direct, easiest and economical mode of communication with current and potential customers through 'Facebook page', to disseminate information regarding brand and services through 'Facebook posts', 'Comments' and 'Chats'; besides, to maintain rapid feedback service to customers' queries. In addition, through 'Facebook' activities i.e., an instance of 'Likes', 'Reviews', 'Check-ins', and 'Share', customers themselves ensue as a source for promoting the brands. Nevertheless, for these small or microbrands' Facebook Marketing, per se, it is an inexpensive technique for effective marketing; additionally, it fosters mutual relationships and increases the level of customer engagement.

Keywords: Facebook, Facebook Marketing, Social Media, Micro Bands

*Enroute International Limited, Email: shahriarhuq002@gmail.com

**University of Dhaka, Dhaka, Bangladesh

***Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeed@ewubd.edu

International Journal of Accounting and Financial Reporting, ISSN 2162-3082, 2019, Vol. 9, No. 4, published: November11, 2019, doi:10.5296/ijafr.v9i4.15370

Impact of Corporate Governance on Firms' Financial Flexibility in the Emerging Economy: Evidence from Bangladesh

Md Rashidul Islam*, Man Wang** and Muhammad Zulfiqar***

ABSTRACT

Corporate governance has a positive impact on firm performance. Financial flexible firms are a better performer when there are financial constraints as well as financial crises. However, what motivates financial flexibility is a dearth area of research in the existing finance literature. The objectives of this research are to investigate the relationship between corporate governance and financial flexibility; how corporate governance influence financial flexibility; and, what factors of corporate governance are dominant to influence financial flexibility. To pursue the research objectives we chose Cement Industry of Bangladesh as a case. We consider Liquidity, Internal Funds and Unused Debt Capacity as the proxy of financial flexibility and Ownership Concentration, Board Size, Board Independence as Corporate Governance variables, and Firm Size, Market to Book Ratio, Debt Capacity, Financial Constraints and Firm Age as control variable to estimate the relationship between corporate governance and financial flexibility. This study evidences that board structure has no significant influence on firms' financial flexibility (Liquidity). However, firm's age and market to book value have a significant influence on firms' cash position. This study also finds that ownership structure has no positive impact on Firms' Unused Debt Capacity, but Financial Constraints and Market to Book Value have a positive significant impact on firms' unused debt capacity. However, firm size has a positive relationship with internal funds.

Keyword: Financial Flexibility, Cash Holding, Leverage, Internal Financing

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: mrdi@ewubd.edu, rmislam2002@yahoo.com

**School of Accounting, Dongbei University of Finance and Economics / Internal Control Research Centre in China 217, Jianshan Street, Liaoning Province, Dalian, China

***Doctoral Student, School of Accounting, Dongbei University of Finance and Economics 217, Jianshan Street, Dalian, Liaoning Province, China

Journal of Business Economics and Environmental Studies, Vol.9 No.2 pp.35-46, ISSN : 2671-4981(Print), ISSN : 2671-499X(Online), JEL Classification: M14, M48.

Intellectual Capital Disclosure and Its Determinants: Empirical Evidence from Listed Pharmaceutical and Chemical Industry of Bangladesh

Md. Musfiqur Rahman*, Raihan Sobhan** and **Md. Shafiqul Islam*****

ABSTRACT

Purpose - The purpose of this study is to find out the intellectual capital disclosure (ICD) and its determinants in the pharmaceutical and chemical industry of Bangladesh. Research design, data, and methodology - This research study is conducted on the listed firms of pharmaceutical and chemical industry in Bangladesh during the period of 2016 to 2017. This study develops a self-structured intellectual capital disclosure index; and the proxies of determinants of ICD are used as board characteristics (board size, independent directors and female directors), ownership structures (institutional ownership and director ownership), and firm characteristics (firm size, leverage and performance). The study uses a content analysis to analyze the extent of ICD and a pooled cross-sectional method to find the determinants of ICD. Research Findings - This study finds that intellectual capital disclosure is positively associated with firm size, leverage, and firm performance and negatively associated with director ownership and institutional ownership. This study also finds that there is no significant association of ICD with independent director or female director. Conclusions - The study recommends that the regulatory authority should develop mandatory guidelines on ICD for ensuring proper and consistent disclosure about the intellectual capitals. Besides, the companies should include a separate section in the annual reports to disclose the measurement and management of intellectual capital.

Keywords: Intellectual Capital, Internal Capital, External Capital, Human Capital

*Department of Accounting and Information Systems, University of Dhaka, Dhaka, Bangladesh.

**Department of Accounting and Information Systems, University of Dhaka.

*** Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email:shafiqul@ewubd.edu

International Journal of Management and Development Studies (IJMDS)
Volume 8/ Issue1, ISSN (Online): 2320-0685. ISSN (Print):2321-1423

Consumer Behavior in Outbound Tourism: A Bangladeshi Perspective

Tanveer Kabir* and **Nurun Naher Popy****

ABSTRACT

Outbound Tourism has recently become a huge market in Bangladesh. Many of the regular consumers of this industry travel quite often and show a keen interest in travel related magazines, television shows, blogs and content on social media. It is therefore essential for marketers to understand the behavior pattern of this thriving set of customers and see what particularly affects their travel decisions. This article focuses on determining the various factors, including various digital media sources that influence these Bangladeshi consumers in their decision making and purchase process in the tourism industry. The researchers also tried to identify the preferences of the various types of activities the travelers from Bangladesh are interested in, during their tours. Data was collected by means of a questionnaire through 120 respondents who identify themselves as regular travelers. All of the respondents fall under three distinct consumer categories of different age groups. The paper summarizes the different behavioral dimensions of consumers of outbound tourism in Bangladesh.

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: tanveer.kabir@ewubd.edu

**Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: nnp_mkt@ewubd.edu

Agriculture, Vol. 9, Issue-11, pp. 1-13. https://doi.org/10.3390/agriculture9 110239.

Greening Modern Rice Farming Using Vermicompost and Its Impact on Productivity and Efficiency: An Empirical Analysis from Bangladesh

Sanzidur Rahman and **Basanta Kumar Barmon***

ABSTRACT

Greening modern rice farming while improving productivity and reducing chemical use is a desirable goal for sustainable agriculture. This paper analyzes the impact of vermicomposting on productivity and efficiency of modern rice farming using a random sample of 340 farmers from the southwestern region of Bangladesh by applying a stochastic production frontier approach. Results reveal that productivity is significantly higher and the use of chemicals are significantly lower for vermicompost users as expected. However, profitability gain is not significantly different mainly due to high cost of vermicompost. Use of vermicompost significantly increases productivity along with other conventional inputs and its users are relatively more technically efficient. Policy implications include investments to raise farmers' awareness of the benefits of vermicomposting and support entrepreneurs to expand commercial production of vermicompost, which will synergistically curb the use of chemicals in modern rice farming while improving productivity and efficiency.

Keywords: Vermicomposting, Rice Production, Stochastic Production Frontier, Technical Efficiency

*Institutional Quality Assurance Cell (IQAC), East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: bkbarmon@ewubd.edu

Asia Pacific Journal of Rural Development (APJORD), Vol. 29, No. 1, pp. 52-76. DOI: 10.1177/1018529119860609

Impacts of Vermicompost Manure on MV Paddy Production in Bangladesh: A Case Study of Jessore District

Basanta Kumar Barmon* and Sushanta Kumar Tarafder

ABSTRACT

The study estimates the impacts of vermicompost manure on modern varieties (MV) of paddy produced in Bangladesh. Primary data were used in this study. The findings of the study indicated that on an average, the sampled farmers who used vermicompost comparatively used less proportion of chemical fertilizers such as urea, triple super phosphate, zypsum, zinc and manure except muriate of potash. The yield of MV boro and the net profit of per hectare was significantly much higher (about 1.91 times) in the farms that used vermicompost compared to those farmers who did not use it. The household income of the farmers who used vermicompost with irrigation has risen significantly (about 1.19 times). The farmers had experienced constant return to scale in MV boro paddy farms in both techniques. The farm area, seed, pesticide, irrigation, urea cost and vermicompost cost were the main factors that significantly affected the MV boro paddy production in farms that used vermicompost. On the other hand, the farm size, urea, chemical fertilizers, manure and labour had significant impact on MV boro paddy production under the farms that did not use vermicompost. Vermicompost normally retains the moisture as well as organic matter in topsoil. As a result, comparatively lesser amount of chemical fertilizers and irrigations are required for per hectare MV boro paddy production. There was inefficient and non-optimal use of resources in both the farms which hindered production of maximum level of output in the study area.

Keywords: Vermicompost Manure, Soil Fertility, Yield, Net Profit, Resource Use Efficiency, Bangladesh

*Institutional Quality Assurance Cell (IQAC), East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: bkbarmon@ewubd.edu

***Aquaculture International*,** Vol. 27, pp. 519–537. https://doi.org/10.1007/s10499-019-00347-9.

Women's Gainful Employment in 'Gher' Farming System (Prawn–Carp–Rice Integrated Culture) in Bangladesh: Trends and Determinants

Sanzidur Rahman and **Basanta Kumar Barmon***

ABSTRACT

The paper examines trends in women's gainful employment in 'prawn-carp' and 'high yield variety (HYV) rice' enterprises of the 'gher' farming system and jointly identifies the determinants of employing female and male labor in these enterprises using a farm-level panel data of 90 producers covering a 14-year period (2002–2015) from southwest Bangladesh by applying a multivariate Tobit approach. Results revealed that women's gainful employment and real wage increased significantly with a substantial reduction in wage gap between female and male labor. The decision to employ female and male labor was found to be positively correlated thereby confirming jointness in decision-making and validity of our chosen approach. Prices and socio-economic factors exerted varied influences on female and male labor demand. Output prices, cultivated area, education, and experience positively increased women's gainful employment whereas larger family size reduced it. Policy implications include investments in education targeted at the 'gher' farming households and land reform policies to consolidate farm size and facilitate smooth functioning of the land market to increase women's gainful employment.

Keywords: Women's Gainful Employment, 'Gher' Farming System, Socio-Economic Determinants, Multivariate Tobi Model, Bangladesh

*Institutional Quality Assurance Cell (IQAC), East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: bkbarmon@ewubd.edu

Asian Development Perspectives, Volume: 11, No.: 1, Pages: 16-32. Publishing Year-2019, Link: https://adp.yonsei.ac.kr/adp/article/articles_a.do

Income Inequality, Poverty and Food Security of Plain Land Ethnic Communities of Bangladesh

Farhana Afrin Tithi, **Basanta Kumar Barmon*** and Sanzidur Rahman

ABSTRACT

The present study examines the level of income inequality, poverty and food security of two plain land ethnic communities residing alongside ethnic Bengalis (the majority in Bangladesh). It uses a randomly selected sample of 150 households (50 Bengali, 50 Koch and 50 Santal) from Phulbari subdistrict of Dinajpur district, located in the northwestern region. Results revealed that the level of illiteracy is highest for the Koch community, followed by the Santal community estimated at 58% and 50% respectively, as compared to the Bengali rate of 46%. It is encouraging to know that income inequality is much lower for the Koch and Santal communities as compared to the Bengali community, estimated at 0.24, 0.20 and 0.35, respectively, but their average annual total income is about 59.2% and 43.0% lower than the total annual income of the Bengali community. All measures of poverty and depth of poverty is much higher for both the Koch and Santal communities. Similarly, the level of food insecurity is very high for both ethnic minority communities. About 86% of both communities are food insecure. Furthermore, 60% and 52% of Koch and Santal households classify as absolute poor, consuming less than 1,805 kcal/capita/day, whereas the figure for the Bengali community is 44% and the national average for rural areas is 35.2%, respectively. Policy implications include investments in education and other income generating programs targeted at the ethnic minority communities so that they can participate in economic activities and reduce their poverty and food insecurity levels.

*Institutional Quality Assurance Cell (IQAC), East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: bkbarmon@ewubd.edu

Dhaka University Journal of Business Studies, Vol.39 No.3, pp.51-66, ISSN: 1682-2498, JEL Classification Code: F35, F43, O53

The Paradox of Foreign Loans and Grants: An Econometric Analysis in the Perspective of Bangladesh

Yousuf Kamal* and **Md. Shafiqul Islam****

ABSTRACT

This paper investigates one of the highly debated arguments of whether foreign loans or foreign grants have significant impact on the economic progression of developing countries that are receiving huge amounts of foreign aid. To explore this, we have conducted an empirical investigation using a time-series analysis of foreign loans and grants for Bangladesh from 1980 to 2016.We find that foreign loans have more significant impact on the economic growth of Bangladesh (measured by per capita GDP) in the long run while foreign grants do not have such significant contribution. We measured the short run and long run elasticity by corroborating previous literature focusing on time series data. We also find invaluable importance of the presence of good governance and robust strategic policy actions to capture the highest utility from the inflow of foreign aid. This study also concludes that Bangladesh benefits highly from the foreign loans but not from foreign grants. We suggest that Bangladesh government should be strategic in maintaining bilateral and multilateral relationship with the donor agencies and countries in the coming days specially focusing on the achievement of Sustainable Development Goals (SDGs). Finally, the study proposed some policy recommendations regarding the use of foreign aid.

