INTRODUCTION

Journal of Business and Social Review in Emerging Economies (ISSN: 2519-089X & eISSN: 2519-0326) is a peer-reviewed research journal published bi-annually by CSRC Publishing, Center for Sustainability Research and Consultancy Pakistan. The journal is independently managed by the advisory board and associate fellows of CSRC comprising of distinguished faculty at higher education institutions. The journal aims to cover topics and issues in various sub-areas of business, social and behavioral sciences in context of emerging and developing economies. Purpose is to highlight the theoretical and practical issues faced by businesses and society in these economies. The journal specially welcomes submissions which cover the topical areas related to sustainable business and society.

SCOPE AND MISSION

Issues of sustainable economic development are mainly interwoven into economic policies and dynamics of business markets in emerging and developing economies. With this background JBSEE aims to be a premier forum for policy and theoretical discussion of high impact research in emerging economies.

The journal aims to cover topics and issues in various sub-areas of business, social and behavioral sciences in context of emerging and developing economies. Purpose is to highlight the theoretical and practical issues faced by businesses and society in these economies. The journal specially welcomes submissions which cover the topical areas related to sustainable business and society.
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- British Library
- DOAJ
- BAS (Bibliography of Asian Studies) EBSCOHOST-only studies with Asian context
- ECONBIZ (German National Library of Economics-ZBW)
- Ulrich’s Periodicals Directory/ProQuest/ International Bibliography of the Social Sciences (IBSS)
- ProQuest/ Humanities Index (HumInd)
- SocioRepec
- EconPapers
- SUNCAT
- Google Scholar
- Crossref
- Scilit
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- Copac
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- BASE
- Zetoc
- ESJI (Eurasian Scientific Journal Index)
- SHERPA/RoMEO
- DRJI (Directory of Research Journals Indexing)
- ResearchBib
- LogEc
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**Journal of Business and Social Review in Emerging Economies**

**TABLE OF CONTENTS**

**Volume 7 Issue 2 June 2021**

<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavating Future Challenges: An Analysis of Health Systems of One Hundred-Six Countries</td>
<td>219-230</td>
</tr>
<tr>
<td>Abdul Basit, Waheed Asghar, Abdul Aziz Khan Niazi, Tehmina Fiaz Qazi</td>
<td></td>
</tr>
<tr>
<td>The Statistical Analysis of Factors Explaining the Intention of Public for Blood Donation in Jamshoro, Sindh</td>
<td>231-238</td>
</tr>
<tr>
<td>Nazia Parveen Gill, Fozia Parveen Panhwar, Sunbul Naeem Cheema, Raja Muhammad Ilyas</td>
<td></td>
</tr>
<tr>
<td>The Impact of Audit Committee Characteristics on Corporate Biodiversity Disclosure: An Analysis of Japanese Firms</td>
<td>239-254</td>
</tr>
<tr>
<td>Shahid Amin, Jawad Iqbal, Muhammad Abdul Majid Makki</td>
<td></td>
</tr>
<tr>
<td>Expectations of PhDs Working in a Challenging School Environment: Results from a Qualitative Study</td>
<td>255-264</td>
</tr>
<tr>
<td>Syed Abdul Waheed, Nadia Gilani, Muhammad Saqib</td>
<td></td>
</tr>
<tr>
<td>Intellectual Capital, Political Uncertainty and Firm Performance: Evidence from Pakistan</td>
<td>265-278</td>
</tr>
<tr>
<td>Farheen Hussain, Ayub Khan Mehar</td>
<td></td>
</tr>
<tr>
<td>The Role of Higher Education as a Catalyst of Peacebuilding in Conflict Affected Regions: The Case Study of Khyber Pakhtunkhwa after FATA Amalgamation</td>
<td>279-289</td>
</tr>
<tr>
<td>Shabnam Shahab, Samee Ullah</td>
<td></td>
</tr>
<tr>
<td>Framing of Kashmir Conflict in Elite Pakistani and Indian Newspapers after Revocation of Special Status of the Disputed Territory</td>
<td>291-300</td>
</tr>
<tr>
<td>Ayesha Siddiqua, Atif Ashraf, Ghulam Shabbir, Qamaruddin Zia Ghaznavi</td>
<td></td>
</tr>
<tr>
<td>Impact of Psycho-Social Dimensions in Adoption and Use of Credit Cards: An Empirical Study from Pakistan</td>
<td>301-310</td>
</tr>
<tr>
<td>Sohail Saeed, Areeba Khan, Hina Shamshad</td>
<td></td>
</tr>
<tr>
<td>Enigmatic Role of Female Directors on Boards towards Corporate Performance. An Empirical Study</td>
<td>311-318</td>
</tr>
<tr>
<td>Areeba Khan, Sohail Saeed</td>
<td></td>
</tr>
<tr>
<td>Student’s Perception and Expectation Regarding Library Services Quality: A Case Study of a Public Multi Campus University of Punjab, Pakistan</td>
<td>319-327</td>
</tr>
<tr>
<td>Shakeela Shah, Ghazal Khalid Siddiqui, Shaheen Pasha</td>
<td></td>
</tr>
<tr>
<td>The Effectiveness of Early Childhood Education Program in Public Schools of Punjab</td>
<td>329-341</td>
</tr>
<tr>
<td>Saima Malik, Muhammad Zaheer Asghar</td>
<td></td>
</tr>
</tbody>
</table>
Incorporation of Vision, Knowledge and Creativity in Innovation and Technology Management: Synthesizing a Sequential Model  
Waheed Asghar, Rabia Rasheed, Abdul Aziz Khan Niazi  
343-357

Developmental Change of Approximate Number System Acuity (Keenness) Reveals Delay  
Tayyaba Abid, Saeeda Khanum  
359-368

Speech-Language Intervention used by Professionals for Children with Autism Spectrum Disorder in Pakistan  
Shaheen Pasha, Shakeela Shah, Ghazal Khalid Siddiqui  
369-374

Gender Equality but Never-Ending Inequity in FATA, Pakistan  
Sadaf Mubeen, Muhammad Abdul Quddus  
375-388

Key Assessment Indicators of Infrastructure for the Sustainability of Economic Development: An Empirical Investigation of Pakistan  
Hina Ali, Nazia Nasir, Tahira Qasim Bano, Aiman Javid  
389-401

Impact of CEO, Director and Executive compensation on the Firm Performance with Moderating Effect of Research & Development  
Saad ur Rehman, Khalil ur Rehman, Adnan Maqbool, Shahid Hussain  
403-414

Improving Customers Satisfaction through Significance of Technical Attribute in QFD Studies  
Zafar Iqbal, Lubna Shoukat, Waheed Muhammad, Rajab Muhammad  
415-432

Empowering Pakistani Woman: Impact of Education, Technology and Training Skills Development  
Noureen Sharif, Noreen Hassan, Shelomith Angel  
433-441

Terrorism as a Major Threat to Societal Peace: The Case of Pakistan  
Tahir Ashraf, Bushra Fatima  
443-452

Jihad, Extremism and Radicalization in Pakistan  
Surriya Shahab, Muhammad Idrees, Shaida Rasool, Samana Mehreen  
453-465

The Role of Socio-Economic Factors in Determining the Women Bargaining Power in Pakistan  
Mariam Amjad, Ahmad Nawaz, Muhammad Masood Anwar, Abdul Farooq  
467-480

Critical Analysis of Social Movement Theories during Lawyers Movement 2007 to 2009  
Nida Fatima, Shehnaz Tariq  
481-490
Excavating Future Challenges: An Analysis of Health Systems of One Hundred-Six Countries

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**ARTICLE DETAILS**

**ABSTRACT**

**Purpose:** Health system of a country is backbone of economy. It has fundamental importance in sustainable development of a country. Aim of this article is to excavate future challenges to health system of selected 106 countries.  

**Design/Methodology/Approach:** It is a country level comparative analysis of health risk factors. Design of the study includes review of literature, data extraction and analysis. The cross-sectional secondary data has been drawn from website of World Development Indicators (WDI) 2020. Grey relational analysis is used as technique of investigation.  

**Findings:** Results show that majorly, member countries of Organization for Economic Co-operation and Development (OECD) have exceptionally high grey relational grade, therefore, are considered to be countries having less future health risks, whereas, Southern African Development Community (SADC) have exceptionally low grey relational grade, therefore, have high future health risk.  

**Implications/Originality/Value:** It is a unique study using different dataset and methods that provides valuable insights to political governments, researchers and health system managers.  

**Keywords**

Countries, Future challenges, GRA, Health risk, Health system.

**JEL Classification**

M0, M1


**Introduction**

Health system of a country is considered as one of the core systems of an economy. The political governments are concerned with health systems. The health systems have been exposed to different risks from time to time. In recent times this system has faced shocks of Covid-19.
pandemic. Health systems have been shattered in most of the countries during this pandemic period. This discipline is rich in research and there is flood of research articles in context of coronavirus now a days. Evaluation of health system has gained imperative importance and it is ever high on the agenda of research. Country level evaluation of health systems is also vital to study. A comparative study of countries’ level health systems is also that of fundamental importance. In order to set out the context of the study, it is pertinent to report some resent and relevant studies herein viz challenges of healthcare service in Italy (Arnocida et al., 2020), environmental, social and health issues of Mexican health system (de León-Martínez et al., 2020), Bulgarian health system challenges (Dzhafer & Papathtanasiou, 2020), Taiwanese health system resilience (Hsieh, 2020), health risk factors: the case of Luxembourg, France (Mussard and Alperin, 2021), Brazilian health system challenges (Requia et al., 2020), challenges of health system of sub-Saharan Africa (Roder-Dewan, 2020) and health risk management behaviors of Japanese university students (Yamakawa et al., 2019). Global health programs are aimed to remove social, cultural, and logistical barriers to fill the gap in health disparities and health related knowledge between developed and developing countries. Health matrices and research are essential for planning, policy making, programming and accountability. There is a severe need of high quality health information to make the research gaps clearer. Despite of plenty of research there is still room for systemic studies. Therefore, this study has aimed to evaluate the future challenges to health system of 106 countries of the world. It is also aimed to rank the countries on basis of level of possible challenges to health system of a country. Further, it aims to classify and discuss the results bloc wise. To achieve these objectives Grey Relational Analysis (GRA) is opted as research methodology. Remaining article is arranged as literature review, methodology, data analysis, results & discussion and conclusion.

Literature Review

Contemporary literature is necessary to sum up the up to date research findings of the phenomenon in hand. We explored renowned databases of research such as Ebrary, Elsevier (ScienceDirect), Emerald, Springerlink, Taylor & Francis Journals, Wiley-Blackwell Journals etc. and reviewed sufficient relevant studies. Few of which qualify to be reported here in order to establish hard ground of the study in hand e.g. studies like: safety and risk management including: pharmacy role in health system of Colombia (Amariles et al., 2020), Mount Sinai health system in US (Buckley et al., 2020), health services system of Hubei, China (Chen et al., 2020), examine psychosocial risk factors in public workplace in Denmark (Dahler-Larsen et al., 2020), vexed Greek health care system (Kapetanakis et al., 2020), resilience of Spanish health system (Legido-Quigley et al., 2020), strained Latin American health care system (Navarro et al., 2020), challenges facing in health and social care planning in Spain (Queralt-Tomas et al., 2019) and safety risk management and occupational health of waste management firms in Portugal (Ramos et al., 2020). Aghdam et al. (2020) carried a detailed study on effective usage of Internet of Things (IoT) to facilitate the paramedical staff and health workers and also to identify the major trends and challenges facing the healthcare. Bolnick et al. (2020) revealed that high spending on health care ensures the control risk exposure, reduces health burden and cost. Briggs et al. (2020) reported some key challenges and opportunities facing by global health policy. Cheng et al. (2019) concluded that agriculture soil contamination is posing significant risks to human health and food safety. Dahler-Larsen et al. (2020) stressed that occupational health and safety risk management estimate action fairly well against psychological risks as compare to physical risks. de León-Martínez et al. (2020) analyzed the environmental (contaminants from biomass burning), social (lack of water access, limited internet access, return of aboriginal people to their communities, language barriers), and health risk factors (hypertension, chronic respiratory disease, diabetes, respiratory tract infectious) in context of COVID-19 to mitigate its impact on society at large. Gao et al. (2020) stated that circumjacent air pollution is negatively associated with health risk and strategy must be devised to mitigate this risk. Mhango et al. (2020) reported some key factors (acquaintance to infected patients, poor
infection control mechanism, personal protective equipment shortage and preexistent medical facility) as COVID-19 risk factors among health workers. Dash (2019) conducted a systematic review of literature to exhume the vital challenges and future directions of big data analytics and its impact on healthcare. He further argued that while processing the large data; data security and management is the major challenge being faced by data analytics. Mussard and Alperin (2021) examined health indicators of two-parameter family linking one risk factor and a health dimensions by taking four factors including parents longevity, financial condition during childhood, parental education and parents nationality and found that parents education and migration background are the most exogenous risk factors contributing in socio-economic health inequality. Najera and Ortega-Avila (2020) affirmed that COVID-19 mortality risk rises significantly in patients in form of diabetes, obesity, cardiovascular disease or hypertension, however, for patients with same profile, the death risk dramatically different. Ramos et al. (2020) bolstered that implementation of integrated management system has proved significant success in improvement of occupational health and safety risk management process in businesses. Rohat et al. (2019) examined the European future heat related health issues and found capricious socio-economic development sustainability as the major causes. Scharpf et al. (2020) conducted a systematic review to study the mental health of refugees associated with risk protection and buttressed that challenges of relocation, violent conflict and flight cause severe damage on mental health and well-being. Xu et al. (2021) stated that there is a direct and significant positive relationship between health risks and economic development. Yadav et al. (2021) argued that contaminants of emerging concerns in soil, water and air adversely effect on environment and risks of human health. Yang et al. (2020) proclaimed that psychological risk management soft policies rank higher than hard policies; furthermore national level policies score more than at local level in China. It is further explained that China is still behind by adopting the safety related psychological health policies as compare to Europe and Australia. Yamakawa et al. (2019) highlighted that parental occupation and travel experience of overseas offer a pertinent insights of promoting health risk management. Zaidi et al. (2021) identified and ranked eleven challenges hampering sustainable public health sector of Pakistan and found government rules & regulations and senior management commitment are the major obstacles in implementing it. Zhang and Mohandes (2020) carried a comprehensive study on occupational health and safety and proposed a framework contributing in: identifying green-go requirements, ascertaining list of safety risks associated with green-oriented requisite through Delphi and Znumbers method, assessing safety risks by way of proposing five-layers strategy, estimating green-oriented safety risks magnitude using Z-number based algorithm and providing the measures to overcome/control the green-oriented safety risks. The review of literature pinpoints that there is dearth of country level comparative studies of health systems particularly based on multiple criteria. Hardly any study can be found that compares hundreds of the countries based on a multitude of future challenges to be faced by different countries. Neither the comparative studies nor the comprehensive methodologies have been witnessed from within the literature. Therefore, to develop a comprehensive framework, apply some composite methodology and comparing the country level future risks to health systems is something inevitable to enrich the contemporary literature.

Theoretical Framework: Theoretical framework fixes perimeters of scope of research. Data, method, tentative solution to the problem are signposted by the framework of the study. We have adopted the framework from World Development Indicator (WDI) 2020. Variables, operational definitions, unit of measurement and data set are taken from WDI-2020.

<table>
<thead>
<tr>
<th>Code</th>
<th>Health Risk Factors</th>
<th>Measured As</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prevalence of smoking in Male</td>
<td>% of adults</td>
<td>Smaller is the best</td>
</tr>
<tr>
<td>2</td>
<td>Prevalence of smoking in Male</td>
<td>% of adults</td>
<td>Smaller is the best</td>
</tr>
</tbody>
</table>
There are ten factors representing future health risks to a country’s health system. All factors possess the characteristic of smaller acceptable therefore in order to normalize the data we adopted the procedure accordingly.

**Methodology**

Following the quantitative research philosophy and deductive approach, overall design of the study comprises of survey of literature from the aforementioned databases, extraction of data from WDI 2020 and mathematical analysis. Secondary data of one hundred-sixty countries was extracted from the website of WDI 2020. The number of countries was decided on the basis of availability of data on the variables (Table 1). Classical procedure of Grey Relational Analysis (GRA) has been used as research methodology (Hamzacebi et al., 2011; Kuo et al., 2008; Tayyar et al., 2014; Wu, 2002). GRA proceed stepwise as given in Niazi et al. (2021) and Qazi et al. (2021), whereas, scheme of notations have been adopted from Ertugrul et al. (2016).

**Step 1:** Created a data set and established decision matrix Equation (1)

\[ x(k) = \begin{bmatrix} x_1(1) & x_1(2) & \cdots & x_1(m) \\ \vdots & \vdots & \ddots & \vdots \\ x_n(1) & x_n(2) & \cdots & x_n(m) \end{bmatrix} \]  

Equation (1)

**Table 2:** Health Risk Factors Data

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Country</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Algeria</td>
<td>30</td>
<td>169</td>
<td>6.7</td>
<td>0.1</td>
<td>0.1</td>
<td>46</td>
<td>0</td>
<td>0.1</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Argentina</td>
<td>28</td>
<td>16</td>
<td>27</td>
<td>5.9</td>
<td>0.3</td>
<td>0.4</td>
<td>32</td>
<td>0</td>
<td>0.1</td>
<td>61</td>
</tr>
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</tr>
<tr>
<td>78</td>
<td>Pakistan</td>
<td>37</td>
<td>3</td>
<td>265</td>
<td>20</td>
<td>0.2</td>
<td>0.1</td>
<td>30</td>
<td>0</td>
<td>0.1</td>
<td>10</td>
</tr>
<tr>
<td>79</td>
<td>Panama</td>
<td>10</td>
<td>2</td>
<td>52</td>
<td>7.7</td>
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<td>0.9</td>
<td>30</td>
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</tr>
<tr>
<td>105</td>
<td>Zimbabwe</td>
<td>25</td>
<td>3</td>
<td>346</td>
<td>4.5</td>
<td>5.7</td>
<td>11</td>
<td>59</td>
<td>2</td>
<td>5</td>
<td>78</td>
</tr>
<tr>
<td>106</td>
<td>Zimbabwe</td>
<td>31</td>
<td>2</td>
<td>210</td>
<td>1.8</td>
<td>4.9</td>
<td>13</td>
<td>60</td>
<td>3</td>
<td>5.7</td>
<td>88</td>
</tr>
</tbody>
</table>

Source of Data: World Development Indicators (WDI), 2020

**Step 2:** Created reference series and comparison matrix Equation (2)

\[ x_0 = [x_0(1) \ldots x_0(n)] \]  

Equation (2)

**Table 3:** Reference Sequence and Comparable Sequences

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Country</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
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<td>\ldots</td>
<td>\ldots</td>
<td>\ldots</td>
<td>\ldots</td>
<td>\ldots</td>
</tr>
</tbody>
</table>

222
Step 3: Created a normalized matrix for smaller the better Equation (3)

\[ x_i(k) = \frac{\max x_i^{(0)}(k) - x_i^{(0)}(k)}{\max x_i^{(0)}(k) - \min x_i^{(0)}(k)} \]  

Equation (3)

Table 4: Normalized Comparable Sequences

<table>
<thead>
<tr>
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<th>3</th>
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<td>6</td>
<td>0</td>
<td>0.1</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Algeria</td>
<td>30</td>
<td>1</td>
<td>69</td>
<td>0.7</td>
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<td>0.1</td>
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<td>0.4</td>
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<td>0.1</td>
<td>61</td>
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<td>30</td>
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<td>0.1</td>
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<td>52</td>
<td>0.6</td>
<td>0.9</td>
<td>30</td>
<td>0</td>
<td>0.1</td>
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<tr>
<td>105</td>
<td>Zambia</td>
<td>25</td>
<td>3</td>
<td>346</td>
<td>0.0</td>
<td>0.3</td>
<td>10</td>
<td>2</td>
<td>5</td>
<td>78</td>
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<tr>
<td>106</td>
<td>Zimbabwe</td>
<td>31</td>
<td>2</td>
<td>210</td>
<td>1.8</td>
<td>4.9</td>
<td>13</td>
<td>60</td>
<td>3</td>
<td>5.7</td>
<td>88</td>
<td></td>
</tr>
</tbody>
</table>

For instance, calculation of Algeria, ‘Prevalence of smoking in Male’

\[ x_1(1) = \frac{\max x_1^{(0)}(1) - x_1^{(0)}(1)}{\max x_1^{(0)}(1) - \min x_1^{(0)}(1)} = \frac{76 - 30}{76 - 8} = 0.6765 \]

Step 4: Obtained absolute values by calculating deviation sequence Equation (4)

\[ \Delta_0 (y) = |x_0(y) - x_1(y)| \]  

Equation (4)

Deviation Sequence is calculated Equation (5), Equation (6) and Equation (7)

\[ \Delta_{ui}(k) = |x_i^{(0)}(k) - x_i^{(1)}(k)| \]  

Equation (5)

For biggest deviation:

\[ \Delta_{\max} = \max_v \max_{y \in [v]} |x_i^{(0)}(k) - x_i^{(1)}(k)| \]  

Equation (6)

For smallest deviation:

\[ \Delta_{\min} = \min_v \min_{y \in [v]} |x_i^{(0)}(k) - x_i^{(1)}(k)| \]  

Equation (7)

Table 5: Deviation Sequences

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Country</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.0000</td>
<td>0.0000</td>
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<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>1</td>
<td>Algeria</td>
<td>0.3235</td>
<td>0.0227</td>
<td>0.1129</td>
<td>0.2714</td>
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<td>0.0000</td>
<td>0.6557</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.1341</td>
<td>223</td>
</tr>
</tbody>
</table>
For instance, calculation of deviation of Argentina for ‘Prevalence of smoking in Male’
\[ \Delta_{cx}(Z) = |x_c(Z) - x_e(Z)| = |1 - 0.6364| = 0.3636 \]

Step 5: Grey relational co-efficient is calculated Equation (8). Term \( \xi \) is distinguishing co-efficient between 0 and 1 the value of which is 0.5 in literature.
\[ \gamma[x_c(k), x_e(k)] = \frac{\Delta_{min} + \xi \Delta_{max}}{\Delta_{max} + \xi \Delta_{max}}, \quad 0 < \gamma[x_c(k), x_e(k)] \leq 1 \quad \text{Equation (8)} \]

For instance, calculation of grey relational co-efficient of Argentina for ‘Prevalence of smoking in Male’
\[ \gamma[x_c(Z), x_e(Z)] = \frac{\Delta_{min} + \xi \Delta_{max}}{\Delta_{max} + \xi \Delta_{max}} = \frac{0 + (0.5) \times 0}{0.3636 + (0.5) \times 1} = 0.5789 \]

Step 6: Weighted sum of grey relational co-efficient (Grey Relational Grade) Equation (9) and Equation (10)
\[ \gamma(x_c, x_e) = \sum_{k=1}^{n} \beta_k \gamma[x_c(k), x_e(k)] \quad \text{Equation (9)} \]
\[ \sum_{k=1}^{n} \beta_k = 1 \quad \text{Equation (10)} \]

For instance, grey relational grade for Argentina is calculated:
\[ y(x, z) = \sum_{k=1}^{n} \beta_k y(x(z), z(k)) \]
\[ = 0.10 \times (0.6296 + 0.5789 + 0.9188 + 0.6818 + 0.9615 + 0.9792 + 0.5398 + 1.0000 + 1.0000 + 0.5694) = 0.7858 \]

Results & Discussion

With the aim of analyzing the health risk factors of 106 countries and using a country level secondary data of ten variables taken from website of WDI 2020, the study applied Grey Relational Analysis (GRA). The study generated grey relational grades (Table 7), the same have been divided on an ordinal scale of seven items i.e. exceptionally high, very high, high, about the same, low, very low and exceptionally low. Where the exceptionally high means that the countries have high performing health systems, therefore, there is exceptionally low level of future health risks, whereas, exceptionally low means that these countries have exceptionally low performance health systems, therefore, are exposed to high level of future health risks.

<table>
<thead>
<tr>
<th>Country</th>
<th>GRGs</th>
<th>Rank</th>
<th>GRGs</th>
<th>Rank</th>
</tr>
</thead>
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<td>Australia</td>
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<td>Kuwait</td>
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<td>Japan</td>
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<td>Ghana</td>
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</tr>
<tr>
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<td>Armenia</td>
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<tr>
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<tr>
<td>New Zealand</td>
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<td>Yemen, Rep.</td>
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</tr>
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</tr>
<tr>
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<tr>
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<tr>
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<tr>
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<td>0.5614</td>
<td>102</td>
<td>Mozambique</td>
<td>0.5421</td>
</tr>
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</table>
Most of the countries having exceptionally high performance on health systems (exposed to low future health risks) are member countries of Organization for Economic Co-operation and Development (OECD). Member countries of European Union (EU) and OECD also have very high performance health systems and are relatively less exposed to future health risks. Member countries of Arabian Countries (AC), Association of Southeast Asian Nations (ASEAN) and Japan & Asian Pacific Region (J&APR) are expected to remain at same level of future health risks. Eastern Europe (EE) countries have low level performance on health systems and are exposed to relatively high level of future health risks. Member countries of Caribbean Community and Common Market (CARICOM) and South Asian Association for Regional Cooperation (SAARC) have very low performance on health systems and they are expected to be exposed very high level of future health risks. Member countries of Southern Africa Development Community (SADC) have exceptionally low performance on health systems and they are exposed to exceptionally high level of future health risks. Right form the aim of the study up to the analysis and results, it is a different study. The study is different in design, data sets, scope (number of countries), methodology, analysis and results. It is also different from contemporary literature in terms of information, contribution, implications and impact. However, the results of the study are aligned with contemporary literature and seems to be logically valid qua reality. The study used original reliable secondary data set and concluded on the basis of mathematical procedure applied thereon to data that as a result provide additional information and a framework for future researchers.

Conclusion

Health system of a country is considered to be one of the core systems of economy. It has fundamental importance to economic development. It is an ever green area of research. Country level comparative studies of health system remained always relevant and presently they have become more pertinent. Countries are always considered to evaluate the future health risks and their preparedness to cop them up. Therefore, aim of this study is to evaluate the country level positions of 106 countries and compare them on objective basis for their exposition the future health risks. The study evaluated the performances of 106 countries and compare them on objective basis for their exposition the future health risks. The study used original reliable secondary data set and concluded on the basis of mathematical procedure applied thereon to data that as a result provide additional information and a framework for future researchers.
methodology i.e. GRA, whereas there is a wide array of statistical methodologies that can be verify the results of GRA. All the variables have been given equal weights, the results might change if inter-variable weights are change by way of Entropy method or expert opinion.

References


The Statistical Analysis of Factors Explaining the Intention of Public for Blood Donation in Jamshoro, Sindh

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ARTICLE DETAILS

ABSTRACT

Purpose: The purpose of this research is to determine different factors explaining the intention of public in context of blood donation in the district of Jamshoro, Sindh. Methodology: The data were collected of 400 samples from four different tehsils of Jamshoro. The data was collected through well-structured questionnaire. The survey was conducted in 2019 and cluster sampling technique was used. The internal consistency of the questionnaire was examined, and Chi-Square test was applied for final analysis. Findings: The public’s willingness to donate blood is limited, according to this study ($\chi^2 (1) = 0.88$, $p=0.39$). The media does not perform any significant role in awareness generating and educating the general public about the importance of donating blood ($\chi^2 (1) = 24.35$, $p=0.001$). Women make up a small percentage of blood donors in society ($\chi^2 (1) = 0.05$, $p=0.82$). This research also compares blood donors and non-donors based on gender and age. The contribution of blood donors in younger age was higher ($\chi^2 (3) = 19.31$, $p=0.01$) in males ($\chi^2 (1) = 27.98$, $p=0.001$). Conclusion: The awareness of blood donation was higher in males, higher education, and young age peoples (18-28) years. Furthermore, the awareness about blood donation should be made known through electronic and print media along with the educational programs at educational institutions. Blood bank lab assistants should be given training to keep up to date with the latest information on blood donation, samples, and screening tests

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Introduction

Human blood cannot be substituted since it is an integral component of human life (Agrawal et al., 2013). Every year more than 5 million people die because of violence and injuries (WHO, 2009), road accidents are the second major cause of death worldwide (Motamedi et al., 2014), more than 536000 women died each year due to pregnancy and child birth (Shah & Say, 2007), majority of them in developing countries in all these conditions the timely access to safe blood can save millions of life in these conditions and can prevent patients from severe illness. Therefore, the need of safe blood is increasing day by day. Blood donations are encouraged by surgeons and physicians in order to save lives and extend life expectancy. Blood transfusions save millions of lives every year all over the world. (Sabu et al., 2011), however the quality and safety of donated blood is still a major concern in developing countries (Roberts, 2016; WHO, 2008).

Blood donors are divided into three groups: first, non-paying (volunteer), second, family and friend donors, and third, paid donors. A volunteer blood donor is anyone who donates blood without expecting something in return, including money or something that could be used as a replacement for money. In an emergency, family and friends donate blood for a specific patient. Paid donors are compensated in cash or in kind for their blood donation. (Politis, 2000). According to WHO (World Health organization) data collected of 324 blood banks, there were 15.4 % voluntary blood donors and 84.6 ere family/replacement donors (WHO, 2004). In Pakistan majority of blood donors comes from family and relatives. This practice is not good as sometimes donors donate their blood under family pressure and hide their disease. Blood donated from family and relatives have a higher risk of Transfusion transmitted infections (Jain et al, 2012).

In Pakistan, there is an urgent need for blood donation in public to motivate and educate them through print and electronic media and through educational programs. The aim of this study is to figure out what factors influence people’s willingness to donate blood in Jamshoro, Sindh.

Objectives of the Study

1- To investigate the factors that influence the public’s awareness, attitude, and practice of blood donation.
2- To determine the blood donation facilities those are available for public.
3- To compare the ratio of blood donors to non-donors in the general population.
4- To propose any motivating factors that will help to enhance the process of blood donation in the future.