Keywords: Foreign Loans, Grants, Bangladesh, Sustainable Development Goals, Econometric Analysis

*Department of Accounting & Information Systems, University of Dhaka, Bangladesh

**Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email:shafiqul@ewubd.edu

Proceedings of EMCB 2019 Conference, 6-8 January 2019, IMT, Ghaziabad. "Driving Marketing Excellence through Experiences in Emerging Economics" IMT, Ghaziabad and Emerging Markets Conference Board Jointly Organized Annual EMCB conference at IMT Ghaziabad, ISBN 978-93-5346-669-5,pp.159-165

Building Theories for Transforming Street Food Vendors in Dhaka: An empirical Approach from Case Study Research (CSR) to Grounded Theory Approach (GTA)

M Sayeed Alam* and Masudur Rahman**

ABSTRACT

This paper attempts to examine the role of branding as a means of transformation of informal street food vendors in to the formal sector. There is relatively little evidence of rigorous and explicit use of grounded theory method in street food research in Bangladesh, even though it has been described as a "touchstone" for scholars conducting qualitative theory building research in management (Suddaby, 2006). In this qualitative research, authors attempt to develop a theory of transformation for street food using brand as a means. Authors choose to use grounded theory for a number of reasons. The grounded theory is well suited to when research and theory lay at the early, formative stage; and when the phenomenon is yet to be explored; and when hypotheses have not yet been developed; and when research interest lies in the identification and categorization of elements in connection with the social settings (Auerbach and Silverstein, 2003). The researchers sorted out strategically ten "chosen" cases, mostly with a high name recognition and long operating life. Eight out of ten street food vendors were pioneer in their respective category. Seven among them established themselves as brand; while one failed. The other two street food vendors, run by young educated entrepreneurs, could also establish as brand rather in a brief period of time. With the rich, diversified insight about the street food vendors the authors propose to ground a theory on transformation with branding as a tool.

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeed@ewubd.edu

**Department of Marketing, University of Dhaka, Email: m.rahman.2009.du@gmail.com

International Conference on HR Trends 2030, Indian Institute of Social welfare and Business Management, Kolkata, 1-2 March 2019, pp.70-71

Grounded Theory Approach (GTA) to Develop a Theory of Branding for Street Food: A Marketing and Human Resource Interface

M Sayeed Alam* and Masudur Rahman**

ABSTRACT

This study aims to apply the grounded theory in order to construct a theory suited to the arena of street food branding intermingling Marketing and Human Resource. The objective of this study is to generate a substantive theory of branding for street food. The sample we covered are four micro entrepreneurs, their business units are start-ups with low capital and exist as partnership. We interviewed the micro entrepreneurs for as long as 20 to 90 minutes and observed their business over a period of four months. These 4 street food vendors are picked up from the same geographical location with a good customer base and name recognition. All of the interviewed micro entrepreneurs focus on the same two factors for business sustainability: good taste and quality. They believe that it is the tipping point of brand building when a customer tastes and experiences their food inside the food cart. Then, there comes the phase of brand name propagation through the positive word of mouth by the delighted customers as they pour out satisfaction of their hearts to their immediate network or Facebook community through the positive words of appreciation. So brand building is done through the HR and Marketing interface. The ultimate brand capital or goodwill will be built partly on this basis and partly on other externally diffused messages (de Chernatony, 2001), i.e. the customers will mentally map the breadth and depth of sincerity of the promises made to the customers by the retailers.

Key words: Grounded Theory, Street Food, Interface, Branding

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeed@ewubd.edu

**Department of Marketing University of Dhaka, Email: m.rahman.2009.du@gmail.com

4th International Conference on Business and Economics "Conference Theme: Spectrum of Opportunities through Innovation and Technology", Venue: University of Dhaka, Bangladesh, Date: October 29-30, 2019

Impact of Technological Innovation on Energy Consumption Behavior in Bangladesh

Yousuf Kamal* and **Md. Shafiqul Islam****

ABSTRACT

This empirical study uses Marshallian demand function as the underlying framework for the purpose of investigating the impact of technological innovations on the energy consumption behavior in Bangladesh. The underlying theoretical framework argues that technological innovation which is regarded to be an exogenous variable will increase the energy efficiency and thus will lead to reduced consumption of energy up to a certain economic output. ARDL (autoregressive distributed lag) bounds testing approach is used with a sample period starting from 1980 to 2016 (37 years) and this study empirically establishes the validity of the theoretical predictions both in the short and long run. Interestingly this study also proves the Environmental Kuznets Curve (EKC) hypothesis and showed the dynamics of GDP per capita and trade openness on the energy consumption in Bangladesh.

Keywords: Marshallian Demand Function, Technological Innovation, Energy Use, EKC Hypothesis, ARDL Bounds Testing

*Department of Accounting & Information Systems, University of Dhaka, Bangladesh

**Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: shafiqul@ewubd.edu

10th International Conference on Financial Criminology (ICFC2019), organized by United International University (UIU) in association with ARI-Universiti Teknologi MARA (UiTM), Malaysia during 7-8 December 2019 at UIU Campus, Madani Avenue, Badda, Dhaka. JEL Classification Codes: M41, E44, G14, G32

The Post-Issue Operating Performance of IPO Firms: Evidence from an Emerging Economy

Md. Shafiqul Islam* and Shihabul Anwar**

ABSTRACT

Purpose – The purpose of this article is to observe the change in operating performance of Bangladeshi firms when they make the transition to public from private ownership through IPO. Research Methodology – This study considers the IPO incidents took place in between the year 2009 to 2014 consisting of 50 IPO firm analysis in a span of 300 firm year observations. The firms have been separated into six groups namely, Textile, Engineering, Pharmaceuticals & Chemicals, Food and Allied, Fuel and Power and Other industries. Annual reports of the IPO firms are analyzed rigorously to figure out the post IPO performance in relation to the base year under 8 different performance measures. Research Findings – This study finds that the firms fail to sustain the operating performance in the post-IPO years that they display in the issuing year. Even a significant decline in operating performance is also found subsequent to the initial public offering (IPO). The firms under all the industries, except fuel and power industry, individually found to be underperforming in the subsequent years in comparison to the IPO issuing year. However, there is barely any evidence found to prove that the underperformance is attributable to the lower equity retention by the initial entrepreneurs after publicly ownership distribution through IPOs. Conclusion - This study concludes that the IPO firms are not able to sustain their pre-issue operating performance level rather it declined in some cases. Though the sales and capital expenditure are seen to be uplifted in the post IPO years, the profitability measures declined

Keywords: Initial Public Offering, Operating Performance, Alpha, Prospectus, Agency Theory

*Department of Business Administration, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email:shafiqul@ewubd.edu

**Department of Accounting & Information Systems, University of Dhaka, Bangladesh

Faculty of Sciences and Engineering

***Analytic Methods in Accident Research*,** Vol. 21, Pages 1-12. March 2019. https://doi.org/10.1016/j.amar.2018.10.003, ISSN number: ISSN: 2213-6657, Page numbers: 01 – 12

A Preliminary Investigation of the Effectiveness of High Visibility Enforcement Programs Using Naturalistic Driving Study Data: A Grouped Random Parameters Approach

SonduruPantangi*, GrigoriosFountas**, **Md Tawfiq Sarwar*****, Panagiotis Ch.Anastasopoulos******, Alan Blatte*******, Kevin Majka*******, John Pierowicz******* and Satish B.Mohanf********

ABSTRACT

This paper seeks to assess the effectiveness of high-visibility enforcement (HVE) programs in terms of reducing aggressive driving behavior. Using Strategic Highway Research Program 2 (SHRP2) Naturalistic driving study (NDS) data, behavioral reactions of drivers before, during, and after the conduct of high-visibility enforcement programs are analyzed, in order to identify the potential effect of high-visibility enforcement in driving behavior. In this context, two fundamental aspects of aggressive driving behavior (speeding and tailgating) are employed and analyzed. To simultaneously explore the intensity and the duration of these behavioral patterns, novel metrics are defined and used in the analysis. To investigate the effect of high-visibility enforcement programs, and at the same time, to control for the effect of driver-, trip-, vehicle-, and weather-specific characteristics on the extent of speeding and tailgating, univariate grouped random parameters linear regression models are estimated. In addition, likelihoods of speeding and tailgating occurrences are analyzed simultaneously, within a grouped random parameters bivariate probit modeling framework. The results of this preliminary analysis show that even though the implementation of the high-visibility enforcement has mixed effects on the extent and the likelihood of the driving behavior metrics, it demonstrates a promising potential in modifying driving behavior.

*Department of Civil, Structural and Environmental Engineering, University at Buffalo, The State University of New York, 204B Ketter Hall, Buffalo, NY 14260, United States

**Transport Research Institute, School of Engineering and the Built Environment, Edinburgh Napier University, 10 Colinton Road, Edinburgh EH10 5DT, UK

***Department of Civil Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: mdtawfiq@ewubd.edu

****Department of Civil, Structural and Environmental Engineering, Stephen Still Institute for Sustainable Transportation and Logistics, University at Buffalo, The State University of New York, 241 Ketter Hall, Buffalo, NY 14260, United States

*****Public Safety & Transportation Group, CUBRC, 4455 Genesee St, Suite 106, Buffalo, NY 14225, United States

******Department of Civil, Structural and Environmental Engineering, University at Buffalo, The State University of New York, 223 Ketter Hall, Buffalo, NY 14260, United States

***International Journal of Advanced Computer Science and Applications (IJACSA)*,** Vol. 10, No. 12, 2019, ISSN number: 2156-5570, Page numbers: 452 – 459

Embracing Localization Inaccuracy with a Single Beacon

Anisur Rahman* and Vallipuram Muthukkumarasamy**

ABSTRACT

This paper illustrates a new mechanism to determine the coordinates of the sensors using a beacon node and determines the definitive error associated with it. In UWSNs (underwater wireless sensor networks), actual and precise location of the deployed sensors which accumulate data is vital, because the accumulated data without the location information has less significance. Moreover it has limited value in the domain of location based services. In UWSN, trilateration or multilateration is exploited to assess the location of the deployed hosts; having three or more reference nodes to localize a deployed sensor is not pragmatic at all. On the other hand, non-linear equations are usually solved in conventional method where degree-of-freedom is uncertain to lead to an exclusive solution. In this paper, associated localization inaccuracies has been shown for a unique configuration where a single beacon is used to determine the coordinates of three deployed sensors simultaneously. Cayley-Menger determinant is used for the configuration and system of nonlinear distance equations have been linearized for better accuracy and convergence. Simulations with Euclidean distances validate the propounded model and reflect the acquired accuracies in sensors' coordinates and bearings. Moreover, an experiment has been conducted with ultrasonic sensors in terrestrial environments to validate the proposed model; the associated inaccuracies were found to be generated from the distance measurement errors; on the other hand, considering Euclidean distances proves the model to be precise and accurate.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: anis@ewubd.edu

**School of Information and Communication Technology, Griffith University, Gold Coast, Australia, Email: v.muthu@griffith.edu.au

International Journal of Computer Applications**,** Volume 181 – No. 38, January 2019, ISSN number: 0975-8887, Page numbers: 45 - 52, Year or publication: 2019

Localization of a Single Sensor with Respect to a Single Beacon Using Received Signal Strength (RSS) in Terrestrial Environment

Anisur Rahman*, Shafayet Khan and Khalid Bin Salahuddin

ABSTRACT

This paper apprised the issue of finding the location of a single sensor node with a single beacon in a terrestrial wireless sensor network (WSN). Generally, the localization of a single sensor node in a terrestrial sensor network can be solved using multilateration technique with respect to three or more known beacon nodes. However, there is an area of concern, when the localization of a single sensor node (i.e. mobile station, cell phone) is to be measured with respect to only one known beacon node i.e. base transceiver station (BTS). Such a challenge is aimed to be solved with the help of received signal strength (RSS) survey data for a particular location within the desired environment. A simulated terrain and a model has been created based on RSS Survey data that defines the contours of radio frequency (RF) coverage in a particular test facility under a single beacon node. Simulation results show that our proposed model gives a solution which converges to determine the location of a single sensor node with respect to a single beacon node.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: anis@ewubd.edu

International Journal of Computing and Digital Systems, Vol-08(2), e-ISSN 2210-142X, Page: 199-203, Publishing Year: 2019

Smart Toll Collection System for Bangladesh

Mohammad Salah Uddin*

ABSTRACT

This paper focuses on a smart toll collection (STCS) system based on non-contact BLE (Bluetooth low energy) technology specially designed for Bangladesh. A lots of river bridges, flyovers and Asian highways passes all over the Bangladesh. Governments need to collect the toll (a charge payable to use a bridge or road) from drivers/passengers who are using those bridges, flyovers and highways, for further development of the country. Two types of toll collection system, such as manual and computerized, exits in Bangladesh. Both system requires human operator for toll collection, which is more or less time consuming process. With this respect, a smart (fully automated) toll collection system is proposed throughout this paper. The conceptual design along with prototype implementation are elaborated in this paper.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: akash.bangla@gmail.com, uddin@ewubd.edu