Hypothesis

H₀₁: The awareness level is limited in public about the importance of blood donations.
H₀₂: The media is contributing with an important role in educating general public about the importance of blood donation.
H₀₃: After every three months blood donation can be done.
H₀₄: Women make up a small percentage of blood donors in society.

Research Methodology and Data Analysis

This study includes primary data of 400 participants. Data collection was done from four districts of Jamshoro including, Kotli Taluka, Sehwan Taluka, Manjhand Taluka and Tando Bula Khan Taluka. Sampling technique that was used in this research was cluster sampling. The research tool was a well-structured questionnaire. The survey was conducted in 2019 from public of mentioned tehsils of Jamshoro, Sindh.
Sample Size

The statistical formula of Taro Yamane (1967) is used to calculate the sample size of public (Yamane, 1967).

\[
\text{n} = \frac{N}{1+N(e)^2}
\]

Where

\(n\)=Size of Sample

\(N\)=size of Population \(e\)=Error

\[
\text{n} = \frac{955142}{1+955142(0.05)^2} = 400
\]

Before beginning the statistical data analysis, the internal accuracy of the questionnaire was tested using the Cronbach alpha method of reliability analysis. We obtained a Cronbach alpha value of \(\alpha =0.92\), indicating that our questionnaire is valid for further study. The analysis of data was done in SPSS statistical package for social science (24 version), and value of \(p \leq 0.05\) considered significant statistically. Initially descriptive statistics was used and finally Chi-Square test was applied for testing of hypothesis. Table 1. Represents the basic demographic data of the participants.

<table>
<thead>
<tr>
<th>Table: 01. Demographic data of the participants</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>n</td>
</tr>
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<td>Unmarried</td>
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<tr>
<td>Age</td>
</tr>
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<td>18-28</td>
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<tr>
<td>28-38</td>
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<td>38-48</td>
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<tr>
<td>B. Educational Qualification</td>
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<td>Matriculation</td>
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<td>Graduation</td>
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<td>Any others</td>
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<td>C. Occupation</td>
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<td>Student</td>
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<tr>
<td>UN employed</td>
</tr>
<tr>
<td>Others</td>
</tr>
</tbody>
</table>

Blood donors and Non-donors

Among 400 participants, the majority of respondents (72%) were non-donors. Anxiety, low hemoglobin levels, and a lack of knowledge were the key reasons for not donating blood. The pie chart of blood donors and non-donors with respect to gender is presented in figure 1.
The respondents donating blood in majority were males (20%).

The above bar chart shows that the majority of blood donors 235 (58.8%) learn about blood donation from their families (figure 2.). Another result of our study revealed that majority of respondent agreed 233 (58.3%) members in family makes decision whether to donate blood or not.
Hypothesis Testing

Testing of hypothesis was performed using the chi-square test and following results were obtained

\textbf{H_01:} The awareness level is limited in general public about the importance of blood donations. (see table 2).

<table>
<thead>
<tr>
<th>CHI-SQUARE TEST</th>
<th>Calculated Value of Chi-Square (Critical value 3.84)</th>
<th>d.f</th>
<th>p-value (Level of significance=0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>0.88</td>
<td>1</td>
<td>0.39</td>
</tr>
</tbody>
</table>

According to the results in the Chi-Square test table it is indicated that the value of p exceeds the point of significance of 0.05, i.e. \( \chi^2 (1) = 0.88, p=0.39 \), so there is an evidence to support the null hypothesis, and we conclude that public knowledge of blood donation is minimal.

\textbf{H_02:} The media is contributing with an important role in educating general public about the importance of blood donation.

<table>
<thead>
<tr>
<th>CHI-SQUARE TEST</th>
<th>Calculated value of chi-square (Critical value 3.84)</th>
<th>d.f</th>
<th>p-value (Level of significance=0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>24.35</td>
<td>1</td>
<td>0.001</td>
</tr>
</tbody>
</table>

According to the Chi-Square results in table 03, it is indicated that since our value of p is smaller than 0.05, i.e. \( \chi^2 (1) = 24.35, p=0.001 \), so there is validation to refuse the null hypothesis, and we concludes that media does not play a significant part educating people in context of donating blood.

\textbf{H_03:} After every three months blood donation can be done. (See table 4).

<table>
<thead>
<tr>
<th>CHI-SQUARE TEST</th>
<th>Calculated Value of chi-square (Critical value 3.84)</th>
<th>d.f</th>
<th>p-value (Level of significance=0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>0.35</td>
<td>1</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Based on information in the test table of Chi-Square, the value of p is larger than the significance
level=0.05 i.e. $\chi^2 (1) = 0.35$, $p = 0.6$, so this is the proof of accepting null hypothesis. This research concludes that donation of blood can be done after every three months.

**H04:** Women make up a small percentage of blood donors in society.

Table 05: Chi Square table of hypothesis testing: Women make up a small percentage of blood donors in society.

<table>
<thead>
<tr>
<th>CHI-SQUARE TEST</th>
<th>Calculated Value of chi-square (Critical value 3.84)</th>
<th>d.f</th>
<th>p-value (Level of significance=0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>0.05</td>
<td>1</td>
<td>0.82</td>
</tr>
</tbody>
</table>

According to the test table of Chi-Square results the value of p higher than the significance level (0.05), i.e. $\chi^2 (1) = 0.05$, $p=0.82$, so the evidence proposes that the null hypothesis is accepted, while concluding that the quantity of women towards blood donors in general public is low.

**Age and Gender Comparison between Blood Donors and Non Blood Donors**

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Donors(n=116)</th>
<th>Non-donors(n=284)</th>
<th>Chi-Square</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Percentages</td>
<td>Number</td>
<td>Percentage</td>
<td></td>
</tr>
<tr>
<td>18-28</td>
<td>83</td>
<td>71.6</td>
<td>143</td>
<td>50.4</td>
</tr>
<tr>
<td>29-35</td>
<td>27</td>
<td>23.3</td>
<td>88</td>
<td>31.0</td>
</tr>
<tr>
<td>35-43</td>
<td>5</td>
<td>4.3</td>
<td>28</td>
<td>9.9</td>
</tr>
<tr>
<td>44 and above</td>
<td>1</td>
<td>.9</td>
<td>25</td>
<td>8.8</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0</td>
<td>284</td>
<td>100.0</td>
</tr>
</tbody>
</table>

According to table 6 of the Chi-Square test, the attendance of blood donors in the younger age group (18–28) years is higher than in remaining groups of age. The notified disparity was very significant statistically ($p=0.001$): $\chi^2 (3) = 19.31$. When we measured the number of blood donors and non-donors by gender, we discovered that males had a higher percentage of blood donors than females. The gender gap that was deduced was statistically important which is $\chi^2 (1) = 27.98$, $p=0.001$.

**Discussion**

In our survey, the majority of respondents (71%) were non-donors, with anxiety, low hemoglobin levels, and a lack of knowledge being the key reasons for not donating blood. We discovered that the greater part of donor was males (20.5 %). Similarly, the greater part of blood donor was falling in the age group of 18–28 with (53.5%) are between the ages of 18 and 28. Graduates were in the majority of the respondents (25.5%).

Moreover, greater number of participants (58.3 %) accepted that men or male guardian
decides whether to donate blood or not. A research indicated that among blood donors (89%) of donors were males (Alam, et al., 2004). Our first hypothesis was confirmed by a chi-square test, which showed that public knowledge of blood donation is low.

The study's first hypothesis was verified and tested. So, the measured value of chi square was significant. The p value was also significant while accepting the null hypothesis. Overall, it was proposing that public understanding about donating blood is extremely low. Our second hypothesis found that the media can contribute significantly in educating general public about importance of donating blood. So, the p value and chi square results validated the rejection of null hypothesis and concluding that media in all forms does not contribute effectively to educate people in the context of blood donation. According to Maqbool, et al., (2004), there are misconceptions about blood donation among Saudi citizens, who need proper education and encouragement through the dissemination of blood donation information, especially through electronic media (Sundar, et al., 2010).

The third hypothesis proposes that donation of blood can be done after every three months. So as per the p value of significance chi square results null hypothesis is accepted and it is concluded that donation of blood can be done after every three months. The fourth hypothesis was about low proportion of women in blood donation. So, the statistical results with p value and chi square results, the null hypothesis is accepted and concluding that number of women is very low among public donating blood. Moreover, this research shows that non donors and donors of blood are different in context of age and gender. Men donate more blood as compared to women. Age group of 18-28 donates more blood as compared to other age groups. These statements are also verified statistically in this research.

Conclusion

The greater proportion of blood donors were male men, and the majority of respondents decided that male family members make the decision whether or not to blood donate. The majority of donors are between the ages of 18 and 28. Graduates made up the majority of the respondents. Most of the donors choose to give blood only to their friend and family and friends. The majority of participants were not donor of blood, and the most common reasons for this were the low hemoglobin level, fear and lack of awareness. Blood donation awareness was low among the general public. The media as such does not contribute active role in sensitizing and educating general public about the benefits and importance of donating blood. Donating blood every three months is good for your wellbeing, as shown by the results. Women make up a small percentage of blood donors in society.

Recommendations

According to the results and findings this research proposed following recommendations.

i. Government authorities should help out women by holding numerous campaigns and activities to raise awareness about blood donation.

ii. Training programs for blood bank lab assistants should be designed to keep them up to date with the latest information on blood donation and sample screening tests.

iii. Blood donation can be made more widely known via print and electronic media.

iv. In order to raise awareness of blood donation, educational activities such as workshops, lectures, and discussions should be launched in schools, colleges, and universities.

v. More blood banks with well-accredited and up-to-date equipment should be established by the government.

237
References
The Impact of Audit Committee Characteristics on Corporate Biodiversity Disclosure: An Analysis of Japanese Firms

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ARTICLE DETAILS

ABSTRACT

Purpose: The loss of biodiversity is considered one of the greatest threats to economic development and human life. Business organizations have a direct impact on biodiversity through their operations. Therefore, the objective of the study is to examine the impact of audit committee (AC) characteristics on corporate biodiversity disclosure by using the data of Japanese listed firms.

Design/Methodology/Approach: This study is based on secondary data that has been collected from the corporate reports for the period 2012 to 2018. A final sample consists of 476 firm-year observations. Due to the nature of the data, panel regression (fixed-effects model) has been used to test the proposed hypotheses.

Findings: The empirical results depict that the AC size, gender diversity, AC meetings, and financial expertise have a significant positive impact on corporate biodiversity disclosure. However, the AC independence and independence of the chair are not significant.

Implications/Originality/Value: This is a unique study because no research study has examined the impact of AC characteristics on biodiversity disclosure as per the known literature. Thus, the findings of this study may help regulators, policymakers, investors, shareholders, and managers in assessing and monitoring the corporate biodiversity disclosure in light of AC characteristics.

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239
Introduction
The loss of biodiversity is considered one of the greatest threats to economic development and human life (Haque & Jones, 2020; Roberts et al., 2021; Skouloudis et al., 2019). According to World Economic Forum (2021), the loss of biodiversity is ranked 4th in the top ten global risks because it will have irrevocable penalties for human life, the natural environment, and economic activity. The scientific researchers believed that the planet has been reached in the sixth mass extinction where human activity is the primary driver (Maroun & Atkins, 2018). Some experts also believe that up to one million animal species and plant face extinction within decades if precautionary measures are not taken (Brondizio et al., 2019; Roberts et al., 2021). Furthermore, according to Global Reporting Initiative (2016), business organizations, directly and indirectly, impact biodiversity. Due to these reasons, internal and external stakeholders put pressure on the business organizations to report and reduce their impact on biodiversity (Damayanti & Syarifuddin, 2019; Global Reporting Initiative, 2016). Furthermore, stakeholders also expect that business organizations must recognize their responsibilities to protect the natural environment by developing sustainable policies; these policies assist the business to mitigate their negative environmental impact (Chung & Parker, 2010). According to Solomon and Jones (2013), business organizations should be held responsible and accountable for their actions on biodiversity as the conservation of biodiversity is not only the responsibility of the government; business organizations are equally responsible for conserving the natural biodiversity though their operations. A number of consultancy firms argued that biodiversity conservation is the big challenge for the business organizations (KPMG, 2011) and organizations require managerial action to address the issue of biodiversity. However, the biodiversity gains the importance since 2010, consequently, the United Nations (UN) declared 2011-2020 as the decade of biodiversity (Haque & Jones, 2020).

Business organizations have great potential to conserve the loss of biodiversity and the degradation of the natural environment (Krause & Matzdorf, 2019; Solomon & Jones, 2013). Furthermore, improvement in the world’s natural assets is also the businesses' ethical responsibility (Jones & Gaia, 2019). Therefore, corporate disclosures about biodiversity are essential sources of information to access a company’s ability to address biodiversity environmental stewardship. Businesses need to work hard along with organizational resources to address the biodiversity challenges. In addition to this, firms can gain a competitive advantage by developing biodiversity-friendly policies. Therefore, according to Houdet et al. (2012), corporate boards are the key resources to address the sustainability agenda integrating with biodiversity issues. The most critical role of corporate governance (CG) is to ensure a firm’s financial reporting quality. Moreover, Jamali et al. (2008) argued that corporate boards are more effective with sub-committees like audit committee (AC), sustainability committee, and compensation committee because the workload is shared with committee-based governance. The AC's primary function is to conduct the business’s internal audit, including the audit of financial reports and its quality, with the attention to minimize asymmetric information between the business management and various stakeholders (Karamanou & Vafeas, 2005). Thus, AC is an appropriate tool to monitor and to enhance the biodiversity disclosure.

In the literature, various studies have been conducted between the relationship of AC and CSR disclosures (Appuhami & Tashakor, 2017; Buallay & AlDhaen, 2018) and ignore the biodiversity dimension of CSR. Most of the research studies remained quite general in CSR but not focused on biodiversity (Boiral & Heras-Saizarbitoria, 2017). Nevertheless, the existing literature has failed to address the effect of AC characteristics on corporate biodiversity disclosure; however, a few studies from the field of environmental sciences have explored the scientific dimensions of biodiversity (Reale et al., 2016). Therefore, this research study attempts to fill aforementioned gap by exploring the effect of AC characteristics on corporate biodiversity disclosure in the
Japanese context. Japan is considered an appropriate avenue for this study because it has a powerful regulatory framework. Furthermore, the research will focus only on manufacturing firms because the manufacturing firms (especially using natural-resource-based raw material) can have a meaningful impact on biodiversity (Boiral & Heras-Saizarbitoria, 2017). In the light of above discussion, the main aim of this research study is to empirically test the impact of AC attributes on corporate biodiversity disclosure.

The study makes the following contributions in literature. Firstly, we are among the first to empirically test the role of AC characteristics to address corporate biodiversity disclosure. Results indicate that AC size, gender diversity, AC meetings, and AC financial expertise significantly impact corporate biodiversity. Moreover, in the literature, most biodiversity studies are qualitative; however, this study is based on quantitative data to examine the role of AC in addressing biodiversity disclosure. The study is helpful for policymakers and regulators to amend the corporate governance code regarding AC.

Literature Review and Hypothesis Development

AC Size
AC size means the number of directors in the AC; it differs from country to country and company to company. According to Appuhami and Tashakor (2017), AC must be rich in diversity to monitor and report CSR activities like biodiversity disclosure. A higher number of directors in the AC have the essential strengths, diversity in knowledge, experience, and expertise that ensure appropriate internal monitoring, leading to better financial and non-financial disclosure (Bedard et al., 2004; Bédard & Gendron, 2010; Zraiq & Fadzi, 2018). Therefore, a higher number of AC directors assist the committee in exploring and resolving internal issues, specifically in the corporate reporting process (Buallay & AlDhaen, 2018). On the other hand, larger committees size is not always in favor of the business. There are various supplementary costs linked with larger committees, such as poor communication, lack of coordination, and poor control (Jensen, 1993). Different Research studies have also noted that sub-committees with larger members can agonize with diffused responsibilities and suffer from free-rider (Li et al., 2012).

The empirical evidence showed mixed results between the relationship of AC size and CSR or related disclosure e.g., Li et al. (2012) conducted a study by using the data of UK companies and found a significant relationship between AC size and intellectual capital disclosures. Likewise, Yang and Krishnan (2005) evidenced that AC size is positively linked with earnings management. Persons (2009) also concluded that AC size is an integral part of overseeing and improve voluntary corporate disclosure. However, some authors find no relationship between AC size and corporate disclosure (Mangena & Tauringana, 2007). Based on these theoretical arguments and mixed results, we hypothesizes that:

\[ H_1: \text{Ceteris paribus, there is a significant positive relationship between AC size and the level of corporate biodiversity disclosure.} \]

AC Independence
AC independence means the percentage of independent (outsider) directors in the AC. The director's independence is recognized globally as a key feature of AC in terms of improving in corporate financial and non-financial information (Appuhami & Tashakor, 2017). Higher level of AC independence leads to better accountability and fair transparency (Pucheta-Martinez & De Fuentes, 2007). Usually, the independent directors are knowledgeable, specialists in their field, and diversified experience that enriches the business organizations to take moral and sustainable decisions (Buallay & AlDhaen, 2018). Biodiversity conservation and biodiversity disclosure is
also the example of sustainable decisions. Therefore, this seems to argue that a higher level of AC independence encourages the firms to take independent decisions to improve biodiversity and CSR disclosure without any window-dressing.

Prior literature provides mixed results about AC independence and the level of financial and non-financial disclosure relationship. For example, Mangena and Tauringana (2007) conducted research using the sample of UK firms and found that AC independence is positively linked with corporate voluntary disclosure. Similarly, McMullen and Raghunandan (1996) also evidenced a significant positive relationship between AC independence and reporting quality. Furthermore, Kilgore et al. (2011) documented a significant positive effect of AC independence in reducing earnings management by using an Australian sample. In contrast, a few research studies found a negative or no association between AC independence and disclosure e.g., Li et al. (2012) conducted a survey using the UK dataset but found no association between AC independence and intellectual capital disclosure. Likewise, Yang and Krishnan (2005) also fail to establish any connection among AC independence and corporate earnings disclosure. Despite these mixed results, this study proposed a positive association between biodiversity disclosure and AC independence because there are no formal rules and regulation about biodiversity disclosure. Therefore, opportunistic managers may enhance information asymmetry in association to biodiversity conservation. Independent members of AC may get the benefit from the expedient behavior of manager by upgrading the efficacy of controlling process to improve biodiversity disclosure. Therefore, we hypothesize that:

\[ H_2: \text{Ceteris paribus, there is a significant positive relationship between AC independence and the level of corporate biodiversity disclosure.} \]

**Gender Diversity**

A large number of research studies shed light on the problems linked with board gender (female) diversity in the subcommittees like AC (Agyei-Mensah Ben, 2019; Appuhami & Tashakor, 2017; Haque & Jones, 2020). Generally, it is assumed that gender diversity in subcommittees brings essential resources like human capital, social capital, creativity, and innovation that advance subcommittees’ performance, such as disclosure reporting and monitoring (Carter et al., 2003). Furthermore, females who participate in sub-committees can be proactive in shaping a firm’s environmental policy to mitigate global challenges such as loss of biodiversity and carbon emissions (Haque & Jones, 2020). Female representation in the AC may perform a proactive role in enhancing the transparency of corporate financial reporting and CSR disclosure (Appuhami & Tashakor, 2017). Research studies in corporate governance and accounting provide significant theoretical support about the association among AC gender diversity and a business’s CSR disclosure. These empirical studies noted that corporate boards and sub-committees and female gender diversity can pay special attention to sensitive issues like CSR and biodiversity (Appuhami & Tashakor, 2017; Gul et al., 2011). Female members of AC pressurize the business management to improve financial and non-financial disclosure like biodiversity (Gul et al., 2011). Based on these arguments, it is suggested that corporate board gender diversity in ACs enhances the committee’s efficacy and level of biodiversity disclosure. Thus, the following hypothesis is being proposed:

\[ H_3: \text{Ceteris paribus, there is a significant positive association between the presence of female directors in AC and the corporate biodiversity disclosure.} \]

**Independent AC chair**

One of the most crucial variables that affect the functioning of AC is the independence of its chair. The decisions of an AC are directly affected by AC chair as the chair is the responsible for the planning of entire agenda, AC meetings, coordinating with the board and other committees,
setting the objectives of internal audit, and also outline entire audit activities (Appuhami & Tashakor, 2017; Dwetak et al., 2020). Generally, it is suggested that the chairman/chair-person of an AC should be an independent person that have no chair or key position in corporate board. The rationale is that if the AC chair is independent in its role, the chair will have enough energy, time, and autonomy to make independent decision-making regarding financial and non-financial matters (Karamanou & Vafeas, 2005). Therefore, AC chair independence enhances the level of environmental and sustainability disclosure (Appuhami & Tashakor, 2017). Subsequently, García-Sánchez et al. (2012) argued that the separation in roles between AC chair and board chair may encourage AC members to improve monitoring function that could enhance the level of disclosure like CSR and biodiversity. However, a few studies examined the relationship between AC chair independence and the level of disclosure. For example, Beasley and Salterio (2001) argued that the presence or the interference of CEO or the board chairman in the AC has an adverse impact on the functioning of AC effectiveness. Similarly, Aldamen et al. (2012) and Ashfaq and Rui (2019) also argued that the AC chair should be independent to improve the transparency and disclosure of financial and non-financial reporting. Based on these arguments, we hypothesized that:

H4: Ceteris paribus, there is a significant positive relationship between the presence of AC independent chair and the level of corporate biodiversity disclosure.

Frequency of AC Meetings
Board meeting frequency refers to the number of board meetings held during a fiscal year. Formal AC meetings improve the ACs effectiveness and provide enough time to committee members for the detailed discussion of all the matters (Appuhami & Tashakor, 2017). The frequency of meetings is considered an assessment of AC due diligence (DeZoort et al., 2002). AC’s that have meetings are more likely to point out and resolve the discrepancies to ensure sustainability disclosure's creditability like biodiversity (Appuhami & Tashakor, 2017). Regular AC meetings assist the members in keeping informed and be proactive about biodiversity disclosure. Similarly, Karamanou and Vafeas (2005) concluded that a higher number of AC meetings improves the directors' monitoring function, improving a firm’s disclosure policy like biodiversity disclosure. Abbott et al. (2004) also argued that a higher number of AC meetings improve the disclosure related to auditing, CSR, and accounting. Furthermore, empirical evidence also showed a significant positive relationship between AC meetings' frequency and a firm’s financial and non-financial disclosure. For example, Kelton and Yang (2008) documented a significant positive relationship between the AC meetings and internet-based web disclosures. Pucheta-Martínez and De Fuentes (2007) conducted research using Spanish firms’ data and found a significant positive association between the AC meetings and financial disclosures level. Further, Li et al. (2012) also evidenced a positive relationship between AC meetings and IC disclosure frequency. On the basis of these empirical evidences, it is concluded that ACs that have more frequency of meetings are better able to disclose the information about CSR activities and biodiversity conservation. Therefore, this study hypothesizes that:

H5: Ceteris paribus, there is a significant positive relationship between the frequency of AC meetings and the level of corporate biodiversity disclosure.

AC’s Financial Expertise
Financial expertise in AC means the number of members who have financial qualifications like accounting and finance. Generally, it is assumed that members with financial expertise are more vulnerable to detect problems, frauds, and mistakes in financial and non-financial reports (Agrawal & Chadha, 2005). Furthermore, AC members with financial qualifications understand reporting practices that comply with rules and regulations (Mangena & Tauringana, 2007). Therefore, this study also argued that AC members with a financial qualification are likely to
improve corporate biodiversity disclosure. Because the AC members with a financial qualification are in a better position to comprehend the need for voluntary disclosure to improve the business's ethical reputations (Li et al., 2012). Research studies also observe that market stakeholders respond positively when business organizations appoint financial experts in AC (Bédard & Gendron, 2010; DeFond & Francis, 2005).

Previous research results also showed a positive relationship between the presence of financial directors in AC and voluntary corporate disclosure e.g., Mangena and Pike (2005) conducted research using the data of UK firms and found a significant positive connection between AC financial expertise and corporate interim disclosures. Likewise, Kelton and Yang (2008) evidenced that AC members with financial expertise enhance web-based disclosure in the US sitting. Furthermore, Mangena and Tauringana (2007) concluded that AC with financial expertise is more dedicated to complying with corporate various disclosure requirements. Similarly, Kent et al. (2010) also evidenced a positive association between AC's financial expertise and the corporate financial reporting. On the other hand, Appuhami and Tashakor (2017) found no association between AC financial expertise and CSR disclosure level. Due to this inconsistency in the literature, the following hypothesis is being proposed:

\[ H_6: \text{Ceteris paribus, there is a positive relationship between the percentage of AC members with financial qualification and the level of corporate biodiversity disclosure.} \]

**Research Methodology**

**Sample and Data**

The main aim of the research is to examine the impact of AC characteristics on corporate biodiversity disclosure. To address this objective and test the proposed hypotheses, the study used Japanese listed firms' data. Japan is considered a promising avenue for this research because Japan is proactive in addressing environmental issues compared to other G7 countries. Another reason for choosing Japan is that the Japanese Ministry of Environment issued various corporate environmental reporting guidelines. According to these guidelines, companies are required to disclose biodiversity information. Furthermore, the study used the data from 2012 to 2018 due to various reasons. Firstly, in 2012 Japanese Ministry of Environment issued revised environmental reporting guidelines. Secondly, the GRI reporting guidelines also published a G3 version of reporting in 2012. According to this GRI guidelines version, business organizations are required to address the biodiversity issue. Initially, Nikkei 225 indexed firms were chosen, then removed the firms of financial and real estate sectors; moreover, the firms that have missing information also removed from the sample. Therefore, a final selection consists of 476 firm-year observations from the period 2012 to 2018. The quantitative data have been collected from published corporate annual reports, e.g., annual reports, corporate social responsibility reports, and environmental reports.

**Measurement of Variables**

The dependent variable of this study is corporate biodiversity disclosure (BD). The study used the GRI (G3, G4) biodiversity indicators to examine the biodiversity disclosure as it covers maximum dimensions of biodiversity (Bhattacharyya & Yang, 2019). According to GRI there are four biodiversity elements coded EN11, EN12, EN13, and EN14 in GRI reporting guidelines. In this study, we measured these indicators through binary coding; if the data of any indicator disclosed in corporate reports, then coded 1 otherwise 0. Finally, an index has been developed by taking the average of all these four indicators.

Independent variables or the predictor variables are the characteristics of AC such as AC size
(ACSIZE), AC independence (ACIND), gender diversity in AC (GENDER), independence of AC chair (INDCHAIR), AC meetings (ACMEET), financial experts in AC (FEXPRT). The ACSIZE is measured through the number of members in an audit committee. ACIND means the percentage of independent directors in the audit committee, whereas the GENDER is the percentage of female members in an AC. INDCHAIR is a binary variable coded 1 if the chairman is an independent director otherwise 0. ACMEET means the number of the meeting held by the audit committee during a year, whereas FEXPRT is the percentage of financial experts in an audit committee.

The study also used firm specific control variables such as research and development intensity (RDI) measured as the ratio of R&D expenses to sales, leverage (LEV) the proportion of total liabilities to total assets, profitability measured through return on assets (ROA) and the firm size (FSIZE) measured though the natural log of total employees.

Empirical Model
To test the proposed hypothesis, the study used the balanced panel data. There are two regression estimation techniques for panel data – the fixed-effects model and the random-effects model. Hausman test is used to decide the appropriate model; the statistical values depict that the fixed-effect model is suitable for this study. Therefore, the multiple regression model of the study is estimated as follows:

\[ BD_{it} = \alpha + \beta_1 \text{ACSIZE}_{it} + \beta_2 \text{ACIND}_{it} + \beta_3 \text{GENDER}_{it} + \beta_4 \text{INDCHAIR}_{it} + \beta_5 \text{ACMEET}_{it} + \beta_6 \text{FEXPRT}_{it} + u_{it} \]

Where, \( BD_{it} \) is the corporate biodiversity disclosure i at time \( ACSIZE_{it} \) is the audit committee size; \( ACIND_{it} \) is the independence of audit committee; \( GENDER_{it} \) is the audit committee gender diversity; \( INDCHAIR_{it} \) is the independence of the AC chair; \( ACMEET_{it} \) is the number of AC meetings; \( FEXPRT_{it} \) is the financial expertise of AC and \( u_{it} \) is the error term.

Empirical Findings
Descriptive Statistics and Correlations Analysis
Table 1 shows the results of descriptive statistics. Notably, the average score of biodiversity is almost 72%, which implies a higher disclosure level. Because the sample of this study is based on the top Japanese firms listed in Nikkei 225 index. Regarding AC characteristics, the AC constituted a minimum of 2 members and a maximum of 7 members; furthermore, the audit committee has an average value of 4.618 members. On average, 52.3% are independent, 58% are female members who meet on average 13 times a year. Almost 61% of AC’s have an independent chairman and, on average, 25% members with financial qualifications. Descriptive stats also indicate that Japanese companies spend almost 7% of sales in R&D activities, and companies have nearly 54% debt. ROA demonstrates that some companies earn a profit, whereas certain companies are suffering in the loss. Skewness and kurtosis were also reported to check the normality of individual variables. All the values indicated that normality is not an issue in this study.

Table 2 shows the correlation values for all the variables. Mostly values of AC characteristics are positively correlated with biodiversity disclosure. Furthermore, all the correlation values are less than 0.8, which implies that multicollinearity is not an issue; VIF also verifies this because all the VIF values are less than 5.