International Journal of Computing and Network Technology, Vol.07(02), ISSN: 2210-1519, Page: 47-52, Publishing Year: 2019

Kitchen Grocery Items Monitoring System based on Internet of Things

Mohammad Salah Uddin*, Md. Daud Ali Khan and Md. Naim Khan

ABSTRACT

An automation system for monitoring the kitchen grocery items/cooking ingredients is presented in this paper. We are busy with our job/education/business, due to them sometimes we are not aware about the cooking ingredients (rice, eggs, oil, salt etc.) which are mandatory for making our breakfast, lunch or dinner. This situation happens frequently on people who live alone (bachelor person) or people who have not any servant even the busy home engineers (house wife) are also sufferer of this situation. We relied on street food or junk food due to this phenomenon. During the holiday or weird weather this situation is more painful; most of the grocery shops are closed during those time. As a result, we fight with our hungriness which may lead some critical diseases. People living in remote area suffer more with this situation. With this respect, an automated cooking ingredients/kitchen groceries monitoring system is presented in the paper. The conceptual design and prototype implementation are elaborated throughout this paper. This system is helpful for avoiding some odd situation described beyond.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: akash.bangla@gmail.com, uddin@ewubd.edu

The Plant Journal, 97(5):970-983, 2019; DOI: 10.1111/tpj.14164, Page numbers, 970-983, Year of publication, 2019

A Forster Resonance Energy Transfer Sensor for Live-Cell Imaging of Mitogen-Activated Protein Kinase Activity in Arabidopsis

Najia Zaman, Kati Seitz, **Mohiuddin Kabir***, Lauren St George-Schreder, Ian Shepstone, Yidong Liu, Shuqun Zhang and Patrick J Krysan

ABSTRACT

The catalytic activity of mitogen-activated protein kinases (MAPKs) is dynamically modified in plants. Since MAPKs have been shown to play important roles in a wide range of signaling pathways, the ability to monitor MAPK activity in living plant cells would be valuable. Here, we report the development of a genetically encoded MAPK activity sensor for use in Arabidopsis thaliana. The sensor is composed of yellow and blue fluorescent proteins, a phosphopeptide binding domain, a MAPK substrate domain and a flexible linker. Using in vitro testing, we demonstrated that phosphorylation causes an increase in the Förster resonance energy transfer (FRET) efficiency of the sensor. The FRET efficiency can therefore serve as a readout of kinase activity. We also produced transgenic Arabidopsis lines expressing this sensor of MAPK activity (SOMA) and performed live-cell imaging experiments using detached cotyledons. Treatment with NaCl, the synthetic flagellin peptide flg22 and chitin all led to rapid gains in FRET efficiency. Control lines expressing a version of SOMA in which the phosphosite was mutated to an alanine did not show any substantial changes in FRET. We also expressed the sensor in a conditional loss-of-function double-mutant line for the Arabidopsis MAPK genes MPK3 and MPK6. These experiments demonstrated that MPK3/6 are necessary for the NaCl-induced FRET gain of the sensor, while other MAPKs are probably contributing to the chitin and flg22-induced increases in FRET. Taken together, our results suggest that SOMA is able to dynamically report MAPK activity in living plant cells.

Keywords: Arabidopsis thaliana; FRET sensor; MAP kinase; live-cell imaging; technical advance

*Department of Genetic Engineering and Biotechnology, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: mmkabir@ewubd.edu

Journal of Advanced Biotechnology and Experimental Therapeutics**,** Volume no. 2, Issue no. 3, Page no. 127-133, eISSN: 2616-4760, Year of Publication: 2019

Isolation and Characterization of Osmophilic Fermentative Yeasts from Bangladeshi Honeys

Roushney Fatima Mukti*, Md. Miraj Kobad Chowdhury** and Md. Aftab Uddin***

ABSTRACT

Despite the medicinal values and economic importance, honey is also a source of osmophilic fermentative yeasts. So, it can be utilized for the isolation of local fermentative yeast. Here, 1ml honey was inoculated in yeast extract peptone dextrose (YPD) broth containing 4% dextrose. After overnight incubation, the broth was streaked on an YPD agar plate to purify yeast colonies. In this study, total eight strains were isolated from seven physio-chemically defined florally diversified honey samples of Bangladesh. Microscopic morphology, plasmid profile, growth pattern and fermentative capacity of these isolates were determined. Under light microscope, these yeasts had one of three distinct shapes: ovoid, spherical, or cylindrical. The cytoplasm in young, actively reproducing cells occupied most of the interior and looked homogeneous. Two plasmids of around 3kb and 2.1 kb were common in these strains except for one. While compared with Baker's yeast, these strains showed faster growth. Five of them were attributed to high fermentative potency. Yeast 2 showed the highest fermentative potency yielding 33.48% (v/v) ethanol. We suggest that these strains have potentialities for efficient bioethanol production to meet the increasing demand of biofuel.

*Department of Genetic Engineering and Biotechnology, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: roushney@ewubd.edu

**Department of Genetic Engineering and Biotechnology, East West University, Aftabnagar, Dhaka-1212

***Department of Genetic Engineering and Biotechnology, University of Dhaka, Dhaka-1000

***International Journal of Applied Sciences and Biotechnology*,** Volume no. 7, Issue no. 1, Page no. 6-11, ISSN (online): 2091-2609 , Year of Publication: 2019

Metagenomic Approach: Transforming In-Silico Research for Improved Biogas Production

Roushney Fatima Mukti* and Sanjida Sakhawat Sinthee

ABSTRACT

The complexity of the microbial communities and metabolic pathways involved in the microbiological process of biogas production is poorly understood and numerous microorganisms in the fermentation sample of the biogas plant are still unclassified or unknown. The structure and function of microbial communities and the effects of the addition of trace elements are needed to be known, to control and channel the energy sources microbes produce and to capture and store the useful by products or for targeted screening of novel enzymes. In this review, we discussed an emerging idea that Metagenome sequence data from a biogas-producing microbial community residing in a fermenter of a biogas plant provide the basis for a rational approach to improve the biotechnological process of biogas production. The composition and gene content of a biogas producing consortium can be determined through metagenomic approach which allows the design of the optimal microbial community structure for any biogas plant for the significant progress in the efficacy and economic improvement of biogas production and bio fertilizer of either balanced nutrition or rich in specific element for plant growth produced from the sludge of biogas plant. Biogas-producing microbial community from different production-scale biogas plants supplied with different raw materials as substrates can be analyzed by polyphasic approach to find out the best raw material composition for biogas production. The phylogenetic structure of the microbial community residing in a fermentation sample from a biogas plant can be analysed by an integrated approach using clone library sequences and metagenome sequence data obtained by 454-pyrosequencing.

*Department of Genetic Engineering and Biotechnology, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: roushney@ewubd.edu

***International Journal of Biosciences*,** Volume no. 14, Issue no. 1, Page no. 38-52, ISSN: 2220-6655 (Print), 2222-5234 (Online), Year of Publication: 2019

Epigenetic Contributions on Mental Health, Neurodevelopmental and Neurodegenerative Disorders

Roushney Fatima Mukti* and Shuborno Islam

ABSTRACT

The significance of epigenetics for mental health and neurodevelopment to assess the contribution of gene–environment interactions to brain function is becoming increasingly clear. Epigenetic programming functions in respect to the interaction between genetics and the environment. It has the capability to make us thinking about the infraction of the prior assumption of independence between genotype and the environment. Some environmental factors such as diet, maternal behavior, psychosocial or chemical exposures have been shown to alter the progression of epigenetic programming in a significant way during the early development. Since epigenetically modified genes can be reclaimed, methylation silenced genes can be demethylated and histone complexes can be executed transcriptionally active by modification of acetylation and methylation of various histones through drugs and/or other dietary interventions, the rapidly growing field of epigenetics provides a perfect opportunity to design rationale therapeutic strategies. The widespread impact of epigenetic modifications suggests that understanding the underlying mechanisms of epigenetic contributions on mental health as well as neurodevelopmental and neurodegenerative disorders holds a great promise for us to be a rich source of more rationale and even personalized therapeutic interventions to treat these disorders in the near future. In this review, we discussed an emerging idea that epigenetic regulation may provide a mechanism by which environmental events can be encoded at the molecular level where they are recognized to influence brain function and also the future prospects of epigenetic therapies to decrease the burden of diseases by modulating epigenetic mechanisms in various ways.

*Department of Genetic Engineering and Biotechnology, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: roushney@ewubd.edu

International Journal of Mathematical Sciences and Computing (IJMSC), Vol.5, No.3, pp.17-26, 2019. DOI: 10.5815/ijmsc.2019.03.02, ISSN:2310-9025 (Print), ISSN: 2310-9033 (Online)

Periodic Pattern Formation Analysis Numerically in a Chemical Reaction Diffusion System

A.K. M. Nazimuddin* and Md. Showkat Ali**

ABSTRACT

In this paper, we analyze the pattern formation in a chemical reaction-diffusion Brusselator model. Two-component Brusselator model in two spatial dimensions is studied numerically through direct partial differential equation simulation and we find a periodic pattern. In order to understand the periodic pattern, it is important to investigate our model in one-dimensional space. However, direct partial differential equation simulation in one dimension of the model is performed and we get periodic traveling wave solutions of the model. Then, the local dynamics of the model is investigated to show the existence of the limit cycle solutions. After that, we establish the existence of periodic traveling wave solutions of the model through the continuation method and finally, we get a good consistency among the results.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: nazimuddin@ewubd.edu

**Department of Applied Mathematics, University of Dhaka, Dhaka-1000, Bangladesh.
Email: msa317@yahoo.com

Punjab University Journal of Mathematics, Vol.51, No. 11, pp. 31-39, 2019, ISSN: 1016-2526

Pattern Formation in the Brusselator Model Using Numerical Bifurcation Analysis

A.K. M. Nazimuddin* and Md. Showkat Ali**

ABSTRACT

Abstract Pattern formation is one of the most surprising natural phenomena in real life. Analysis of spatiotemporal reaction-diffusion system can lead to understanding the pattern dynamics. However, the periodic traveling wave solutions resulting from the reaction-diffusion system can play an important role to explain the pattern dynamics. In this study, we analyze a system of nonlinear reaction-diffusion equations called the Brusselator model. We establish a parameter plane to investigate the existence of periodic traveling waves as well as stability results of the model using the method of continuation. We also find an Eckhaus type stability boundary where we confirm the stability change by calculating the essential spectra of the solutions of the model. As a result, we obtain a pattern transition from stripe pattern to spot pattern of the model in the two spatial dimensions numerically.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: nazimuddin@ewubd.edu

**Department of Applied Mathematics, University of Dhaka, Dhaka-1000, Bangladesh.
Email: msa317@yahoo.com

GANIT: Journal of Bangladesh Mathematical Society**,** Vol. 39, pp. 71-85, 2019.DOI: https://doi.org/10.3329/ganit.v39i0.44159, ISSN: 1606-3694

Riemannian Geometry and Modern Developments

A.K. M. Nazimuddin* and Md. Showkat Ali**

ABSTRACT

In this paper, we compute the Christoffel Symbols of the first kind, Christoffel Symbols of the second kind, Geodesics, Riemann Christoffel tensor, Ricci tensor and Scalar curvature from a metric which plays a fundamental role in the Riemannian geometry and modern differential geometry, where we consider MATLAB as a software tool for this implementation method. Also we have shown that, locally, any Riemannian 3-dimensional metric can be deformed along a direction into another metric that is conformal to a metric of constant curvature.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: nazimuddin@ewubd.edu

**Department of Applied Mathematics, University of Dhaka, Dhaka-1000, Bangladesh. Email: msa317@yahoo.com

GANIT: Journal of Bangladesh Mathematical Society, Vol. 39, pp. 119-126, 2019. DOI: https://doi.org/10.3329/ganit.v39i0.44163, ISSN: 1606-3694

Symplectic and Contact Geometry with Complex Manifolds

A.K. M. Nazimuddin* and Md. Showkat Ali**

ABSTRACT

In this paper, we discuss about almost complex structures and complex structures on Riemannian manifolds, symplectic manifolds and contact manifolds. We have also shown a special comparison between complex symplectic geometry and complex contact geometry. Also, the existence of a complex submanifold of n-dimensional complex manifold which intersects a real submanifold.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: nazimuddin@ewubd.edu

**Department of Applied Mathematics, University of Dhaka, Dhaka-1000, Bangladesh. Email: msa317@yahoo.com

***International Journal of Agricultural and Statistical Sciences*,** Vol. 15, No.1, 2019, pp. 123-130

Temperature Modeling of Rangpur Division, Bangladesh: A Comparative Study between Artificial Neural Network and Linear Regression Model

Sohel Rana*, Hanaa Elgohari** and **Md. Faruk Islam*****

ABSTRACT

The objective of this paper is to draw a comparison between the artificial neural network and linear regression models for temperature modeling in Rangpur division. Data exploited in this paper were compiled from Bangladesh department of Meteorology. Multiple Linear Regression (MLR) model and then Artificial Neural Network (ANN) model were performed on these data sets to understand which model gives better results. For both cases MLR and ANN all of the data sets were classified as test and training case and finally checked for cross validation. The outcomes of Multiple Linear Regression model were examined in contrast to the outcome of artificial Neural Network model in case of model fitting for temperature. The ANN model functions capably relative to MLR. Independent variables like the pressure of Sea level, Humidity, Dew point temperature, Wind speed in besides Rain fall all were captured by the previously mentioned artificial Neural chain together with Multiple Linear Regression. This is probably the first attempt to model temperature using ANN and MLR for Saidpur, Dinajpur and Rangpur Stations. The greater part of studies in model fitting for climate variables are Linear or Nonlinear Regression models, but this research work takes a different approach including ANN model.

Keywords: Artificial Neural Network, Multiple Regression, Training Set, Test Set, Cross Validation

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email:srana@ewubd.edu

**Department of Applied Statistics, Faculty of Commerce, Mansoura University, Egypt
Email: hanaa_elgohary@mans.edu.eg

***Department of Mathematical and Physical Sciences, East West University, Aftabnagar, Dhaka - 1212, Bangladesh

Communications in Statistics - Simulation and Computation, DOI: 10.1080/0361 0918.2019.1645172

Identification of Influential Observation in Linear Structural Relationship Model With Known Slope

Abu Sayed Md. Al Mamun*, Yong Zulina Zubairi**, Abdul Ghapor Hussin***, A. H. M. Rahmatullah Imon****, **Sohel Rana***** and Jalmar Carrasco******

ABSTRACT

A number of identification techniques are available in the literature to detect influential observations in linear regression models. However, the issue of the identification of influential observations in errors-in-variable models is still not very explored. In this paper we propose a new method for the identification of influential observations based on the *COVRATIO* statistic when the slope parameter is known. We determine the cut off point for this model on the basis of Monte Carlo simulation study and show that this cut off point performs well in the identification of influential observation in linear structural relationship model with known slope parameter. Finally, we present a real world example which also supports the findings obtained by the simulations earlier.

Keywords: Influential Observations, Errors-In-Variable Model, *COVRATIO* Statistic, Power of Performance

*Department of Statistics, University of Rajshahi, Bangladesh. Email: mithun_stat@yahoo.com

**Mathematics Division, Centre for Foundation Studies in Science, University of Malaya, Malaysia

***Faculty of Defense Science and Technology,National Defense University of Malaysia, Kuala Lumpur, Malaysia Email: ghapor@upnm.edu.my

****Department of Mathematical Sciences, Ball State University, Muncie, IN 47306, USA. Email: rimon@bsu.edu

*****Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email:srana@ewubd.edu

******Department of Statistics, Federal University of Bahai, Salvador, Brazil

F1000Research, 2019, 8:2045, DOI: 10.12688/f1000research.21202.1

Determining the l_x and Estimating the Force of Mortality for Children Under Five in Bangladesh

Md. Rafiqul Islam*, **Sohel Rana****, Md. Mosharaf Hossain***, Aziza Sultana Rosy Sarkar**** and Ruhani Mat Min***

ABSTRACT

Background: Under-five mortality is a health indicator in population health and the health sciences. Force of death is a more accurate measure of mortality than others, which indicates the situation of mortality when time tends to zero. The purpose of this research is to construct a simulation for l_x (the number of people living at exact age x) for under-five mortality in Bangladesh as a whole, and separately for rural and urban areas, and then estimating the mortality rate in regard to these matched models. Methods: Secondary data were collected from Bangladesh Demographic and Health Survey 2007. A polynomial model was selected to match the l_x values. To prove the accuracy of the model, the rule of cross-validity was applied. Results: It has been shown that fourth degree polynomial models can be adjusted to l_x values with explanation of more than 94% variation. It was noted that the mortality rate shows a rapidly decreasing pattern for people aged 0-20 months, a monotonically increasing pattern for those aged 20-53.5 months and then it begins to decrease. It is found that the mortality rate in rural areas is higher than in urban areas of all ages. Conclusions: It has been shown that the mortality rate in rural areas is higher than for urban areas of all ages, except for those aged 53.5 months. The health situation should therefore be improved to reduce mortality in rural Bangladesh.

Keywords: Fertility, Children Ever Born, Decision Trees, Regression Trees, Bangladesh Demographic and Health Survey

*Department of Population Science and Human Resource Development, Faculty of Science, University of Rajshahi, Rajshahi, 6205, Bangladesh.

**Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email:srana@ewubd.edu

***Department of Psychology and Counselling, Faculty of Business, Social & Economic Development, University Malaysia Terengganu, Kuala Nerus, Terengganu, 21030, Malaysia

****Department of Statistics, Faculty of Science, University of Rajshahi, Rajshahi, 6205, Bangladesh

Bulletin of the Korean Chemical Society**,** Volume 40, Issue 11, DOI https:// doi.org/10.100 2/bkcs.11869, ISSN number: 0253-2964, Page numbers: 1062-1067, Year of publication: 05 September 2019

Systematic Investigation into the Differences in the (+) APPI Efficiencies of Positional (Ortho, Meta, and Para) Isomers

Arif Ahmed, Syful Islam, Nissa Nurfajrin Solihat, **Thamina Acter*** and Sunghwan Kim

ABSTRACT

Understanding the underlying principle behind the ionization technique is important for improving the sensitivity and selectivity of mass spectrometry (MS), and analyte–solvent interactions are important factors that affect the ionization process. In this study, analyte–solvent interactions were investigated using a series of ortho, meta, and para isomers, (+) APPI-MS, and computational chemistry. Experimental results reveal that isomers can have vastly different ionization efficiencies, despite their identical elemental formulas and functional groups. To better understand the reasons behind these observations, various analyte–solvent radical-ion complexes were investigated by quantum mechanical techniques, and the factors that contribute to the differences in the ion-formation behavior of these compounds were thoroughly investigated.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: aktermina10@ewubd.edu

Analytical and Bioanalytical Chemistry**,** Volume 412, DOI https://doi.org/10.007/s00216-019-02272-5, Page numbers: 243–255, Year of publication: 16 December 2019

Application of Silver-Assisted Laser Desorption Ionization Ultrahigh-Resolution Mass Spectrometry for the Speciation of Sulfur Compounds

Thamina Acter*, Nissa Nurfajrin Solihat, Sungjune Kim, Nizam Uddin, Ahmad Ismail Mustafa, Sayed Md. Shamsuddin and Sunghwan Kim

ABSTRACT

We herein report the optimization and application of silver cationization (Ag+) in combination with laser desorption ionization (LDI) ultrahigh-resolution mass spectrometry (UHR-MS) to determine the structures of the sulfur-containing compounds present in heavy crude oil. A number of sulfur-containing model compounds were used to optimize the positive-ion mode LDI-MS conditions in the presence of a silver-complexing agent. Under the optimized LDI conditions, sulfur-rich heavy oil fractions were treated with the silver salt, where Ag+ coordinated with the sulfur atoms to speciate the sulfur species. The obtained results suggested that benzothiophenic, naphtheno-non-aromatic sulfides, and non-aromatic thiols were the major components present in the analyzed oil sample.

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: aktermina10@ewubd.edu

***Peer J*,** Volume: 7:e8045, DOI: 10.7717/peerj.8045; PMID: 31772835 PMCID: PMC6876537.Year of publication: 2019

Oral Toxicity of Arjunolic Acid on Hematological, Biochemical and Histopathological Investigations in Female Sprague Dawley Rats

Khurram Aamir, Hidayat Ullah Khan, **Chowdhury Faiz Hossain*, Mst. Rejina Afrin****, Imam Shaik, Naguib Salleh, Nelli Giribabu and Aditya Arya

ABSTRACT

Background: Arjunolic acid (AA) is a potent phytochemical with wider pharmacological activities. Despite potential medicinal properties on various in vitro and in vivo studies, there is still a dearth of scientific data related to its safety profile and toxicological parameters. The current study aimed to investigate acute toxicity of AA in normal female Sprague Dawley rats. Methods: In this study, AA was administered orally at an individual dose of 300 and 2000 mg/kg body weight to group 1 and 2 respectively, while group 3 served as normal control. All the animals were observed for 2 weeks to determine any behavioral and physical changes. On day 15, blood was collected for hematological and biochemical investigation, later animals from all the three groups were euthanized to harvest and store essential organs for histopathological analysis. Four different staining techniques; hematoxylin and eosin, Masson trichrome, Periodic acid Schiff and Oil O Red were used to investigate any alterations in different tissues through microscopical observation. Results: The results of the study showed no morbidity and mortality at two different dosage of AA treatment. Daily food & water intake, body weight, relative organ weight, hematological and biochemical parameters were detected to be normal with no severe alteration seen through microscopical investigation in the structure of harvested tissues. Our findings support the safety profile of AA, which was well tolerated at higher dose. Thus, an in-detail study on the subacute disease model is warranted.

*Department of Pharmacy, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: faiz@ewubd.edu

**Department of Pharmacy, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: drja@ewubd.edu

Journal of Research in Pharmacy**,** Volume: 23(3), Page number:559-566 .DOI: 10.12991/jrp.2019.163, Year of publication: 2019

Antimicrobial Activity of the Crude Extract, Fractions and Isolation of Zerumbone from the Rhizomes of *Zingiber Roseum*

Mohammad Al-Amin, Mohammad Arafat Siddiqui, Shamima Afrin Ruma, Nagla Mustafa Eltayeb, Gazi Nurun Nahar Sultana, Salizawati Muhamad Salhimi and **Chowdhury Faiz Hossain***

ABSTRACT

The rhizome of Zingiber roseum has been used as traditional medicines for the treatment of gastric ulcer, skin diseases, and liver infections. Zerumbone is an essential sesquiterpenoid previously isolated from different species of Zingiberaceae and possesses numerous pharmacological properties. Based on previous reports, the aim of the current study was to investigate the antimicrobial activity of extract, fractions, and isolation of zerumbone from Zingiber roseum. The antimicrobial activity was determined using disc diffusion method. The serial tube dilution technique was used to determine Minimum Inhibitory Concentration (MIC) of the samples. Vacuum Liquid Chromatography (VLC) and open column chromatography were used for separation. The methanol extract exhibited maximum antimicrobial activity against Escherichia coli, Saccharomyces cerevisiae, and Aspergillus niger in both methods. VLC of the extract yielded five fractions (Fr. 1 to Fr. 5). Fr. 1 exhibited maximum antimicrobial activity compared to the other fractions. Column chromatography of Fr.1 generated 47 fractions. Fraction 1 to 9 were combined and crystallized in n-hexane to isolate zerumbone as the most abundant source (yield 6.5 % from dried MeOH extract). Zerumbone showed good activity against all tested bacteria. The results of our study might validate the ethnobotanical use of Zingiber roseum rhizomes in the treatment of infectious diseases. Moreover, Zingiber roseum could be one of the most abundant sources for the isolation of natural zerumbone to study different pharmacological studies in the field of new drug discovery.

*Department of Pharmacy, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: faiz@ewubd.edu

***Conference 98th Transportation Research Board Meeting*,** National Academies, Washington D.C., USA, January, 2019. ISSN number: https://trid.trb.org/view/1572 252

Public-Private Partnerships for Roadway Construction and Preservation, and Traffic Safety: An Exploratory Empirical Analysis of Crash Frequencies

Md Tawfiq Sarwar*, Abhishek Bhargava, SarvaniSonduruPantangi, Panagiotis ChAnastasopoulos and Satish B Mohan

ABSTRACT

Public-Private Partnership (PPP) in transportation infrastructure projects is a promising alternative to the traditional approaches where work is either done in-house or is done by hiring contractors to do a few specific tasks depending on availability of transportation agency resources. PPP contracts ensure greater private sector participation and responsibility in project delivery. Different contracting approaches have been used over the past couple of decades. This paper seeks to provide important insights into the different PPP contracting approaches by comparing them from the perspective of transportation safety, i.e., by comparing number of crashes during the contract execution period. An assessment of whether the safety performance of the identified PPP contract types is different or not has been made. Using data from 645 PPP contracts that were executed across multiple states in the US between 1996 and 2011, crash count data models were developed taking into consideration unobserved heterogeneity and heterogeneity in means. The results show that several contract characteristics (contract cost, duration, size in lane-mile), pavement condition, road geometry (shoulder width, median, intersection), traffic characteristics (AADT, truck percentage), and contract work activities affect safety during execution of the contract. Cost plus time (A+B) and incentives/disincentives (I/D) contract types were in general observed to be safer in overall model. The random parameters revealed the mixed effect of the variables on crash count. Crashes were less for contracts that have high cost, shorter duration, cover less lane-miles, more asset work activities and executed at sites with better pavement and drainage conditions; more lanes, curves and junctions.