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Obs.</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>min</th>
<th>max</th>
<th>skewness</th>
<th>kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>476</td>
<td>.722</td>
<td>.308</td>
<td>0</td>
<td>1</td>
<td>-.739</td>
<td>2.47</td>
</tr>
<tr>
<td>ACSIZE</td>
<td>476</td>
<td>4.618</td>
<td>.626</td>
<td>2</td>
<td>7</td>
<td>-.785</td>
<td>1.305</td>
</tr>
<tr>
<td>Variable</td>
<td>N</td>
<td>mean</td>
<td>sd</td>
<td>var</td>
<td>min</td>
<td>max</td>
<td>skew</td>
</tr>
<tr>
<td>-----------</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>ACIND</td>
<td>476</td>
<td>2.714</td>
<td>.461</td>
<td>2</td>
<td>4</td>
<td>-.819</td>
<td>2.03</td>
</tr>
<tr>
<td>GENDER</td>
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<tr>
<td>(5)</td>
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<td>0.088*</td>
<td>0.030</td>
<td>0.041</td>
<td>0.100**</td>
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<td>0.140***</td>
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<td>0.230***</td>
<td>0.238***</td>
<td>0.085*</td>
<td>0.013</td>
<td>0.005</td>
<td>0.117**</td>
<td>0.343***</td>
<td>0.080*</td>
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*** p<0.01, ** p<0.05, * p<0.1
Regression Analysis Results

Table 3, Model 1 shows the impact of firm-specific control variables on biodiversity disclosure. The statistical values evidenced that all the control variables are positively significant. The RDI is positively significant at 5% level of significance ($\beta = 0.568, p < 0.05$). This indicates the biodiversity disclosure will be increased with an increase in research and development spending. Similarly, RDI is also positively significant at 5% level of significance ($\beta = 0.274, p < 0.05$). This implies that an increase in research and development expenditure tends to positively impact biodiversity disclosure. Furthermore, the coefficient of leverage is negative but statistically significant. These findings are similar to Bhattacharyya and Yang (2019) and Hassan et al. (2020), which infers that an increase in the business financial risk leads to a reduction in biodiversity disclosure. In addition to this, profitability and firm size also have positive significance ($ROA \beta = 0.166, p < 0.01; FSIZE \beta = 0.0712, p < 0.1$) impact of corporate biodiversity disclosure in the Japanese context, these results are similar to Aldamen et al. (2012) and Bhattacharyya and Yang (2019). These results evidenced that the firm that is rich in profitability has excellent potential to disclose biodiversity issues. Moreover, the firms that are larger in size also have a positive impact on biodiversity disclosure.

Model 2 of Table 3 presents regression results of audit committee attributes on corporate biodiversity disclosure. The statistical results indicate that audit committee size, audit committee gender diversity, audit committee meetings, and audit committee financial expertise have a significant positive impact on biodiversity disclosure. In contrast, both the audit committee independence and audit committee chair independence are not significant. The beta coefficient of audit committee size is positively significant with biodiversity disclosure at a 5% level of significance ($\beta = 0.0994, p < 0.05$). Thus, hypothesis H1 is accepted. This predicts that the larger audit committees are playing a proactive role in disclosing biodiversity information. The reason is that larger committees are more diversified in terms of knowledge, experience, and expertise, which can address biodiversity issues better. These findings are consistent with the studies of Appuhami and Tashakor (2017) and Buallay and AlDhaen (2018). The second hypothesis is about audit committee independence; it is hypothesized that audit committee independence is positively associated with biodiversity disclosure. The statistical results are not significant at any level of significance ($\beta = 0.0774, p > 0.1$); therefore, H2 is not accepted. These findings are similar to research studies of Li et al. (2012) and Zou et al. (2015). It is depicted that independent directors in AC are not meant to improve biodiversity disclosure. Furthermore, the findings are influential in the Japanese context because Japan follows hybrid corporate governance (Endo, 2020), independent directors focus on shareholders protection.
## Table 3: Regression Results

<table>
<thead>
<tr>
<th>VARIABLES</th>
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<th>Model 2 FE</th>
<th>Model 3 FE-Robust</th>
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<td>0.0994** (0.0488)</td>
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<tr>
<td>ACIND</td>
<td>0.0774 (0.0504)</td>
<td>0.0774 (0.0548)</td>
<td></td>
</tr>
<tr>
<td>GENDER</td>
<td>0.139*** (0.0369)</td>
<td>0.139** (0.0530)</td>
<td></td>
</tr>
<tr>
<td>INDCHAIR</td>
<td>0.0273 (0.0279)</td>
<td>0.0273 (0.0395)</td>
<td></td>
</tr>
<tr>
<td>ACMEET</td>
<td>0.0191*** (0.00593)</td>
<td>0.0191** (0.00722)</td>
<td></td>
</tr>
<tr>
<td>FEXPRT</td>
<td>0.0611*** (0.0177)</td>
<td>0.0611** (0.0266)</td>
<td></td>
</tr>
<tr>
<td>RDI</td>
<td>0.568** (0.262)</td>
<td>0.544** (0.252)</td>
<td>0.544** (0.273)</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.274** (0.114)</td>
<td>-0.182** (0.0927)</td>
<td>-0.182* (0.102)</td>
</tr>
<tr>
<td>ROA</td>
<td>0.166*** (0.0444)</td>
<td>0.146*** (0.0450)</td>
<td>0.146*** (0.0245)</td>
</tr>
<tr>
<td>FSIZE</td>
<td>0.0712* (0.0421)</td>
<td>0.0895* (0.0404)</td>
<td>0.0895* (0.0508)</td>
</tr>
<tr>
<td>Constant</td>
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<td>0.626*** (0.152)</td>
<td>0.626*** (0.242)</td>
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<tr>
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<td>0.254</td>
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<tr>
<td>Observations</td>
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<td>476</td>
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</table>

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Generally, it is assumed that gender diversity in subcommittees brings essential resources like human capital, social capital, creativity, and innovation that advance subcommittees’ performance, such as disclosure reporting and monitoring (Carter et al., 2003). Furthermore, female members in sub-committees can be proactive in shaping a firm’s environmental policy to mitigate global challenges such as loss of biodiversity and carbon emissions (Haque & Jones, 2020). Similarly, in this study, the coefficient of gender diversity is positively significant at the 1% level of significance ($\beta = 0.139, p > 0.01$); thus, hypothesis 3 is accepted. These findings are consistent with the studies of Gul et al. (2011) and Appuhami and Tashakor (2017). The empirical results indicate that the AC committee performs better in the presence of female members because the female director can initiate and implement sustainable corporate business that may reduce the loss of biodiversity. The following hypothesis is about chairman independence. It is assumed that an independent chairman of the audit committee can be more effective in disclosing biodiversity disclosure. But the empirical results are contradictory. The chair independence coefficient is not significant ($\beta = 0.0273, p > 0.1$); therefore, hypothesis 4 is rejected. The findings are not similar to the studies of Aldamen et al. (2012) and Ashfaq and Rui (2019); thus, we infer that the AC independence is not playing a positive role in disclosing biodiversity information.

The activeness of AC is measured through the number of AC meetings; it is assumed that a
higher number of board meetings will improve the biodiversity disclosure. The statistical results support this argument. The number of AC meeting's beta coefficient is positive and highly significant ($\beta = 0.0191, p < 0.01$). Therefore, we accept hypothesis 5. Based on these findings, it is inferred that a higher number of AC meetings will resolve the discrepancies and ensured the creditability of biodiversity discourses. These findings are similar to the studies of Karamanou and Vafeas (2005), Kelton and Yang (2008), Li et al. (2012), and Appuhami and Tashakor (2017). The last hypothesis is about the relationship of financial experts in AC and biodiversity discourses. It is hypothesized that there is a positive relationship between financial experts and biodiversity disclosure. Similarly, the empirical evidence supports this argument as the coefficient is significant at a 1% level of significance ($\beta = 0.0611, p < 0.01$). Thus, we accept hypothesis 6 and conclude that the higher percentage of AC members with financial qualifications tends to disclose more information about biodiversity. Finally, Model 3 present the results with robust standard errors. All the results are similar to the fixed-effects model, which depicts the fitness of statistical results.

Conclusion
The objective of this research is to examine empirically the impact of AC attributes on the level of corporate biodiversity disclosure by using the data of listed firms. The empirical results identified that AC attributes like audit committee size, gender diversity, AC meetings, and AC members’ financial expertise are significant and positively contribute in improving biodiversity disclosure. However, there is no evidence to support the postulation that AC member independence and AC chair independence influence corporate biodiversity disclosure in corporate reports. Based on these empirical findings, it is concluded that AC characteristics improve biodiversity disclosure level, even in the absence of mandatory disclosure requirements. Furthermore, these findings also depict that AC characteristics give the stakeholders a signal that AC can control and monitor non-financial discoursers like biodiversity. Similarly, these findings support the augment of Jamali et al. (2008) that AC is a key pillar of corporate governance address CSR and environmental orientations.

The findings of this research may be benefitted for policymakers and regulators to amend in the corporate governance code with reference to AC. In particular, the study noted that gender diversity, committee meetings, and financial expertise are highly significant; thus, it infers that business organizations should pay special attention to these characteristics of AC. Due to continuous pressures from stakeholders, the policy makers and the business regulators may also consider introducing mandatory biodiversity disclosure requirements under AC's supervisory role. Despite a significant contribution and implications, the study is not free from limitations; therefore, these limitations should be acknowledged while interpreting this research's findings. Firstly, the study empirically examined the impact of AC characteristics on biodiversity disclosure only of listed Japanese firms and ignored the non-listed firms and other countries’ firms; therefore, future research may be conducted by including non-listed companies and the companies of multiple countries as well. Secondly, the biodiversity disclosure is based on GRI guidelines. The data has been collected only from corporate annual reports, whereas other sources such as newspapers, media exposure, and websites are ignored. In future research, comprehensive biodiversity data may be collected from multiple sources to cover all corporate biodiversity dimensions. As discussed earlier, the stakeholders put pressure on business organizations to disclose biodiversity information; thus, the role of stakeholders’ engagement may also be explored in future research.

References


Expectations of PhDs Working in a Challenging School Environment: Results from a Qualitative Study

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Nadia Gilani, Assistant Professor, Department of Teacher Education, University of Okara, Pakistan
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ARTICLE DETAILS

History
Revised format: May 2021
Available Online: Jun 2021

Keywords
PhD, School Teacher, Expectations, School Environment, Qualitative study, Pakistan

JEL Classification
I00, I20

ABSTRACT

Purpose: It is fortunate or unfortunate that PhDs are working as school teachers at different levels. It may be predicted that many PhD degree holders will be ready to join the School Education Department in near future while many candidates are completing their PhDs. The present study purports to explore expectations of PhDs working as school teachers and exploring the challenges they face while teaching in various schools of Sahiwal Division, Pakistan.

Design/Methodology/Approach: Participants’ lived experiences of working in schools were examined through the phenomenological approach of qualitative research. For this purpose, eleven PhDs were approached through a snowball sampling to gather data on the phenomenon employing the interviews.

Findings: The results emerged in the form of themes and sub-themes that include relationships with the school community, PhD teachers’ expectations (sub-themes: expectations from students and colleagues, expectations from education authorities, and expectations for professional development), and challenging school environment.

Implications/Originality/Value: The study implies the recognition of PhDs working as school teachers, their professional satisfaction, service structure and appropriate placement in the education system.

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Introduction

PhD degree holders are increasing in Pakistan, which led them to work in schools due to scarcity of job opportunities in higher education institutions for many PhDs in the country. There are 387
PhDs working in the School Education Department (SED) which is 0.11% of 367735 registered teachers in Punjab, the province of Pakistan (Government of the Punjab, School Education Department, 2020). There are clear chances for further increase of PhD graduates in schools because many PhDs are in progress and many other PhDs are ready to join schools in the upcoming recruitments if they could not get a chance for recruitment in the higher educational institutes. PhDs’ challenges while working in schools include low financial benefits, low pay scales, recognition, further research grants, and attractive job opportunities. Their utilization in schools and appropriation with respect to their PhD subject may also be a challenge in the future.

According to Wing (2018), more than 2.9 million people in the United States have PhDs, half of them teach in colleges and universities, most do a part-time job, and less than a quarter of them have tenure-track positions. Even tenure-track opportunities are declining in academics, and they rely on low wages or temporary contracts. There are also thousands of PhD students in the pipeline in the United States of America.

Universities are producing more PhDs, but there are few job opportunities for them. If one undergraduate student gets a PhD degree under the supervision of a university faculty member, then the ratio is (1:1), but the current ratio is (8:1) in most of the science and engineering departments. In other words, a university faculty member is producing eight PhDs. “The repurposed PhD” published in the New York Times and written by Tuhus-Dubrow (2013) reports an alarming situation about the financial careers of PhDs. Finding a teaching position in a school is easy compared to finding a teaching position in a university in Pakistan. Therefore, another option for PhDs is to join a school for teaching, and they can easily continue their research project in the university with their ongoing school job.

On the other hand, a PhD degree holder teacher can enjoy tenure track jobs as a visiting faculty member, a researcher in the research projects and a K-12 teacher at a school in the USA. PhD teachers can see their students be a co-author of their research after some years. School teachers have a resource, curiosity of knowledge, three breaks like summer break, winter break, spring break, and professional development trips and training. A PhD teacher can take research grant more easily as compared to other graduate students of the university. School teacher can earn more as compared to university job, and it depends upon geography. Most of the schools offer a good salary with retirement benefits. Job securities in schools are more than tenure track jobs of the university (Gilani et al., 2020; Wing, 2018).

Teacher’s research is usually based on inquiry and assumptions revolving in their minds on which teacher decides to change or improve their practices. It can be action research and sometimes case study research. Sometimes, it refers to a self-study of a teacher or learning by collaborative discussions through the community network. Development in teaching methodologies, curriculum improvement is the result of teachers’ participation in the research. No curriculum development process is successful without the participation of teachers (Craig, 2009).

Without research and innovation, the teaching and learning process discourages like an interviewee comments that “My school is doing nothing at all with research. They spend as little time as possible on the professional development of teachers. Dedicated hours for the professional development of teachers are not utilized. Meanwhile, nothing is done with research” (Bakx et al., 2016). There are many similarities that can be observed between teacher and researcher. With the help of research, many teachers are increasing their learning practices. Hence teaching and learning process is a research-based phenomenon. The value of research work is based on its significance. Schools are significant in society because they provide the necessary primary education or basic life skills to humans. Now in Pakistan, PhD degree holder
teachers are doing a job in schools and higher education institutes/departments (HEI/HED). Their presence in the school education system is a different phenomenon than other routine teaching staff in schools.

The empowerment and development of a society depend upon the standard of quality of education. The standard in education further refers to the quality of education. To improve the quality of education, the government needs to focus on teachers' competencies, assuring teacher education programs' quality. Teacher education programs are supporting pillars in the system of education. Teacher education programs include professional development of teachers before services like B. Ed, M. Ed, and BS Education etc. and after joining service like induction training. In Pakistan, teacher education programs are offered from 6 months to 4-year programs with separate terms and conditions for each program or entry-level.

All the teacher education programs are compulsory professional qualification for teachers, but 16-year education is considered a professional and academic qualification. With these compulsory teacher education programs, academic qualification is also a necessary part of the recruitment process. Different academic qualifications are offered in school subjects for the different levels of teaching, but now minimum sixteen-year qualification is compulsory in the school subjects to teach (All Answers Ltd, 2019). Therefore, there are trained teachers in schools, and PhDs have a chance to work with them.