*Department of Civil Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: mdtawfiq@ewubd.edu

1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT-2019), May 3-5, 2019, East West University, Dhaka, Bangladesh, Publishing Year: 2019

Real-time Water Vehicle Monitoring and Tracking System for Bangladesh

Mohammad Salah Uddin* and Md. Naim Khan

ABSTRACT

This paper presents a monitoring/tracking system for water passenger vehicle such as vessels or ferries. Bangladesh is a land of rivers. Each and every year peoples die due to accidents in water vehicles. The rescue teams are unable to reach there on time due to the communication barriers which causes huge damages in life. On the other hand, some captains of ferries/vessels do not maintain the weather notifications as well as overload the vessels before leaving the terminal, which are the main reasons for accident listed by BIWTA. In this regard, we have proposed real time monitoring/tracking system for water vehicle. The system (continuously) monitors the status (such as geo-location, load information, the orientation etc.) of the vehicles and sends reports to the ground/control station. As a result, the ground station will always be aware of vehicle status. The details design and implementation of proposed system are also discussed in this paper. The proposed system increases the safety by reducing the number/chances of accidents.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: akash.bangla@gmail.com, naim1248@gmail.com

IEEE 6th International Conference on Engineering, Technologies and Applied Science (ICETAS 2019), December 20-21, 2019, Kuala Lumpur, Malaysia. Publishing Year: 2019

Low Cost Lightweight Obstacle Detection System for Micro Aerial Vehicles

Mohammad Salah Uddin*

ABSTRACT

This paper describes a lightweight obstacle detection system for Micro Aerial Vehicles (MAVs). This system is composed of multiple infrared (IR) proximity sensors interconnected through an open source development board. Standard methods for obstacle detection for UAVs commonly rely on sensory systems, such as, cameras and range finders. These sensors are usually very expensive. Moreover, their use is limited by both the payload and the computational resources available on the vehicle. By contrast, proximity sensors are cheap as well as lightweight. They can allow to detect the presence of objects in the nearby without any physical contact. We installed the system on a Parrot AR. Drone. This drone is a MAV with low payload capacity. Experiments in both simulation and real environments have been performed to test the effectiveness of our system.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: akash.bangla@gmail.com, uddin@ewubd.edu, akash.bangla@gmail.com

IEEE 6th International Conference on Engineering, Technologies and Applied Science (ICETAS 2019), December 20-21, 2019, Kuala Lumpur, Malaysia. Publishing Year: 2019

Development of Wearable Emergency Response System for Women

Mohammad Salah Uddin*

ABSTRACT

This paper presents a wearable emergency response system for women based on Internet of things (IoT) by considering the viewpoint of Bangladesh. Different type of sexual violence against women are happened all over the Bangladesh. Rape is the most common type of violence against women in recent days in our country. Rape is increasing rapidly. Victims of rape are not interested to file a legal complain against rapist, due to social barriers. Sometimes they feel shy and uncomfortable. In this regard a connected wearable device is introduced. This wearable device will established a communication among women with their family members, police station and nearby volunteer people. In extreme condition, a victim can able to make a help request directly to police station as well as nearby volunteer people (eager to help) and their family members by simply pressing a button of the proposed device. The conceptual design and implementation of the wearable device is discussed on this paper.

*Department of Computer Science and Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: akash.bangla@gmail.com, uddin@ewubd.edu, akash.bangla@gmail.com

International Conference on Mobile Computing and Ubiquitous Network (ICMU), Kathmandu, Nepal,2019,pp.1-4,doi:10.23919/ICMU48249.2019.9006644

Detour Path Angular Information based Range Free Localization with Last Hop RSSI Measurement based Distance Calculation

Anup Kumar Paul*, Mohammad Arifuzzaman, Keping Yu and Takuro Sato

ABSTRACT

The location estimation accuracy of range-free localization (RFL) is a crucial issue in Wireless Sensor Networks (WSNs). The accuracy has significant impact on localization dependent routing protocols and applications. The assumption that the sensor nodes are deployed in regular areas without any obstacles do not match the practical deployment scenarios, especially for scenarios like outdoor deployment of WSNs. In this paper, we propose a hybrid solution by combining a RFL method and range-based localization (RBL) method namely Received Signal Strength Indication (RSSI) to tackle the detoured path between sensors in anisotropic network and to combat the last hop distance calculation problem respectively. As a result, our hybrid approach significantly improves the localization accuracy in anisotropic network as compared to range free method only. We calculate the average hop distance (AHD) of detoured path by estimating the angle of the middle of the transmission path between every two anchor pairs one by one. The AHD is finally adjusted by estimating the RSSI based last hop distance measurement. Based on the simulation results, it is observed that our hybrid approach with few anchor nodes outperforms other RFL algorithms in anisotropic network and indicates an improvement in the localization accuracy.

*Department of Electronics and Communication Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: anuppaul@ewubd.edu

International Conference on Electrical, Computer and Communication Engineering (ECCE), Cox's Bazar, Bangladesh,2019,pp.1-6,doi:10.1109/ECACE. 2019.8679200

A Narrative Analysis on Deep Learning in IoT based Medical Big Data Analysis with Future Perspectives

Tasnova Tabassum Chhowa, Md. Asadur Rahman, **Anup Kumar Paul*** and Rasel Ahmmed

ABSTRACT

The analysis of health-specific parameters and IoT based health monitoring system become a very challenging research scope to merge them with big data handling capability. This paper proposes an idea describing the possible ways to monitor and analyze health conditions collaborating IoT based medical big data through deep learning algorithm. The recent research trend regarding the concerning field often utilizes the conventional machine learning based algorithms those are not suitable for IoT based big medical data because of their manual feature extraction and less accuracy. On this contrary, this paper widely reviews the different research works regarding the big data handling in deep machine learning approaches and their proposals for health monitoring, applicability on IoT based system, accuracy, and suitability regarding big data analysis. Eventually, this paper focuses on deep learning based IoT system for health monitoring tools and contributes to providing relevant results to the different remote doctors in the area of IoT architecture to ensure propzer knowledge about critical patients. It is an approach to synchronize them in a platform that could be a potential solution for the upcoming researchers to implement a sustainable online based health monitoring system with big data accessing capability. In addition, this research will be effective for medical experts to ensure appropriate healthcare facilities to the mass people in the future.

*Department of Electronics and Communication Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: anuppaul@ewubd.edu

1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT), May 3-5, 2019, IEEE , DOI: 10.1109/ICASERT.2019. 8934494, Year of Publication: 2019

Performance Analysis of a CPDM-QPSK Direct Detection Optical Transmission System under the Effects of Cross-Polarization

K. M. Sharoar Jahan Choyon*, **S. M. Raiyan Chowdhury**** and Ruhin Chowdhury***

ABSTRACT

Analysis is developed for a Circular Polarization Division Multiplexing Quadrature Phase Shift Keying (CPDM-QPSK) with direct detection optical transmission system considering the impact of the crosstalk (Xtalk) owing to cross-polarization (XPol) induced crosstalk by arbitrary misalignment of the SOPs. A thorough analysis is demonstrated to acquire the output expression of the Signal to Crosstalk plus Noise Ratio (SCNR) for a direct detection CPDMQPSK receiver. Considering the Maxwellian distribution of the random misalignment angles, the outcome of Bit Error Rate (BER) performance is presented ultimately. Moreover, cross-polarization affects the BER performances and thus the system suffers a significant deterioration from the expected results. It can also be observed that, the system suffers power penalty of 0.18, 0.92 and 4.44 dB for misalignment angle of 10, 11 and 12 degrees respectively at BER of 10-9

*Department of EECE, Military Institute of Science & Technology (MIST), Dhaka, Bangladesh, Email: choyonsharoar@gmail.com

**Department of Electronics and Communication Engineering, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: smraiyanchowdhury@pg. eee.buet.ac.bd, raiyan@ewubd.edu

***Department of EECE, Military Institute of Science & Technology (MIST), Dhaka, Bangladesh, Email: ruhio138@gmail.com

5th International Conference on Public Health 2019 (ICOPH 2019), Kuala Lumpur, Malaysia July 10-12, 2019, eISSN: 2424-6735, Year of Publication: 2019

Reproductive and Socio-demographic Factors Associated with Ovarian Cancer Risk among Bangladeshi Women

Roushney Fatima Mukti*

ABSTRACT

The burden of ovarian cancer is becoming very acute in Bangladesh every year. The present study was conducted to evaluate the reproductive, socio-economic and demographic factors associated with the risk of ovarian cancer among Bangladeshi women. This population based cross sectional study was carried out in 200 women from January 2018 to January 2019 using a structured questionnaire containing details of some known reproductive, socio-economic and demographic risk factors of ovarian cancer. Descriptive statistics and testing of hypotheses were used for the analysis using SPSS software (version 25.0). According to this study, ovarian cancer was more prevalent among women who had early marriage (95%). Abortion (OR=12.57; RR=2.12; chi square value=23.86) and miscarriage (OR=14.79; RR=1.99; chi square value=11.06) were the top most reproductive factors associated with ovarian cancer risk. Ratios of taking contraceptive pill for 0-2 and >5 years of patients and controls were 22:11 and 4:1 respectively. 64% patients had menarche at 11-15 years while 92% of the control had it at 6-10 years age. 60% patients used cloths during menstruation whereas 95% in the control group used sanitary napkins. 49% of the patients had minimal sanitary access and about one third of the study population (33%) had no proper sanitation system. 66% patients were illiterate while 61% women in control group were highly educated. 68% patients lived in rural area, and 98% of them were housewives. The results indicate the importance of creating awareness about ovarian cancer risk factors and making appropriate access to sanitation, health and education services for the illiterate, poor and rural women in Bangladesh.

*Department of Genetic Engineering and Biotechnology, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: roushney@ewubd.edu

Conference Proceedings of the ISI world statistics congress 2019**,** Special topic session, Volume 1, pp. 384- 391

Outlier Detection in Poisson Regression Model: Evidence from Bangladesh Demographic and Health Survey Data

Sohel Rana* and Arezoo Bagheri**

ABSTRACT

The Poisson regression model can be applied when the dependent variable of interest is a numerical count. In demography field, fertility, divorce, and mobility could be modeled by poisson regression. In many cases, the assumption of having equal mean and variance for the count response in this model is not fulfilled. So, variability of the data may not adequately be captured. This overdispersion situation may arise due to the effect of outliers, outlying observations, in the model. Thus, diagnosing these cases is one of the important steps of data analyzing specially in the situation of studying national data such as demographic and health survey data. Applying classical diagnostic methods by the presence of outliers may be strongly influenced by the outliers. In this situation, robust outlier detection methods are recommended. In this article, different types of poisson regression residuals are studied for identification of outliers. Moreover, a robust approach is proposed to detect the outlier in modeling children ever born using Bangladesh Demographic and Health Survey Data. Simulation results also confirmed the merit of the proposed robust approach in detecting outliers in possion data.

Keywords: Poisson Regression Model, Outliers, Count Data

*Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email:srana@ewubd.edu

**Department of Statistical Methods and modeling population, National Population Studies & Comprehensive Management Institute, Tehran, Iran. Email: arezoo.bagheri@psri.ac.ir

AIP Conference Proceedings, Vol 2184, 050022 (2019); https://doi.org/10.1 063/1. 5136410

Robust Inference in the Presence of Heteroscedasticity and High Leverage Points

Adamu Adamu Muhammad* and **Sohel Rana****

ABSTRACT

Heteroscedasticity-consistent covariance matrix estimators are used as consistent estimates of variances of the parameters in linear regression. Different estimators known as HC0, HC3, HC4 and HC5 among others, were proposed in the literature as substitutes to the usual regression parameters' standard error, in order to alleviate the effect of the heteroscedastic variances. Although, most of these estimators were designed to also take care of the problem of high leverage points, nevertheless weighted version of these estimators were also proposed to further overcome the high leverage points. This article builds up from one existing weighted estimator, and proposed new weighting methods. We have tested their performance and found them useful on HC4 and HC5.

Keywords: Heteroscedasticity, High Leverage Points, Regression

*Department of Mathematical Sciences, Bauchi State University Gadau, PMB 65, Bauchi State, Nigeria. E-mail: adamudbm1@yahoo.com

**Department of Mathematical and Physical Sciences, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email:srana@ewubd.edu

***4th Young Scientist Congress 2019, Bangladesh Academy of Sciences*,** National Science & Technology Museum Bhaban, Agargaon, Dhaka-1207, Bangladesh. 13-15 December, 2019. Year of Publication: 2019

Hepatoprotective Effects of Le Carbone, A Dietary Supplement in Non-Alcoholic Steatohepatitis-Hepatocellular Carcinoma Mouse Model through Modulation of Lipogenesis and Oxidative Stress

Mst. Rejina Afrin*, Somasundaram Arumugam, Vengadeshprabhu Karuppagounder, Meilei Harima and Kenichi Watanabe

ABSTRACT

Background and objectives: Non-alcoholic steatohepatitis (NASH) is becoming the most common cause of hepatocellular carcinoma (HCC) in developed countries. Le Carbone (LC) is a charcoal supplement, enriched with dietary fibers, claimed to be effective against inflammation associated with colitis, trimethylaminuria, and sclerosis. The study aimed to investigate the underlying mechanisms of LC to protect liver damage and progression of NASH in NASH-HCC mice model. Methods: C57BL/6J male pups were exposed to low-dose streptozotocin (STZ) and fed a high fat diet (HFD) 32 from the age of 4 weeks to 16 weeks. LC suspension was administered orally using at a dose of 5 mg/mouse/day started at the age of 6 weeks and continued until 16 weeks of age along with HFD32 feeding. At the age of 16 weeks, serum and liver tissues were separated for biochemical, histological, and molecular analysis. Results: LC suspension improved the histopathological changes in NASH liver via reducing steatosis as assessed by H&E staining and aminotransferases levels in serum. Furthermore, LC suspension prevented the lipogenesis and promoted fatty acid oxidation in NASH liver by significantly increasing hepatocytes protein expression of peroxisome proliferator-activated receptor (PPAR)-α and decreasing PPARγ in NASH mice. The phosphorylation of AMPKα and the protein expression of SIRT1, HO-1 were significantly reduced in the NASH liver when compared to the normal mice. In addition, oxidative stress, and HCC marker protein, glypican-3 were also markedly increased in NASH liver. But, administration of LC suspension significantly reversed all of these expressions in NASH liver. Conclusions: Taken together, our results demonstrate that LC reduces the liver damage and progression of NASH which may by downregulating the lipogenesis and oxidative stress.

*Department of Pharmacy, East West University, A/2, Jahurul Islam Avenue, Aftabnagar, Dhaka 1212, Bangladesh, Email: drja@ewubd.edu

Faculty of Liberal Arts and Social Sciences

Economic Development Versus Human Rights Abuse: Shrimp Culture in the South, ISBN: 978-984-34-7371-4, Date of Publication: October, 2019, Page number: 65-96

Salinity, Standard of Living and Rights

Psymhe Wadud and **Sayeed Hossain Sarwar***

ABSTRACT

Shrimp cultivation is widely expanding in the salinity prone coastal region of Bangladesh, partly motivated by the unique geographical characteristics of the region. While the area possesses a unique geographical condition, the group of owners of the Gher is over-exploiting this very geographical trait for their business interest i.e. expansion of Gher. Consequently, unplanned and unorganized shrimp culture has emerged as threat to natural supply of safe water, agriculture production, livestock rearing, public health and socio-economic sustainability of the research areas. This chapter, at the onset, shows how State and non-State actors contributed to the intrusion of salinity in the research areas and how this in turn has been a bar to the enjoyment of an adequate standard of living for the people. It adopts 'adequate standard of living' enshrined within national and international instruments, with a specific focus on the constitutional provisions relating thereto and relevant provisions of International Covenant on Economic Social and Cultural Rights 1966. The ICESCR confirms recognition by the States Parties of "the right of everyone to an adequate standard of living including adequate food, clothing and housing, and to the continuous improvement of living conditions. Linguistically on a similar tone, our Constitution speaks of the fundamental responsibility of the State concerning the provision of the basic necessities of life, including food, clothing, shelter, education and medical care. Enter-twining the relevant provisions of the ICESCR and our Constitution, and depending on the primary data collected from the research areas, this chapter aims at assessing right to food, education and health as the determinants underlying adequate standard of living. The research uses empirical research methodology to collect data and focuses on the qualitative data analysis.

*Department of Law, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: sayeedsarwar@ewubd.edu

THT Journal**,** Vol. 7, 2019 THT Journal - Print edition: ISSN 2188-0603 Online edition: ISSN 2188-0611 Page number: 65-91 Year of publication: 2019

Exploring English Language Learning Demotivation in Bangladesh

Moriam Quadir*

ABSTRACT

There is only a few empirical evidence of exploring the sources of learner demotivation in EFL research literature of the third world countries. Basing on a qualitative investigation this paper reports the underlying sources of student demotivation to study English as a school subject at higher secondary (HS) level (grade 11 and 12) in Bangladesh. A total number of 36 freshmen and sophomores of three different universities were interviewed to explore the demotivators they experienced at the last stage of high school. An interview guide was developed following the L2 demotivation factors listed by Dörnyei (1998, reported in Dörnyei, 2001) and HS students' accounts collected in the trail runs of this research. The collected data was analyzed following Miles and Huberman (1994) procedure of qualitative data analysis. From the analysis five dominant factors were identified, in descending order: EFL Teachers' competence and behavior, Learners' previous experiences, Private tutoring, Attitude of group members, Institutional facilities. Each of these factors comprises further sub-components indicating more specific reasons of demotivation. Two other factors: Textbooks and Attitude towards English study were found to be weak in the educational context of Bangladesh. Feasible implications are discussed addressing the demotivation factors identified in this paper for amelioration of the situations.

*Department of English, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: moriam@ewubd.edu

Library Philosophy and Practice**,** 2746, Page Number: Online available: https://digitalcommons.unl.edu/libphilprac/2746, ISSN: 1522-0222, Year of Publication 2019

Incorporating Social Media into Library Services: Present Scenario at East West University Library

Dilara Begum*

ABSTRACT

In the third millennium, people look forward for ushering the innovations and people's rapport is getting more and more convenient with the growth of social media tools. The usages of social media by libraries encompass a vast array of platforms with many contingencies features containing new ways for library patrons in terms of promoting their information services and products. This paper delineates elaborately the incorporation of social media by East West University Library (EWU, L), Bangladesh as it is one of the precursor academic libraries in Bangladesh where all forms of contemporary technologies and services have been integrating with great importance. This library has been practicing a variety of social media tools, which have been explored from personal observation and practical experiences. The effectiveness of the diversified use of social media tools in academic libraries in order to maximize the usage of library collections and services as well as to fulfill the user's contentment have been figured out from the blended efforts of analyzing different relevant documents as well as the features of existing popular social networking platforms.

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

Journal of Advanced Research in Library and Information Science, Volume and issue: 6(2), Page numbers: 7, Year of publication: 2019, ISSN: 2395-2288

Mapping of Agriculture Research in Bangladesh: A Scientometric Analysis

Rajesh Kumar Das*, Susmita Das and **Rumana Rahman****

ABSTRACT

The study counts the number of the agricultural research conducted in geographic area of Bangladesh during the year 1976 to 2018, indexed in BanglaJOL. It attempts to examine the research performance of all agriculture research publications by Bangladeshi scientists. The BanglaJOL was used to collect the data to find the publication produced in the geographic area of Bangladesh. Different types of journals were examined and 4119 agriculture research papers were found. The research result was made on several parameters: publication outputs, subject categories and major journals, author productivity, geographic and institutional distribution of publications, and keyword-density analysis. From the result, the publications get relative growth rate, ranking of agriculture research journals, doubling time, leading institution, most prolific Bangladeshi institutions such as author productivity, authorship collaboration, degree of collaboration, collaboration index and collaborative coefficient, major collaborating partner countries and keyword density analysis for highly researched keywords. Keywords: Agriculture Research, Agricultural Science, Scientometrics, Bangladesh

*Department of Information Sciences and Library Management, Noakhali Science and Technology University. Email: rajesh@nstu.edu.bd

**Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: shithi@ewubd.edu

Australian Journal of Asian Law**,** Vol No.19, Issue No. 2, Article No. 3, Name of book/ edited book ISSN number: 1839-4191, Page numbers: : 1-19, Year of publication: 2019

Plea-Bargaining: Socio-Legal Impacts on the Criminal Justice System of Bangladesh

Md. Pizuar Hossain* and Tureen Afroz

ABSTRACT

The possibility of introducing plea-bargaining in the Bangladesh criminal justice system has been much debated. It is argued that it is necessary to ensure the speedy disposal of cases, save time and money, and reduce the caseload of courts and prison overcrowding. The counter arguments include that if it is introduced in Bangladesh, it will deprive citizens of constitutionally recognised rights and increase the risk of arbitrariness in criminal trials. This article considers both sides of the debate and proposes guidelines and procedures for a system of plea-bargaining that take into account the unique socio-legal circumstances of Bangladesh.

*Department of Law, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: pizuar@ewubd.edu

INSEARCH-2019: 6th International Integrative Research Conference on Governance in Society, Business and Environment, Bangladesh Academy for Rural Development (BARD), Bangladesh**,** December 18-19, 2019, ISNB: 978-984-93566-6-0, Page No. 111

Unique Strategies of Unionization of the Garment Workers in Bangladesh: Legal or Extralegal

S. M. Anowarul Kayes Shimul*

ABSTRACT

The Readymade Garments Industry (RMG) is the most important source of export earnings of Bangladesh. According to the World Bank's 2016 estimate, the export earnings of this sector was USD 28.14 billion which cover 80.7% of the total export earnings and 12.36% of the total GDP. However, the practice of trade union rights of the workers is extremely limited in the garments sector. Therefore, this study revisits and explores the unionization of the ready-made garment workers in Bangladesh which might help to improve our knowledge about the resilience capacity of the workers and what interesting responses are attempted by laborers to find new forms of power and leverage at present. To explore those objectives, 20 garment worker participants located in Gazipur at Dhaka, Bangladesh, were selected using a snowball sampling technique. In addition, 4 Key Informants including workers' leaders, government officials, and labor study experts were selected using researchers' judgement. The primary data was collected from March to June 2018, using interview guides for qualitative case studies; moreover, some secondary data sources and the Bangladesh Labor Act were included in the analysis. The study found that the Bangladesh Labor Act incorporated certain provisions in the name of participation committee which created scope for the owner to bypass trade union as participation committee has no bargaining power and includes members from both workers and employers. Besides, owners are manipulating the provisions of trade unions creating "pocket unions" which serves the interest of the owners. On the other hand, despite the pressure from national and international sources, the registration of the plant level trade union is still very slow and riddled with problems. In the current situation, national level federations have designed a few innovative extralegal strategies like formulating local committees and factory level teams that function without any registration to mobilize the workers. The study enriches the existing knowledge about unionization in the backdrop of adversities constituted by different stakeholders and suggests that repression on unionization leads to bending of legalities.

Keywords: Readymade Garment Industry, Unionization Strategies, Legal and Extralegal

*Department of Sociology, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: Kayes@ewubd.edu

Name of conference for conference proceedings: Regional experts' symposium on ecosystem-based adaptation in the Hindu Kush Himalaya, Chengdu, Sichuan Province, China, Year of publication: 2019

Public Participation in Ecosystem-Based Adaptation: Myth and Reality

Md Rezwan Siddiqui*

ABSTRACT

Public participation, one of the key principles of climate change governance is now widely used in adaption and mitigation efforts due to its long-term social, economic, environmental implication and intergenerational dimensions. It is also one of the key organizing principles of the ecosystem-based adaption (EbA), due to its inherent people-centric nature. The result of any EbA can vary significantly depending on mode (e.g. whether invited or invented, following the deficit or civic model of information flow), intensity, temporality and extent of public participation. Although the scholarship of adaption and ecosystem-based adaptation has advanced significantly, our understanding of the role of public participation in EbA has remained mediocre. This research examined the role of public participation in ecosystem-based adaptation in Bangladesh. Based on qualitative surveys, group discussion and key informant interviews in the South-western part of Bangladesh, this paper assessed the myth and reality of public participation in ensuring good governance. This research found that there are significant differences between the optimum use with the actual practice of public participation in EbA. Approaches of public participation also vary between projects and activities. Some of the key issues like early involvement, representativeness of population are still limited or unsatisfactory. Community leaders, government officials, and the projects' officials themselves - are still the key players in policy formulation, scope and activity design, beneficiary and area selection of EbA – instead of the populace. Gender inclusiveness, on the other hand, has considerably improved sustainability of EbA. Although one of the key goals of EbA – "value for money" is often achieved and therefore flaunted as the achievement of EbA, (use of) tools for measuring (long-term) sustainability is yet rare. This research also discusses the roles of public participation in enhancing the effectiveness of the EbA by carefully examining the challenges.