Through the present research, the researchers are interested in studying this phenomenon and aimed to share the findings with the government authorities for addressing the challenges of PhD working in schools. The government of Pakistan can use the present study's findings for further improvements and developments in the education sector. The findings of this study could be helpful for policymakers and the school education department. It might be helpful for both the curriculum developers to uplift the system of education. In Pakistan, at the federal level, Federal College of Education (FCE) and the provincial level Quaid-e-Azam Academy for the Educational Development (QAED) are working on teacher education programs. The results of the study would also be helpful for both of the education agencies.

**Purpose and Main Question of the Study**
The teachers who possess a PhD degree, one of the highest qualifications in academics and on the other hand, the teachers working in schools with a primary or minimum level of required academic and professional qualification can have different teaching experiences in schools. Therefore, there is a need to study the lived experience, insight and feelings of PhD degree holder teachers who are the main focus in this phenomenon. The study's purpose is to have a phenomenological understanding of working at a school with the highest qualification that is meant for researching in higher education institutions rather than teaching in schools. Thus, the study's primary research question is: what are the expectations and experiences of PhD teachers working in a challenging school environment in the province of Punjab, Pakistan? Understanding the lived experiences of PhD teachers working in schools is very important in the present study because they can be used for further improvements and development in the education sector.

**Methods**
Qualitative research is usually used in social sciences with the focus of collecting extensive and in-depth non-numerical data, exploring real meanings of life and investigating a research study at the micro-level through an inductive approach of exploration (Creswell, 2018). The researchers selected a phenomenological study design to have an in-depth understanding of participants’ insight into the phenomenon and explore the lived experiences of PhD degree holder teachers working in the school education department.
Participants

All the PhD degree holder teachers working in the School Education Department (SED) in Punjab, Pakistan, constituted the population for this study. The study participants were scattered in the whole province and were not readily available and accessible. The snowball sampling was found an appropriate technique to approach the participants. This sampling is a form of purposive sampling in qualitative research that “typically proceeds after a study begins and occurs when the researcher asks participants to recommend other individuals to study” (Creswell, 2018). It is difficult to approach or locate participants or informants for conducting interviews because they are not available at a particular locale. The researchers contacted a PhD degree holder teacher known to them who was working in the school education department and searched for the other participants following the recommendation of the previous participants. Each participant gave the other ones the contact details, and the process continued until the data saturation. The detailed description of eleven selected participants with their gender, age group, PhD degree awarding institution and discipline of the PhD degree is given in table 1 below:

Table 1
Participants of the Study

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<td>Biotechnology</td>
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Data Collection

In the present research, the researchers selected the interview as a tool or instrument for data collection. In qualitative research, specifically in phenomenological research design, we collect real-life experiences, and interviews are among the best skills to collect data on real-life experiences (Creswell, 2018; Gilani et al., 2020). For validation of the interview guide, the researchers prepared an interview guide keeping in view the purpose of the study and principal research question, improved it by reviewing the relevant literature and discussing with the
interviewees while conducting interviews for validation. Some of the questions asked from the participants include: How is it like for you to be a PhD, working as a school teacher? You are one of the most qualified teachers in the school; what are your experiences and expectations from the school and education authorities? What is the nature of your relationship with school communities? What challenges do you face being a PhD degree holder teacher?

Analysis of the Interviews

Data analysis and interpretation enables a researcher to derive insights from the participants’ perspectives and experiences by employing curiosity, open-mindedness, and empathy to listen interviewees’ point of view in their natural settings to identify how their experiences and behaviours are shaped by the context of their social, cultural, economic and historical world (Creswell, 2018). Philosophical, theoretical, literary and interpretive lens is involved in shaping the knowledge. The use of subjective information from a first person’s experience is associated with phenomenological analysis to identify core structures and features of human experience. The phenomenological analysis aims to explore, describe and interpret the meanings and nature of the experiences (Gilani et al., 2020).

In the present study, the researchers grounded their stance in the lived experience of the participants’ relationships and language and their interpretation of the phenomenon because interpretation and meaning-making of the experience is fundamental to phenomenological inquiry (Tuffour, 2017; Waheed et al., 2019). The researcher analyzed and interpreted the collected data with the help of phenomenological analysis. The researchers coded the data through selective and highlighting approaches while going through each line of the transcript, developed categories, sub-themes and themes from the collected data based on similarities and differences found in the interview transcripts.

Results of the Study

The following themes emerged as a result of the analysis of interview transcripts.

Relationships with School Community

The school community consists of students, teachers, heads and supportive staff. PhD degree holder teachers’ interaction and relationships with students and teachers is very vital. Most PhD teachers reflected that dealing with student matters is not the same for all the teachers. Every teacher has a different way to deal with students. The PhD degree holder teachers were very interactive and had good relationships with their students, and in response, the students were also very cooperative, obedient and exhibited good manners. A PhD teacher remarked that, “Students feel proud while studying under my guidance. They consider me not only a teacher but also a mentor. That is why students like to discuss their real-life problems with me.”

A PhD teacher was attached mentally and spiritually with the students and had given them independence and a friendly environment that led them to ask questions freely. The teachers had come up to students’ level to create such a friendly and conducive learning environment. It was noticed that PhD teachers quickly understand and cope with students’ situations. A common statement that emerged from most of the PhD teachers was that the students liked them and they were influenced by them due to their confidence, personality, mannerism, democratic and cooperative behavior, listening and answering all the questions from the students, including very simple or basic questions and positive reinforcement from them.

According to PhD teachers’ point of view, the level of knowledge created a difference, but no personality clash or jealousy was observed with any of their non-PhD colleague based on qualification. Instead, there was an environment of discussions and cooperation between the two...
in the school's staff-rooms. PhD teachers wanted to extend equal treatment with non-PhD colleagues in all respects like honour, workload and any other academic or professional benefit.

Non-PhD teachers made a consultation with the PhD teachers about life and routine academic matters for their opinion. It helped to create a cooperative environment among teachers in the school without any discrimination of academic qualification. Among other colleagues, PhD teachers were usually silent and did not show any dominant behaviour towards their colleagues. One of the teacher participants of age 34 years with a service length of eight years commented that “personality is reflected from one’s behaviour; if you are jealous of others, you will also observe it in others”.

The participants of the study did not appreciate school heads’ relationships with PhD teachers. Most PhDs had a conflicting point of view, and they were against their heads’ autonomous and autocratic behaviour. Nevertheless, some of the interviewees described that they had good communication with their heads. Overall, all the PhDs recognized their heads’ importance and value and gave them respect and supported in administrative affairs. A research participant of age 50 years who was a subject specialist of education commented that “head deals categorically by placing the right person at the right place and time.” The seat of heads in school is essential and should be compromised regarding merit issues. Heads usually performed well who are appointed on merit, which is further based on skills and qualification.

The participants' important statements exploring the theme of “Relationships with School Community” are given in Table 2.

**Table 2**

<table>
<thead>
<tr>
<th>Statements of Participants on Relationships with School Community</th>
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<tr>
<td><strong>Theme: Relationships with School Community</strong></td>
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<td>“Students feel proud while studying under my guidance. They consider me not only a teacher but also a mentor. That is why students like to discuss their real-life problems with me.”</td>
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<td>“The school head deals categorically by placing the right person at the right place and time.”</td>
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**PhD Teachers’ Expectations**

Thinking to be ‘different’ from others may urge someone to have ordinary or extraordinary expectations. Hundred per cent fulfilment of these expectations cannot be assured from the school or education authorities’ concerned persons. PhD teachers also had certain expectations from their students, colleagues, teachers, and heads, described in the following sub-themes.

**Expectations from students and colleagues**

The study participants remarked that they expect to see their students the best citizen in the country rather than pass a class and attain good grades. Another thing is respect and positive behaviour of students towards their elders in the society, the class fellows and their teachers. Positive change is necessary for the students, teachers and parents in society. One of the PhD teachers of age 50 who was teaching in a public school for the last 27 years expected from their students that “they should be a hard worker and serve their families and society after the school time.” On the other hand, a young female PhD teacher wanted that “their students should be curious about learning new things”. Most of the PhD teachers wanted to see their students at good positions in society. They wanted to make their students a role model in society.
Teachers make groups in schools according to their ideology and thinking. Some of the PhDs described that it is observed that a PhD teacher was found to be disciplined, cooperative and in proper dress code when he works with other teachers. According to a participant having more than ten publications and was teaching in a school “with a lot of respect from other teachers to a PhD teacher, a usual question to a PhD teacher raised by other teachers was about their qualification path, hardships or success stories”. Other teachers working with PhD teachers in schools should also increase their qualification. One of the female PhD teachers teaching in a higher secondary school uncovered that “most of their colleagues are passive in schools whereas a PhD teacher was actively participating in solving difficult tasks”.

**Expectations from Education Authorities**

Some of the PhD teachers did not like school heads who are academically strong and skilled in having good communication with all teachers. Some school heads did not like PhDs, and they felt jealous, fell in inferiority complex and created difficulties for PhD teachers instead of supporting them, especially during the data collection stage of their research work. Some interviewees described that school heads should also focus on increasing their qualification and professionally developing themselves. Other interviewees expressed that it is the heads of the institute and higher education authorities' responsibility that they should make plans to tackle and smooth the teaching and learning process in schools. There should be no favouritism; school heads should have vital patience and analytical skills to manage the school team.

Governance is an art to manage people and resources, and it is an integral part of any management body or system. In the present research, good relations were not observed between PhD teachers and higher management authorities who remained in contact with the school. One of the major causes of this conflict was clerical issues like delay in application processing for higher qualification approval, leave matters and higher qualification benefits that needs forwarding, attestation and verifications of degrees. Sometimes higher authorities exempted PhD teachers from duties like examination duties and other official matters. Most PhD teachers wanted that merit not be bypassed in any case like recruitments, further appointments, and promotions.

**Expectations for Professional Development**

Professional development and empowerment of teachers is also an important factor in the school education sector. A PhD teacher working in a public school elaborated that “Higher authorities are doing a great job, but there is a need to do something for teachers' professional development.” During the present research, there was no particular plan identified for the professional development of PhD teachers. Generic pre-service and in-service teacher education programs were available for all teachers. One of the female PhD teacher participants of this research recommended that “teacher training and refresher should be planned once after six months to cope with the issues in the system and consideration for the effective learning environment.”

Over time, school education sector reforms will be essential to facilitate this society with the latest innovation and research. Nevertheless, no particular utilization of PhD teachers regarding school development and improvement was observed during this research. Most of the research participants wanted reforms in schools, including the use of technology. Laboratory facilities in schools are not up to the mark and need improvement.

The participants' important statements exploring the theme of “PhD Teachers’ Expectations” are given in Table 3.
Table 3
Statements of Participants on PhD Teachers’ Expectations

<table>
<thead>
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<th>Theme: PhD Teachers’ Expectations</th>
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<td>“Most of their colleagues are passive in schools whereas a PhD teacher was actively participating for solving difficult tasks.”</td>
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<td>“Teacher training and/refresher should be planned once after six months to cope with the issues in the system and consideration for an effective learning environment.”</td>
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Challenging School Environment

Many challenges are faced by PhD teachers working in schools, such as they have to work on low-level scales and pay packages. People kept asking them which financial benefits they received after completing a PhD degree while spending a lot of money and time. Some PhD teachers also felt stuck in schools with no growth due to procedural delays in regularization, promotions, financial benefits, and service structure issues. Ultimately, the decrease in motivation level was continuing. Reducing the contract period of service, delay in teachers' regularity, promotions and leave issues are common challenges faced by most of the teachers, including PhD teachers. A lack of research grants, scholarship opportunities and new jobs in higher education institutions were the main challenge for PhD teachers. These factors hit the working and satisfaction of teachers badly, and they felt stuck.

Another reason explored from research participants about PhDs' performance is that they faced problems during teaching to lower grade students. They were not mentally prepared regarding students’ aptitude and attitude. Financial constraints and a lack of opportunities to teach in higher educational institutions pushed them to work in schools. PhD teachers were facing a lack of resources as another barrier to implementing ideas in schools to increase their students' understanding.

It was explored during the interviews with research participants that PhD teachers could be helpful and may provide support to the government and school education department (SED). They can be useful regarding teacher training programs, conduction of exhibitions, curriculum development, textbook development and initialization of conferences on school education reforms and improvements. The research participants agreed that it is necessary to manage the maximum utilization of PhD teachers working in schools according to their specialities with appreciable remuneration.

The school education sector is always challenging due to its workforce and a large circle in the community. It is one of the biggest employers in a country with a lot of customers and employees. It makes this sector’s environment challenging. Some PhDs also described the challenging environment of schools. The PhD teachers confronted with such challenging teaching, and they faced the problems with patience. Accepting the challenges, they handled the different level of IQs in one class.

Once there was an issue of less human resources in the school. A master degree holder or non-PhD teacher of English language subject was on leave due to PLT (Promotion Link Training) then a PhD teacher of other subject assigned the task to handle the class and teach them the English language whereas his subject was not English. After a month, the English teacher came back. He was surprised to see that the entire class was under the “influence” of the PhD teacher.
despite not being a subject specialist in the English language. In another situation, when a PhD teacher of the Arabic language was assigned to improve the poor results of the students of Urdu language at a secondary level after his posting in a school due to promotion, the PhD teacher accepted this new challenge to teach Urdu subject and produced outstanding results in the academic year.

Research participants agreed that teaching and developing an understanding of students were two separate things. To overcome this challenge of building a strong understanding and personality of a learner, PhD teacher usually takes a class from a lower academic grade and continues to teach this class for many years until completing that batch's schooling.

**Findings and Discussion**

Without research and innovation, the teaching and learning process is discouraging in view of an interviewee who remarked that “My school is doing nothing at all in research. They spend as little time as possible on the professional development of teachers.” Similar to this finding, it was explored that, “Dedicated hours for the professional development of teachers are not utilized. Meanwhile, nothing is done with research” (Bakx et al., 2016).

A school is a place where students learn such concepts which are long-lasting. Such concepts create strong effects on their lives because there is a more minor issue of grades or marks than higher academic and critical thinking. A teacher with solid concepts and an interactive personality style is more valuable for teaching in schools. This factor adds to the value of PhD teachers in the school education system.

PhD Teachers are good in relationship within the whole school community, including students, teachers, and heads. Students and teachers are in a struggle to follow the unique personality of PhD teachers. They are interested in the success stories of PhD teachers. Higher academic qualification like a PhD degree is always a source of attraction, inspiration and motivation for others within the school community.

A negative perception to become a high school teacher after PhD was also present in the community. This perception is considered a failure of a PhD person who becomes a teacher in a school. Sometimes, this negative perception is at the climax and creates hesitation for a PhD teacher, and he avoids giving his introduction as a school teacher in front of a supervisor, thesis committee, and career workshops. This perception is not constant in the whole world; like in Finland, it does not prevail, but in the United States, it is at a remarkable level (Doyle & Vale, 2013). The present study was conducted in Pakistan, and negative perceptions about PhD teachers prevailed here, but PhD teachers were not so hesitant or a victim of inferiority complex.