*Department of Social Relations, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: rezsid@gmail.com

International Conference on Information and Knowledge Management; "Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development", Dhaka: Bangladesh Public Administration Training Center, p. 170. (2019)

The Impact of Information Seeking Behavior of Library Users in Service Innovation: A Study of East West University Library

Abdur Rahaman Sumon*

ABSTRACT

Purpose: The purpose of this study is to investigate the relationship between service innovations and information seeking behavior of library users. The study aims to highlight how these two concepts can be integrated to determine the key aspects of information seeking and innovations in service design in academic libraries. Methodology: An extensive literature review has been conducted to build the connection between the two key concepts of the study. The study is based on an in-depth case study, with structured questionnaire. A total of 350 questionnaires were distributed to the users of East West University Library from which 320 questionnaires were analyzed for the purpose of the study. The sample data were collected from the library users including, students and faculty members of East West University Library for a duration of 1 month. Findings: The structured questionnaire contained both close-ended and open-ended questions regarding the criteria the EWU library professionals have set to provide services. The findings throws light on the way EWU determines their user needs and address them, and how often library services are updated and new innovations incorporated. The study attempts to identify the service innovation criteria for academic libraries and based on our findings, we suggest that understanding the different information seeking behavior of the users can impact on how services can be provided. The diverse seeking behavior has led to many innovative services in EWU library. The finding also suggests that EWU library has been a model for the usage of emerging technologies in terms of designing and providing better services to its users for other libraries of the country. Research limitation: The study was conducted with the data collected from one academic library, i.e. EWU library. EWU was chosen as one of the oldest digital libraries in Bangladesh. The study could also have been conducted on other academic libraries or a comparison could have been designed to carry on further research in the area. Practical implications: The findings of this study will shed light to design information systems and services for the users of different libraries and information centers in Bangladesh. It will also help libraries and information centers to develop innovative information systems and services depending upon the changing needs of the information seekers. Originality/value: This is the first time an attempt has been made to assess the impact of information seeking behavior in service innovation in East West University. This paper contributes to the very limited research literature on the topic in Bangladesh.

Keywords: Information Need, Information Seeking Behavior, Information Sources, Service Innovation, East West University, Bangladesh

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: a.r.sumon64@gmail.com

International Conference on Digital Landscape, Digital Transformation for an Agile Environment. Paper presented at ICDL 2019, 6-8 November (p. 528). New Delhi, India: The Energy and Resources Institute

Research Data Management (RDM): Demystifying the Notion about Data Librarians

Tamanna Hossain*, Dilara Begum, Md. Hasinul Elahi***** and **Abdur Rahaman Sumon******

ABSTRACT

The study aims to focus on the emergence of the concept of data librarian in the field of research and innovation. The authors concerned a vast number of literature to determine the evolution of data librarians in the21st century. A semi-structured interview was conducted with LIS professionals to determine the likely impact of data librarian ship. The findings suggest that LIS professionals in some cases are well equipped to sustain amidst the transition from contemporary librarianship to data librarianship. The paper also highlighted some of the existing roles and new roles that the librarians are needed to play. The authors provided a conceptual framework to educate and aware the data librarians. Few challenges and recommendations were lastly discussed in the paper.

Keywords: Data Science, Data Librarianship, Data Librarian, Data Curator, Research Data Management

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: hossain.tamanna@ewubd.edu

**Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

***Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: h.elahi@ewubd.edu

****Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: a.r.sumon64@gmail.com and arsumon@ewubd.edu

International Conference on Information and Knowledge Management; "Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development", Dhaka: Bangladesh Public Administration Training Center, p. 128. (2019)

Measuring the Progress towards Attaining the SDGs: Bangladesh Government Initiative of SDG Tracker

Tamanna Hossain*, Abdur Rahaman Sumon* and **Rumana Rahman***

ABSTRACT

Purpose: The paper is mainly focused on measuring the progress towards the attainment of the SDGs of Bangladesh within the time frame of 2030. It is evident from the recent past that, Bangladesh has been highly constructive in making decisions of sustainable development. Progress in achieving the SDGs is noticeable in sectors such as education, health and poverty. In addressing this issue and ensuring the transparency and accountability of its citizens, Bangladesh Government has come up with the idea of a web-based information repository called 'Bangladesh's Development Mirror: SDG Tracker. The study will focus on the SDG Tracker of Bangladesh and analyze the current scenario based on the available data in the repository. Methodology: The study is based on a systematic literature review to understand and determine the condition of SDGs in other developing countries. The author's intention is to delineate the SDG Tracker of Bangladesh, which is examined using the case study method. The web-based repository has been studied comprehensively and each of the Sustainable Development Goals has been addressed by comparing the available data against the targets set and major indicators. Other than Bangladesh, seven other countries have taken the initiative of making use of the SDG Tracker, their initiatives were also studied for the purpose of making comparison. The study has been conducted by comparing the data within the time frame of ten years till now to estimate the possibilities of reaching the desired goals by2030. Findings: The findings of the study reveal interesting facts and statistical data about the different SDGs and their indicators. It was evident from the results that most indicators lack specific data related to the goals. For example, Goal 1 of "no poverty" has 16 indicators in total, but data were only available for 8 indicators. Some goals had data from1991 to date, whereas some other goals had data available from2000 to date. By means of understanding and studying the available data of the Tracker it could be identified which goals need more attention and which goals are showing signs of timely achievement. Recommendations were made after a thorough analysis and measurement so that the SDGs can be attained with maximum efficacy. Practical/Social implication: The results of the study reveal the present condition of the SDGs in Bangladesh. The study highlights the overall future and the pitfalls in regard to the issue to ensure better transparency, accountability and public engagement. Research Limitation: While conducting the study, the authors found about other countries' SDG Trackers, but here focus was purposefully limited to the SDG Tracker of Bangladesh. However, this study will offer a basis for further research based on comparing and contrasting the scenarios of different countries. Originality/value: The study is an original work by the author, which is based on an objective, constructive and philosophical approach.

Keywords: SDG Tracker, Sustainable Development Goals, Bangladesh

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: hossain.tamanna@ewubd.edu, arsumon@ewubd.edu and romana.shithi@yahoo.com

1st International Conference on Information and Knowledge Management: Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development, Savar, Dhaka, Bangladesh, ISBN Number: 978-984-34-6500-9 , Page Number p. 130, Year of Publication 2019

A Proposed Framework for Meeting Sustainable Development Goals (SDGs) in Bangladesh: Library and Information Center (LIC) Perspectives

Dilara Begum* and **Md. Hasinul Elahi****

ABSTRACT

Purpose: The principal aim of this survey is to distinguish the role of Libraries and Information Centers (LICs) in achieving the Sustainable Development Goals (SDGs). It propose a framework on how to achieve these SDGs in a developing country like Bangladesh through LICs services. Design/Methodology: This study is basically exploratory in nature. A qualitative approach has been deployed and a wide range of literature related to SDG goals and their implementation was reviewed to gain primary orientation with the topic. This theme is grounded in the systematic reviews of relevant existing literature but was blended with the authors' viewpoints, reflections, and experiences. A thorough review of LIC services has also been taken to identify the application of these services with the attainment of SDGs. The study also identifies the innovative ways that the LICs can undertake and through which SDGs can be achieved in Bangladesh. Findings: The findings of the study clearly indicate LICs to be an integral element in achieving SDGs. It indicates that the existing services of LICs contribute to meeting the SDGs. The study identifies the gap of services in the LICs in relation with SDGs. The writers have tried to make some recommendations, and develop innovative LICs services to fill-up the gaps. Research Limitation: The proposed framework is based on the authors' viewpoints. Statistics or other analysis of data has not been deployed to support the framework. Research Implication: The scope of the subject field can be further broadened by testing the framework from different positions. Originality: This is one of the first attempts in Bangladesh to relate the role of LICs and its different services in achieving SDGs in Bangladesh.

Keywords: Libraries and Information Centers (LICs), Sustainable Development Goals (SDGs), Bangladesh

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

**Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: h.elahi@ewubd.edu

1st International Conference on Information and Knowledge Management: Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development, Savar**,** Dhaka, Bangladesh, ISBN Number : 978-984-34-6500-9, Page Number p. 138, Year of Publication 2019

Fake News and Its Consequences: Challenges towards Achieving SDGs

Mahi Fayad Haque, A T M Fokhrul Islam, Shaharima Parvin and **Dilara Begum***

ABSTRACT

Purpose: The prime purpose of this endeavor is to calculate how fake news tarnishes someone's personal life before society as a whole in adverse ways. This study has a special focus on bringing out explanations of different cases related to fake news and its implications for voting or even, violence. In addition, the study intends to propose recommendations which could help us deal with fake news in more reliable and efficient ways. The overall objective of the study is to make people more aware about the news they consume so that they don't get overtly reliant on news providers without verifying the credibility of the sources of the news. Design/Methodology: The present study is basically an exploratory research. It is founded on an extensive review of the existing literature and on the insights and viewpoints of the authors. A qualitative content analysis of the existing relevant literature has been carried out to address each of the abovementioned aims. To assess the result of fake news on personal lives and also that of society as a whole, the study has employed Key Informants' Interview (KII), along with focused group discussions (FGDs). Key informants have been chosen purposefully from different strata of the society who can distinguish well the effects of false news. Findings: The findings of the study clearly show that any fake news has an adverse impact on individuals. It creates a negative image of an individual belonging in different levels/positions, leads to anarchy, violence, terrorist activities and so on. The study also shows how fake news affects elections and even contributes to violence and terrorism. Limitation: Due to the time limitation, the study will not cover a wide spectrum of respondents from the bottom crease. Research Implication: The United Nations member-states have agreed to achieve at least 17 of the sustainable development goals by 2030. Goal number 16 is mainly about ensuring peace and justice in any given organization. Fake news is a vast challenge to be surmounted in order to achieve that particular goal. The study intends to make news consumers more aware about the news for verifying the credibility of sources of the news. It will have an impact on fostering the pace towards achieving SDG 16. Originality: This is one of the first attempts to demonstrate the connection between fake news and its useful impact on achieving SDGs from a Bangladeshi perspective. A set of recommendations, based on contextual issues, will, hopefully, make this effort to be distinctive.

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

IFLA World Library and Information Congress. Athens, Greece. Page Number pp. 1-13 available at: http://library.ifla.org/2567/1/275-begum-en.pdf Year of Publication 2019

Road to Meet 21st Century Challenges: A Scenario on LIS Education in Bangladesh

Dilara Begum* and **Md. Hasinul Elahi****

ABSTRACT

In this modern era, due to extensive growth and expansion of technology and its application the role of librarians is also changing. The profession is in its most diversified form in this century where the librarians need to break the shackles of traditional approach. The nature of education and training also needed to be upgraded. This paper aims to provide the present scenario on LIS education in Bangladesh which will include present status of LIS education, possibilities and as well as challenges. This paper will also demonstrate some recommendation for the development of LIS education particularly for Bangladesh and as well as for other developing nations as a whole. The methodology includes a qualitative approach. The study was carried out through the compilation of observation method, field survey, and interview method. In Bangladesh, many institutions provide LIS education which offers different degrees ranging from certificate courses to Ph.D. Another fact is that only few (5) public and private universities provide honors and master degree on this subject. Although the possibilities regarding this subject has increased in recent years in Bangladesh. The information scientists of Bangladesh have felt the necessity of modernizing the LIS curriculum to meet the challenges of 21stcentury. The curriculum has extensively changed to incorporate the modern courses like integrated library management system, server administration, database management system, Information architecture, data mining, web based applications for library services, programming languages and so on. This study also identifies some issues which obstacles the development of LIS education in Bangladesh and recommends some measures to solve those issues. This paper is unique in terms of representation of an overall scenario of LIS education in Bangladesh which will surely add value to know the current status of developing nations in providing LIS education.

Keywords: LIS Education, Bangladesh, Prospects of LIS, Challenges in LIS Education

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

**Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: h.elahi@ewubd.edu

International Conference on Digital Landscape, Digital Transformation for an Agile Environment. New Delhi, India. Page Number 13 Year of Publication 2019

Evolving Roles of Libraries and Librarians to Meet the 21st Century Challenges

Dilara Begum*

ABSTRACT

The 21st century comes up with the blessings of advanced Information and Communication Technologies (ICTs). Due to the rapid transformation of the ICTs the roles, responsibilities and activities are also being changed with time. It is quite obvious that to cope up with this flow of modern technologies the libraries and librarians need to reshape and rethink regarding their role and as well as they need to establish these roles in the society strongly. The libraries and librarians need to understand the importance of different modern tools for better service providing as well as should have the ability to implement and use these. In this regard, awareness regarding different modern tools and techniques used in providing information services throughout the world also needed to be known by the libraries and librarians. The prime aims of this study are to comprehensively discuss the ways libraries and librarians can transform the roles to meet the 21st century challenges as well as delineate the challenges libraries or librarians may face in this quest. This study is basically exploratory in nature. A systematic literature review and document analysis has been conducted through giving a special focus on scrutiny the diversified initiatives pertinent to this topic. Besides, the author's viewpoints and experiences have also been incorporated in this paper.