PhD teachers are coping with the challenging environment of schools. They felt a very positive change in their teaching skills that includes methodology, classroom management, assessment and interaction with students in schools after completing a PhD degree. PhD teachers are now on the way from excellence to exceptionality. They were academically at excellence and wanted to hold another peek of expectations. Academic excellence is a positive factor for all, but financial expectations may create problems and conflicts in the system. Future challenges and perspectives attached with the PhD teachers may help policymakers to adjust their proper utilization in the circle of the school education system.

**Conclusion**

It was fortunate or unfortunate that PhDs were working as teachers at a different level of schools. It may be predicted that many PhD degree holders will be ready to join the school as teachers in the next recruitments and many PhDs are in the process of completing their PhDs. Nevertheless,
their presence is significant and affects the quality of teaching and other aspects of school education, including administration and policymaking. It is concluded that PhDs had a healthy and supportive relationship with the school communities, including students, teachers, and other administrative staff. Nevertheless, it was perceived from participants’ experiences that they did not find school heads very supportive and helping persons. The PhDs had expectations from students, teachers and heads of the school for their professional development and school improvement. They were facing a challenging school environment but working and surviving with resilience.

References
Intellectual Capital, Political Uncertainty and Firm Performance: Evidence from Pakistan

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Ayub Khan Mehar, Iqra University, Karachi, Pakistan

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**ARTICLE DETAILS**

| History | Purpose: This research has examined the impact of Intellectual Capital (IC) on performance of the firms in Pakistan while considering political uncertainty as moderating variable. Value Added Intellectual Coefficient (VAIC) model by Pulic (1998) has been used to calculate IC and its components and ROA is used to measure firm’s performance. |
| Keywords | Design/Methodology/Approach: The research used secondary data of firms, related to manufacturing sectors, listed in Karachi Stock Exchange-KSE 100 Pakistan for a ten-year period of 2010-2019. Regression Model has been employed to investigate the hypothetical relationship between IC and firm performance. |
| JEL Classification | Findings: Results of this paper revealed that CEE and CCE have a significant positive relationship with the financial performance of firms in Pakistan whereas SCE has negative effect on the financial performance of the firms. Furthermore, the findings suggest political instability as a significant moderating variable on the relationship among intellectual capital, its components and firms’ performance. |
| M11,M12 | Implications/Originality/Value: The findings suggest that the IC of Pakistani firms is driven by physical and customer capital which implies the need for efficient utilization of physical and relational resources primarily. This research is the first attempt in investigating the relative importance of intellectual capital success of any firm under political uncertainty. |

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**Introduction**

The era of 19th century is known as the industrial age in which wealth creation was measured as the net increase in the production quantity. In 20th century, the age of knowledge-based economy emerged where wealth creation primarily depended on the ability of any organization for creating knowledge, skills, creativity, and processes known as Intellectual Capital (IC). Though it has long been ignored, the contribution of intellectual capital to a firm's performance is critical. The
IC’s presence is verified by the difference of market value and its book value. However, IC isn’t appropriately recognized and recorded on the balance sheet of companies. It is argued that all the events that inclined to affect the firm’s financial performance should be recorded in annual reports of the firms (Zambon, 2004).

As intellectual capital has been playing the role of the main contributor towards the value creation of firms (Su, 2014), knowledge-based, fast-changing, and technology-driven economies are replacing most of the economies in manufacturing sectors (Cañibano, Garcia-Ayuso, & Sanchez, 2000). World Bank report (1998) also points out that knowledge-based resources make a greater contribution to people’s living standards in developed countries than that of resource-based inputs (Wambai, Madya, Derashid, & Ibrahim, 2019).

This shift of economies from production-base to knowledge-base has generated significant growth both at national and global scale in the effective measurement and management of IC (M. Cabrita & Vaz, 2005). Similarly, it is argued by Cahill and Myers (2000) that the shift towards knowledge-based economies has facilitated effective measurement and management of IC. Therefore, organizations today, are making significant investment in educating and training of their staff for building IC resources, which are fundamental for building a knowledge based economy (Foray, 2006). There are many studies (Lu, Wang, & Kweh, 2014; Joshi et al., 2013; Kamal, Rahim, Husain, & Ismail, 2012; Clarke et al., 2011; Young, Su, Fang, & Fang, 2009; Gan & Saleh, 2008; Chen, 2005) conducted at national and regional levels for the measurement of IC efficiency and positive relation of IC with firms’ performance was found. Because of the role of IC in almost all industries, these studies have centered on a variety of industries ranging from banking to textiles.

Some studies have however, revealed a delayed relationship between the investments by firms and the resulting intellectual capital performance of the firms (Vaisanen, Kujansivu, & Lennqvist, 2007). Similarly, some other studies (Mosavi, Nekouei-Zadeh, & Ghaedi, 2012; Maditinos, Chatzoudes, Tsairidis, & Theriou, 2011; Rehman et al., 2011) have highlighted only one component of VAIC model i.e. HCE to have a relationship with the firm’s performance. More or less studies on the other hand (Mehralian, Rajabzadeh, Sadeh, & Rasekh, 2012; Ferraro & Veltri, 2011; S¸amiloglu, 2006) highlighted the non-existence of any relationship between IC and a firms’ financial performance.

The author attempted an empirical analysis of the relationship between firm financial results and IC using the VAIC model in this research, focusing on the manufacturing firms of Pakistan during the period of 2010 to 2019. Regression analysis based on panel data used in the study, which included both cross sectional and time dimension analysis. As reported in the literature (Perotti & Van Oijen, 2001; Diamonte, Liew, & Stevens, 1996; Erb, Harvey, & Viskanta, 1996), political uncertainty being the significant factor in the stock markets, therefore political risk has been used as the moderating factor. This is one of the first studies to consider political instability as a moderating factor in connection to IC and performance of firms. When political instability is used as a moderating variable, the findings show that VAIC has a statistically significant and positive impact on firm’s financial results. On the component level of the VAIC, CEE and CCE have a positive impact on the firm’s financial results, while SCE has a negative impact. Therefore, in order to achieve higher profitability, firms operating in the Pakistani manufacturing sector need to effectively and efficiently use their financial, physical and customer capitals.

The first part of the study describes IC and discusses the relationship between it and a company’s financial results, while in the second part the concept of IC is explained and the relationship of IC and the financial performance of businesses is examined. The study’s data, variables, methodology, and hypothesis are all explained in the third part. The study’s analytical results.
have been analyzed in the fourth part, while in the final overall findings of the study are summarized.

**Literature Review**

**Intellectual Capital**

Scholars have not yet reached to universally accepted definition of Intellectual Capital; instead, various scholars have interpreted it in different ways. However, the existence of IC is verified by the difference of market worth and its book worth, and has a positive effect on the financial performance of the company but is not appropriately recognized and recorded on the balance sheet of the company. (Mondal & Ghosh, 2012; Kayacan & Alkan, 2005; Brooking, 1996).

Not only the literature lacks the consensus on the definition of IC, but also the components of IC are not agreed upon among researchers, either. However, most of the studies on IC (Bontis, 2001a; Pulic, 1998, 2004; Subramaniam & Youndt, 2005a; Sveiby, 1997) agree on the three key IC elements named as human, structural and relational capital.

Human capital in definition is the knowledge that an organization loses when its people leave, including knowledge, skills, talents, experience, and expertise of its departing employees. Structural capital refers to an organization's framework, structure, and procedures, as well as nonphysical elements like databases, organizational charts, strategies, policies, processes and procedures. Customer capital, on the other hand, applies to all intangible assets that govern and control an organization's relationships. It also includes the company's interactions and relations with stakeholders, like consumers, vendors, and shareholders, etc. (Kurt, 2008; Mondal & Ghosh, 2012; Joshi et al., 2013).

Following the discovery that intellectual capital aids organizations in value creation and productivity improvement, various methods to measure intellectual capital were created. Prominent methods for measuring intellectual capital include EVA (Steward, 1991), MVA (Bontis, 1998), Balanced Scorecard (Kaplan & Norton, 1996), Calculated Intangible Value (Steward, 1997), Intellectual Capital Services' IC-index (Roos et al., 1997), Skandia IC Navigator (Edvinsson, 1997), Tobin's Q (Luthy, 1998), the Technology Broker's IC Audit (Brooking, 1996), Intangible Asset Monitor (Sveiby, 1997), and Value Added Intellectual Coefficient (VAIC) Model (Pulic, 1998, 2004).

This study has applied the monetary-based model –VAIC (Pulic, 1998) to measure IC. VAIC is considered relatively an easy model to apply and an effective model for measuring intellectual capital performance of any firm for making comparisons between firms. The VAIC model shows an organization's analytical capacity as well as whether or not the organization is using its resources efficiently. Thus, as argued by Pulic (2004) the VAIC calculates the new value generated with the investment of monetary unit in each organizational value generation source. The higher VAIC, the more value is added by the organization's total sources.

**Financial Performance and VAIC**

The VAIC is commonly used to assess the output of firms' intellectual capital in a variety of countries and industries. VAIC model was extensively utilized by many studies (Sumedrea, 2013; Vishnu & Gupta, 2014; Lu, Wang, & Kweh, 2014; Berzkalne & Zelgalve, 2014; Alhassan & Asare, 2016; Hejazi, Ghanbari, & Alipour, 2016; Meles, Porzio, Sampagnaro, & Verdoliva, 2016b; Nadeem, Gan, & Nguyen, 2018; Ozkan, Cakan, & Kayacan, 2017; Bayraktaroglu, Calisir, & Baskak, 2019) because of its effectiveness and easy comprehension.

To explain the prevailing association of IC and firms’ performance, existing studies give mixed results. Some studies (Bayraktaroglu et al., 2019; Cabrilo & Dahms, 2018; Cisneros &

Oppong & Pattanayak (2019) very recently, measured employee productivity (EP) to examine how IC investment by banks improves the productivity by using panel data of 73 commercial banks for 12-year period between 2006-2017 in India and applied the panel data modelling for the analysis. Only CEE, among the three IC components, found to influence the EP of banks in India. However, overall a positive association was found between the components of IC and ATO. In addition, in a study of the Turkish manufacturing sector, Bayraktaroglu et al. (2019) explored the moderating role of IC components on the impact of physical capital on firm performance. Results showed the moderating impact of capital efficiency in innovation on the relationship between SCE and performance. Further, Cabrilo & Dahms (2018) explored strategic knowledge management (SKM) for its moderation effect in 101 Serbian companies and found the direct effect of relational and structural capital on financial perform in innovation. Though the study found no direct significant effect of human capital on innovation performance, when moderated by SKM the relationship became significant. Furthermore, Cisneros & Hernandez-Perlines (2018) studied the relation of various IC components and organizations’ financial performance in SMEs in the Baja California region, Mexico. The results showed a positive influence of four IC components which is consistent with several Mexican and international studies. Additionally, information management was added as a moderating variable and the result was that the relationship between IC and operating profit (OP) was negatively moderated.

As far the literature on Pakistan is concerned so the impact of corporate governance and IC on banking sectors’ financial performance was also studied by Iqbal & Zaib (2017). The relationship of corporate governance, IC and financial performance of two groups of banks i.e., Commercial banks and Microfinance & investment banks, were examined using Generalized Least Squared (GLS) model. In both groups of banks, they found a significant impact of corporate governance on IC. In microfinance and investment banks, HCE was found to be associated significantly with financial performance, whereas SCE was also found to be required for the good financial performance of commercial banks. In addition, in another study the impact of human capital (HC) and its various configurations on Innovative Capability (IC) of the banking sector of Pakistan were also investigated by Ayub et al. (2017). A positive relationship between IC and HC was found by the results. Further, Khalique et al. (2015) also assessed the relations between subcomponents of IC and organizational success in SMEs operating in Pakistan's electrical and electronics manufacturing sector. Data was collected from a sample of 247 respondents from Pakistani SMEs in Gujranwala and Gujrat, using standardized questionnaires. The research hypotheses were tested via multiple regression analysis. The findings showed the goodness of fit of intellectual capital's overall regression model except for human capital which appeared insignificant. Furthermore, Rehman et al. (2011) also used VAIC for measuring IC impact on the firms' performance and its efficiency for Modaraba companies listed on the KSE, Pakistan. The findings revealed that HC was the major contributor to value creation for modaraba companies. The financial performance of Islamic banks was found to be significantly associated with all of the components, including CEE, HCE, and SCE. In a similar study, Khalique et al. (2011) found a significantly positive association of IC components with the performance of the banking sector of Islamabad stock exchange of Pakistan. Similarly, the strong association of IC with the bank’s financial performance in Pakistan was also revealed by the results found in the study of Khan et al. (2012). In addition, Bharathi (2010) also measured the banks’ performance in Pakistan and applied VAIC for measuring IC efficiency for the years 2004-05 and 2005-06. The secondary data was used and multiple regression was applied for finding the best linear fit model. The study
concluded, on IC efficiency levels, the performance of private sector banks was better than other banks’ performance in Pakistan. The reason for the good performance was found to be efficient in the utilization and management of human capital.

Most of the above-mentioned studies found a positive relationship between intellectual capital and its components. However, a few studies did not find this relationship as significant. For example, Makki et al. (2008) ranked the IC performance of the Lahore Stock Exchange index’ listed companies (LSE-25), Pakistan by using VAIC. In findings, high performance was shown by chemical, cement, oil & gas sectors. However, the performance of the banking sector was average; and the least was of the public sector. Likewise, Aruppalal et al. (2015b) investigated the IC impact on the Sri Lankan banks’ performance. Researchers used VAIC to calculate and measure the IC while ROE and M/B ratios used for measuring banks’ performance. It is revealed that the efficiency of invested capital has a considerable contribution to financial performance. However, no strong positive relationship was found between HCE, SCE and financial performance. In addition, Khalique, Nassir Shaari, et al. (2011) examined the relationship of IC and performance in Pakistan's division of electrical gadgets and used Pearson's relationship and found that there is a significant and optimistic correlation between structural capital and client capital with performance. Whereas, human capital found to have little impact on the success of the firms.

Further, Pal and Soriya (2012) also analyzed IC's efficiency in the textile and pharmaceutical sectors of India in a cross-industry study. The study applied the VAIC model for the measurement of IC effectiveness. The findings revealed a strong correlation between the IC and the ROA. Surprisingly, there was no connection in either sector between the IC and the firms ROE. Likewise, Rahman & Ahmed (2012) also explored correlations between Bangladeshi company’s IC, performance and market value, selected from three separate industries—pharmaceuticals, textiles, and banking. Their research was also unable to establish any exact association of IC with performance and market value of the companies.

Furthermore, while researching the effect of intellectual capital on India's pharmaceutical industry's financial results, Vishnu & Gupta (2014) extended VAIC model of Pulic (1998) by introducing relational capital (RC) as a new variable. Here also, the results of the authors show a positive association of IC with the firm’s performance, but no significant relation is produced by the new variable RC.

Despite the fact that many reports in the literature claim that financial performance metrics and VAIC have a positive relationship. However, the question of which VAIC components boost firm’s efficiency is still being debated. According to some studies like of Goh, 2005 and Mondal & Ghosh, 2012, the most positive and significant impact of HCE was found on the firms’ performance, other researchers like Ting & Lean, 2009 and Puntillo, 2009; Joshi et al., 2013, and Al-Musalli & Ku Ismail, 2014, argue that most significant and positive impact on the firm’s performance is of CEE. In sum, despite the number of researches on the IC and performance of firms in developed and least developed economies, the above-mentioned findings seem to be inconclusive. Also developing countries are in very initial stages of understanding and utilizing the concept of IC (Kamath, 2008).