Keywords: 21st Century Skills, Emerging Technologies, Libraries and Librarians, Soft Skills, Partnerships & Collaborations Skills, Advocacy

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

***International Scientific Conference Western Balkan Information and Media Literacy: Freedom, Accuracy and Truth. Bihac, Bosnia and Herzegovina*.** Page Number25-33 ISBN Number 9780954158286 Year of Publication 2019

Menstrual Literacy: Raising Awareness from Girlhood to Womanhood

Dilara Begum*

ABSTRACT

Background: Although Bangladesh has produced substantial advancement in bringing down poverty and improving food security, however, the overall nutritional status is not satisfactory. Malnutrition among young children, adolescent girls and women are still prevalent. It is an eternal truth that the female is acting as a foremost impactor for the progress of any nations. They are considered as a half backbone of the nation. In this case, able-bodied female lead to make a healthy family or society and obviously the country as well. Adolescence is a point of rapid passage from girlhood to womanhood. The onset of menstruation is one of the most significant changes that occur in girls during the teenage. Most of the teenage girls in Bangladesh feel hesitant to talk about this issue with their parents. The primary purpose of this paper is to elucidate how health information professionals can make juvenile girls aware about this topic with the collaboration of community health workers. Method: A systematic literature review has been conducted through giving a special focus on the actions taken by the Non-Government Organization (NGO) as well as Government Organization (GO) for the awareness of menstrual literacy. Also, the author's experiences have been incorporated into this paper. Value: This paper illustrated the possibilities for the collaboration between the Health Information Professionals (HIPs) and Community Health Workers (CHWs) for promoting menstrual literacy among adolescent girls. Lastly, the article made an effort to come up with recommendations for the implication of this collaboration.

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: dilara@ewubd.edu

1st International Conference on Information and Knowledge Management: Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development, Savar, **Dhaka, Bangladesh,** ISBN Number 978-984-34-6500-9 Page Number p. 88 Year of Publication 2019

Open Access Repositories in Asia: Present Status and Involvement in Sustainable Quality Education

Md. Hasinul Elahi* and Rumana Eakub Joyee**

ABSTRACT

Purpose: The main aim of this study is to identify the present status of Open Access Repositories (OAR) in Asia and assess why OAR is indispensable in achieving sustainable quality education. It also aims to put forward some recommendations to promote the OAR movement in Asia for achieving sustainable quality education in the continent. Design/Methodology: The methodology used in the study combines quantitative and qualitative approaches. Data were collected from Open DOAR (Directory of Open Access Repositories) form 01 to 05 January 2019. From the list of repositories mentioned in Open DOAR, 'Asia' was selected and analyzed. The present status of OAR was determined through parameters that include the year-wise growth rate, the number of repositories among different countries, subject content, software used, the language of the content, types of the repository etc. The data were analyzed and presented using Microsoft Excel. The involvement of OAR in sustainable quality education was ascertained based on existing literature and content analysis. Findings: The findings reveal that currently 722 repositories are enlisted in Open DOAR. The growth rate of these repositories in recent years is noteworthy. The study also indicates that most of the repositories in Asia use the DSpace platform to manage their resources and are institutional in nature. The study demonstrates that English is one of the most dominant languages among all repositories and that most contents are multidisciplinary. It also identifies the different and diversified application of OAR in sustainable quality education. Research Limitation: The scope of the study is confined to Asian repositories only indexed in the Open DOAR database. Practical implication: This study provides insights that can help to develop OAR in this continent to ensure sustainable quality education, which is a prerequisite for all other Sustainable Development Goals (SDGs). Originality: This is a unique initiative endeavoring to uncover the involvement and role of OAR to ensure sustainable quality education in Asia.

Keywords: Open Access Repositories (OAR), Quality Education, Sustainable Development Goals (SDGs), Sustainable Quality Education, Asia

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: h.elahi@ewubd.edu

**Gyantapas Abdur Razzaq Bidyapeeth, Email: rumana39@gmail.com

1st International Conference on Information and Knowledge Management (BPATC, Savar, Dhaka, Bangladesh), Page numbers: 30, Year of publication: 2019

Transformational Leadership Behavior Styles of Professionals in Private University Libraries of Bangladesh

Rumana Rahman* and **Dilara Begum**

ABSTRACT

Purpose: The purpose of this study was to measure the transformational leadership behavior style among the Library and Information Science (LIS) professionals in the Private University Libraries of Bangladesh. The study explored to identify the extent to which transformational leadership behavior style was practiced and recommendations was proposed to improve transformational leadership behavior styles of professionals. Design/Methodology/Approach: The design of the study was seeking transformational leadership behavior style among the LIS Professionals in the Private University Libraries of Bangladesh. Transformational leadership is a process in which leaders and followers help each other to advance to a higher level of morale and motivation (Burns, 1978). Four private university libraries were selected for the purpose of the study and all library professionals were included for collecting data. This study was quantitative in nature and Multifactor Leadership Questionnaire (MLQ) technique developed by Bass and Avolio was used for the study. Findings: The findings of the study revealed that most of the LIS professionals (80%) of private university libraries adopted transformational leadership behavior style with highly satisfactory rating. From the Head of the Librarian to Junior Assistant Library Officer accepted this leadership behavior style as appropriate for dynamic works. Results also showed that transformational leadership behavior style had a positive influence on the performance of academic librarians. But the study suggested that leader should be more innovative and should have the ability to develop challenging vision with his/her employees. Some training programs should also be arranged for the leaders to make transformational leadership behavior style much more effective. Research limitations: The study was limited to only private university library professionals. Implications: Future research should be occurred in both private and public university libraries which operate a lengthy period of time. A qualitative approach can also be undertaken to from recommendations. Practical implications: The results of this study can be used to know the transformational leadership behavior style of the LIS Professionals in the Private University Libraries of Bangladesh. The study can also be used to improve the individual's creativity whereas transformational leadership behavior style is used. Our main goal is to further investigate the mechanisms fostered by transformational leadership that promote follower performance, as well as the specific effects of these influence processes on different performance criteria. Social implications: Leaders who adopts transformational leadership behavior work as change agents that elicit and transform followers' beliefs, attitudes and motivations (Bass, 1985). The study can be used by private university library professionals to promote their performance. Originality: The results of the study obtained from the LIS professionals are original. Value: This is the first attempt in Bangladesh to measure the Transformational leadership behavior style among the Library and Information Science (LIS) Professionals in the Private University Libraries of Bangladesh and the study is useful to understand the transformational leadership behavior style in university library.

Keywords: Transformational Leadership Behaviour Style, Library and Information Science Professionals (LIS), Private University Library, Bangladesh

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: shithi@ewubd.edu

ICDL 2019: International Conference on Digital Landscape Digital Transformation for an Agile Environment (New Delhi*),* Page numbers: 472*,* Year of publication: 2019

Faculty Perception, Adoption and Usage of Open Access Scholarly Publishing: Bibliometric Analysis from Last 10 years in Academia

Rajesh Kumar* and **Rahman Rahman****

ABSTRACT

The study aims to analyze the research output regarding Faculty Perception, Adoption and Usage of Open Access Scholarly Publishing from 2009 to 2018 in academia. Data were collected from Microsoft Academic Search database and were resulted by using descriptive statistics. Total of 234 research article were analyzed in this study. The findings revealed that during the period of study the publication output data are maximum of Library and Information Science (65%) sub-domains, followed by Computer Science (21%), Health Science (6%), Engineering (5 %) and Management (3%). Based on the citation, the results showed that 10 authors were considered as most productive authors, "Open Access Issues and Engineering Faculty Attitudes and Practices" was highly cited paper, "Journal of Librarianship and Scholarly Communication" was ranked 1st position in terms of 51 total citation scores and "University of Illinois at Urbana–Champaign" was highly cited institution.

Keywords: Open Access Scholarly Publishing, Bibliometric Analysis, Microsoft Academic Search Database

*Department of Information Sciences and Library Management, Noakhali Science and Technology University. Email: rajesh@nstu.edu.bd

**Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: shithi@ewubd.edu

International Conference on Information and Knowledge Management; "Next Generation Information and Knowledge Dissemination to realize the Agenda 2030 for Sustainable Development", Dhaka: Bangladesh Public Administration Training Center, p. 121. (2019)

The Literacies of the 21st Century: Catalyst for Achieving Sustainable Development Goals (SDGs) in Bangladesh

Tamanna Hossain*

ABSTRACT

Background: Recent developments in the field of science, technology and ICT in particular have land marked the 21st century. Hitherto the world has witnessed the advancement of science and technology, drastic economic growth, socio-political changes, global environmental changes etc. Despite such visible advancement, the world is still facing the extreme poverty, gender inequality, maternal mortality, global disasters, and so on. To minimize the difficulties the world leaders along with UNESCO adopted a global plan of actions aimed at resolving the social, economic and environmental problems troubling the world, namely the Sustainable Development Goals (SDGs). In regard to this goals adopted by the UN in 2015, the UNESCO Institute for Lifelong Learning has declared that, increased literacy can play a central role in meeting sustainable development targets such as, social equality, economic empowerment and environmental sustainability. Objectives: The objectives of this study are: i. To detect the current status of different Sustainable Development Goals in Bangladesh, ii. To enunciate the roles of different literacies of the 21st century by providing a framework that can help us achieve Sustainable Development Goals, and iii. To identify the challenges of applying different literacies in attaining SDGs for Bangladesh. Methodology: In order to address these concerns, a vast range of literatures was systematically reviewed. The Sustainable Development Goals were addressed, along with the most appropriate literacies that could be useful in achieving the SDGs for Bangladesh. All the literacies have been argued meticulously in a positivist and constructive style by establishing a connection between the SDGs and the respective literacies. Findings: The findings of the study demonstrate that, agricultural literacy, gendered literacy, family literacy, environmental literacy, health literacy, and many other literacies that are necessary while attaining the SDGs. The study found out that applying these various literacies of the 21st century can ensure effective and timely achievement of specific goals. It was also found that some of the literacies such as, health literacy are inevitably linked to the fulfillment of the targeted SDGs. Issues of extreme poverty, high population rate, natural disasters, gender inequality and low literacy rate were also identified to create obstacles while reaching the 2030 agenda for Bangladesh. It was also revealed during the study that, the application of different literacies has already brought some success in a few sectors, these have also been incorporated in the findings as examples. Research limitation: This study is limited to observing the applicability of various literacies for achieving SDGs in the perspective of Bangladesh. However, it can be used to trigger further empirical researches on other developing countries as well. Practical/social implication: Recommendations have been made for a practical way of eradicating challenges. The study may have drastic impact on the societal and economic development of Bangladesh. It can enable policy makers and stakeholders to take necessary measures to implement the appropriate literacies in diverse sectors with various governmental initiatives for effective accomplishment of the SDGs by 2030. Originality/value: The study has been undertaken to generate new ideas for the achievement of the SDGs. The reviewed literatures clearly indicates that little research has been conducted on SDGs and literacy skills separately but that, there is a lack of comprehensive work which would link these issues together.

Keywords: Sustainable Development Goals, Bangladesh, Literacy

*Department of Information Studies and Library Management, East West University, A/2, Jahurul Islam Avenue, Jahurul Islam City, Aftabnagar, Dhaka-1212, Bangladesh. Email: hossaintumpa@gmail.com

INDEX OF EWU AUTHORS

Abdur Rahaman Sumon, 55, 56, 57

A.K. M. Nazimuddin, 26, 27, 28, 29

Anisur Rahman, 18, 19

Anup Kumar Paul, 41, 42

Basanta Kumar Barmon, 8, 9, 10, 11

Chowdhury Faiz Hossain, 35, 36

Dilara Begum, 50, 56, 58, 59, 60, 61, 62, 64

Kohinoor Biswas, 1

Leo Vashkor Dewri, 2

Md. Faruk Islam, 30

Md. Hasinul Elahi, 56, 58, 60, 63

Md. Pizuar Hossain, 52

Md. Mohiuddin Kabir, 22

Md Rashidul Islam, 2, 5

Md Rezwan Siddiqui, 54

Md. Shafiqul Islam, 6, 12, 15, 16

Md Tawfiq Sarwar, 17, 37

Mohammad Salah Uddin, 20, 21, 38,39, 40

Moriam Quadir, 49

M Sayeed Alam, 1, 3, 4, 13, 14

Mst. Rejina Afrin, 35, 47

Nurun Naher Popy, 7

Roushney Fatima Mukti, 23, 24, 25, 44

Rumana Rahman,51, 57, 64, 65

S. M. Raiyan Chowdhury, 43

Sayeed Hossain Sarwar, 48

S. M. Anowarul Kayes Shimul, 53

Sohel Rana, 30, 31, 32, 45, 46

Thamina Acter, 33, 34

Tamanna Hossain, 56, 57, 66

Tanveer Kabir, 7

East West University Center for Research and Training

East West University Center for Research and Training (EWUCRT) promotes academic and applied research for creation and dissemination of new knowledge. With this goal the Center is dedicated to developing the research potentialities of faculty members of the East West University. In this effort EWUCRT provides generous financial grants to support faculty research and training on research methodology, publications of research reports and journals and sharing of research results with academia, researchers and policy makers. To facilitate dissemination and exchange of knowledge EWUCRT organizes seminars and symposiums.

East West University Center for Research and Training
East West University

A/2 Jahurul Islam Avenue, Jahurul Islam City
Aftabnagar, Dhaka-1212, Bangladesh
Phone: 09666775577, Ext. 387
Email: ewucrt@ewubd.edu
URL: www.ewubd.edu/crt-center-research-and-training