**Political Uncertainty**

Diamonte, Liew, and Stevens (1996) showed larger impact of the changes in political risk on return of emerging market than of the developed market. Moreover, the positive association of political risk and capital flight was also confirmed by evidence presented by Lensink, Hermes and Murinde (2000). As it's very difficult to quantify political risk, however, mostly anecdotal evidence has been found of the political risk effect on stock return. Further, none of the theory that is accepted commonly is present that relates IC to the firm’s performance; the issue of their relationship is mainly, thus, empirical. Political risk sign, paradox holds that greater political risk
contributes to lower equity returns for all investment groups (Lehkonen & Heimonen, 2015; Perotti & Van Oijen, 2001). Positive sign of political risk was found by Perotti and van Oijen (2001) in their study which is indication that the countries which are politically stable yield higher than those of more volatile financial markets. Portfolios that experience political risk reduction in their environment often yield better returns compared to high-risk portfolios (Diamonte et al., 1996). The political uncertainty and rising potential of South Asian economies as an alternative source of global investment are both factors that make them a unique setting for empirical study of the political risk-intellectual capital connection.

Data and Methodology
A sample of 280 firms listed in KSE100 obtained from Thomson Reuters Data Stream included in this analysis. Data availability includes an unbalanced dataset of panel from 2010 to 2019, a decade-long stretch. Some other scholars have also chosen such an extended period, including Pal and Soriya (2012); Kamath (2008); and Chen et al. (2005) because a decade long period provides enough data to produce robust results for this kind of research. It is also helpful in understanding the trends in IC efficiency. Though, IC is crucial for all forms of enterprises, whether public or private, big or small. (Kolachi & Shah, 2013), one benefit of choosing public listed companies is the availability of data for the listed companies. Another benefit is reliability, as the audited reports of firms improves result reliability (Chen, 2005). Kolachi and Shah (2013) argues that intellectual capital is applicable to large companies and small enterprises so this study used data from all manufacturers that have been listed publicly.

For calculating the political risk part, author used International Country Risk Guide (ICRG) information. Analysts at ICRGs create risk assessments in over 140 countries. Their overall risk scores for countries consist of economic, financial, and political components. As the author has tried to measure the significance of political risk in the productivity of intellectual capital, the political portion of ICRG is used as a proxy for political risk.

As mentioned above, the VAIC model founded by Pulic (1998, 2004), is used to evaluate the efficiency of a bank's intellectual capital. To make the VAIC model more accurate, Nimtrakoon and Chase (2015) revised it by adding new dimension, that is to say, relational capital. Relational capital in the form of customer capital measured by advertising and marketing expenses has already been empirically investigated by many authors (Chen, 2005; Vishnu & Gupta, 2014; Nadeem et al., 2017). The author also used the spending on ads as replacements of relational resources, keeping other variables, like VA and efficacy estimates, consistent with the original VAIC model.

Dependent Variables
Mostly, studies have used Return on Assets (ROA) as the primary measure for profitability (Ting & Lean, 2009; Joshi et al., 2013; Hsu & Wang, 2012; Clarke et al., 2011; Yalama, 2013), therefore, this study also established ROA as the performance measure. To determine the ROA, total assets of the company are divided by the net profit or loss of the company for the current year.

Independent Variables
VAIC and its components have been considered as the independent variables, and following equation has been used to determine the VAIC (Nimtrakoon and Chase, 2015; Vishnu & Gupta, 2014; Nadeem et al., 2017; Chen, 2005):

\[ \text{VAIC} = \text{HCE} + \text{CEE} + \text{SCE} + \text{CCE} \]  

In equation (1), VAIC represents to the value added intellectual coefficient, HCE represents the human capital efficiency, CEE represents to the capital employed efficiency, SCE represents to the structural capital efficiency and CCE represents to the customer capital efficiency.
In addition, following is the equation used to calculate the total value added (VA) created by firms (Nimtrakoon and Chase, 2015; Vishnu & Gupta, 2014; Nadeem et al., 2017):

\[
VA = NPAT + EC + DP\&AM + I + T 
\]

(2)

In equation (2) VA represents the total value added, NPAT is net profit after tax for the year, depreciation and amortization is represented as DP\&AM, EC represents to the employee cost, ‘I’ represent the interest cost and ‘T’ represents the taxes.

Given are the equations used to calculate the components of VAIC

\[
CEE = \frac{VA}{CE} 
\]

(3)

\[
HCE = \frac{VA}{HC} 
\]

(4)

\[
SC = VA - HC 
\]

(5)

\[
SCE = \frac{SC}{VA} 
\]

(6)

\[
CCE = \frac{CC}{VA} 
\]

(7)

In equations (3) to (7), CE represent the capital invested by an organization, HC represents the salaries and wages of the firm and SC represents the difference between VA and HC.

Moderating Variable

Furthermore, polrisk (political uncertainty) from the ICRG data is used as a moderating variable to show the moderating impact of political risk on firm’s profitability.

Control Variables

The control variables of the regression models (Model I to IV) are firm size (by taking Natural Log of Total Assets) and leverage (the Ratio of Long Term Debt to Total Assets).

Regression Models and Hypotheses

Table 1 shows four models where models I & II has been used to observe the relationship among a firm’s VAIC, financial performance (ROA), and VAIC components without the influence of a moderating variable. However, Models III and IV has been used to observe the relationship among ROA, VAIC and the components of VAIC with the interaction effect of moderating variable. Model I-IV also comprised of the Control variables.

<table>
<thead>
<tr>
<th>Model</th>
<th>Regression Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>( FP_{it} = \beta_0 + \beta_1VAIC + Control + \epsilon_{it} )</td>
</tr>
<tr>
<td>II</td>
<td>( FP_{it} = \beta_0 + \beta_1CEE_{it} + \beta_2HCE_{it} + \beta_3SCE_{it} + \beta_4CCE_{it} + Control + \epsilon_{it} )</td>
</tr>
<tr>
<td>III</td>
<td>( FP_{it} = \beta_0 + \beta_1VAIC_{it} + \beta_2Pointskit + \beta_3VAIC_{it} + Pointskit + Control + \epsilon_{it} )</td>
</tr>
<tr>
<td>IV</td>
<td>( FP_{it} = \beta_0 + \beta_1CEE_{it} + \beta_2HCE_{it} + \beta_3SCE_{it} + \beta_4CCE_{it} + \beta_5Pointskit + \beta_6CEE_{it} + Pointskit_{it} + \beta_7HCE_{it} + Pointskit + \beta_8SCE_{it} + Pointskit + \beta_9CCE_{it} + Pointskit + Control + \epsilon_{it} )</td>
</tr>
</tbody>
</table>

The following hypothesis were used to measures the relationships using the models in Table 1:

H1. VAIC and ROA has significantly positive relationship.

H2. CEE and ROA has significantly positive relationship.

H3. HCE and ROA has significantly positive relationship.

H4. SCE and ROA has significantly positive relationship.

H5. CCE and ROA has significantly positive relationship.

H6. VAIC and ROA is significantly moderated by political risk.
H7. CEE and ROA is significantly moderated by political risk.
H8. HCE and ROA is significantly moderated by political risk.
H9. SCE and ROA is significantly moderated by political risk.
H10. CCE and ROA is significantly moderated by political risk.

Empirical Results
Results of Pearson Correlation analysis are presented in Table 2, among the independent variables. Highest correlation is observed between CEE and ROA (r = 0.4018), while negative but insignificant relationship is observed between SCE and ROA. No strong correlation among the independent variables is observed suggesting weak or non-existent multicollinearity problem among the independent variables.

Table 2. Pearson Correlations Analysis

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>VAIC</th>
<th>CEE</th>
<th>HCE</th>
<th>SCE</th>
<th>OCE</th>
<th>LEVERAGE</th>
<th>SIZE</th>
<th>POLRISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAIC</td>
<td>0.025278</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEE</td>
<td>-0.0171</td>
<td>0.009487</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCE</td>
<td>-0.0256</td>
<td>0.673978</td>
<td>-0.05138</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCE</td>
<td>-0.06265</td>
<td>-0.04392</td>
<td>0.124776</td>
<td>-0.13204</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCE</td>
<td>0.401835</td>
<td>-0.02089</td>
<td>-0.07032</td>
<td>-0.04947</td>
<td>-0.02258</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.871998</td>
<td>0.042196</td>
<td>-0.03464</td>
<td>-0.02395</td>
<td>-0.0496</td>
<td>0.347967</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.00768</td>
<td>-0.0295</td>
<td>0.03134</td>
<td>0.021632</td>
<td>0.021081</td>
<td>-0.35159</td>
<td>-0.75688</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>POLRISK</td>
<td>0.05264</td>
<td>-0.05127</td>
<td>-0.03183</td>
<td>-0.05906</td>
<td>0.007097</td>
<td>0.0368</td>
<td>0.05746</td>
<td>0.00702</td>
<td>1</td>
</tr>
</tbody>
</table>

The relationships between the financial performance and the intellectual capital performance related to Model (I, II, III, and IV) are shown in the Table 3.

Table 3 Regression results with dependent variable ROA
It can be concluded from the regression results that the four models presented in the study have statistically significant relationship. Following can be concluded by the comparison of explanatory power:

In model I, no significant relationship of overall VAIC was found for firms in manufacturing sector of Pakistan. Similar findings were also observed by Joshi et al. (2013) in Australia. Further in some studies, the authors presented that the VAIC has no effect on ROA (Mehralian et al., 2012; Maditinos et al., 2011).

In model II, when conducted with individual component analysis, the OLS estimates of physical capital efficiency (CEE) and customer capital efficiency (CCE) found highly significant and positive at 1% level of significance. On the other hand, result related to human capital efficiency (HCE) and firm’s performance found to be insignificant for Pakistan.

In model III, political index is found positive and significant at the significance level of 10% for firms in Pakistan. Similarly, interaction effect of political risk with overall intellectual capital efficiency (VAIC) also found positive and significant at the significance level of 1% for the firms in Pakistan. On the other hand, when political risk is used as moderating variable in Model IV, the individual effect of each component is found to be different as compare to model II for firms in Pakistan. Customer capital efficiency (CCE) found positive and significant at the significance level of 1% for firms. In addition, Human capital efficiency (HCE) also found to be significant but negative at 10% level of significance. However, CEE and SCE are found to be

<table>
<thead>
<tr>
<th>Model</th>
<th>(I)</th>
<th>(II)</th>
<th>(III)</th>
<th>(IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAIC</td>
<td>-0.00000240</td>
<td>-0.00000220</td>
<td>-0.00000220</td>
<td>-0.00000220</td>
</tr>
<tr>
<td></td>
<td>(0.00000228)</td>
<td>(0.00000226)</td>
<td>(0.00000226)</td>
<td>(0.00000226)</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.584***</td>
<td>0.572***</td>
<td>0.599***</td>
<td>0.577***</td>
</tr>
<tr>
<td></td>
<td>(0.0151)</td>
<td>(0.0160)</td>
<td>(0.0151)</td>
<td>(0.0159)</td>
</tr>
<tr>
<td>Size</td>
<td>-0.0715***</td>
<td>-0.0717***</td>
<td>-0.0709***</td>
<td>-0.0710***</td>
</tr>
<tr>
<td></td>
<td>(0.00352)</td>
<td>(0.00376)</td>
<td>(0.00351)</td>
<td>(0.00373)</td>
</tr>
<tr>
<td>CEE</td>
<td>0.257***</td>
<td>0.709</td>
<td>0.766</td>
<td>0.187</td>
</tr>
<tr>
<td></td>
<td>(0.0239)</td>
<td>(1.236)</td>
<td>(0.712)</td>
<td>(0.187)</td>
</tr>
<tr>
<td>SCE</td>
<td>-0.0263***</td>
<td>-0.0666</td>
<td>-1.426*</td>
<td>(0.187)</td>
</tr>
<tr>
<td></td>
<td>(0.00683)</td>
<td>(0.0329)</td>
<td>(0.712)</td>
<td>(0.187)</td>
</tr>
<tr>
<td>HCE</td>
<td>0.00000652</td>
<td>-1.426*</td>
<td>-1.426*</td>
<td>(0.187)</td>
</tr>
<tr>
<td></td>
<td>(0.0329)</td>
<td>(0.0329)</td>
<td>(0.712)</td>
<td>(0.187)</td>
</tr>
<tr>
<td>CCE</td>
<td>2.77e-09***</td>
<td>0.0000063400***</td>
<td>8.82e-08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.024-09)</td>
<td>(4.024-09)</td>
<td>(4.024-09)</td>
<td>(4.024-09)</td>
</tr>
<tr>
<td>Pol-Risk</td>
<td>0.00735*</td>
<td>-0.0241</td>
<td>-0.0241</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00337)</td>
<td>(0.0210)</td>
<td>(0.0210)</td>
<td></td>
</tr>
<tr>
<td>Pol*VAIC</td>
<td>0.00460***</td>
<td>-0.0909</td>
<td>-0.0909</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00100)</td>
<td>(0.0351)</td>
<td>(0.0351)</td>
<td></td>
</tr>
<tr>
<td>Pol*CEE</td>
<td>0.000839</td>
<td>0.0291**</td>
<td>0.0291**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00390)</td>
<td>(0.0483)</td>
<td>(0.0483)</td>
<td></td>
</tr>
<tr>
<td>Pol*HCE</td>
<td>0.000839</td>
<td>0.0291**</td>
<td>0.0291**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00390)</td>
<td>(0.0483)</td>
<td>(0.0483)</td>
<td></td>
</tr>
<tr>
<td>Pol*CCE</td>
<td>-1.02e-08***</td>
<td>-1.02e-08***</td>
<td>-1.02e-08***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.78e-09)</td>
<td>(1.78e-09)</td>
<td>(1.78e-09)</td>
<td></td>
</tr>
<tr>
<td>const</td>
<td>1.342***</td>
<td>1.342***</td>
<td>0.913***</td>
<td>2.473*</td>
</tr>
<tr>
<td></td>
<td>(0.0812)</td>
<td>(0.0810)</td>
<td>(0.169)</td>
<td>(1.020)</td>
</tr>
<tr>
<td>N</td>
<td>1749</td>
<td>1749</td>
<td>1749</td>
<td>1749</td>
</tr>
<tr>
<td>R²</td>
<td>0.805</td>
<td>0.818</td>
<td>0.808</td>
<td>0.824</td>
</tr>
</tbody>
</table>

**Discussion**

It can be concluded from the regression results that the four models presented in the study have statistically significant relationship. Following can be concluded by the comparison of explanatory power:

In model I, no significant relationship of overall VAIC was found for firms in manufacturing sector of Pakistan. Similar findings were also observed by Joshi et al. (2013) in Australia. Further in some studies, the authors presented that the VAIC has no effect on ROA (Mehralian et al., 2012; Maditinos et al., 2011).

In model II, when conducted with individual component analysis, the OLS estimates of physical capital efficiency (CEE) and customer capital efficiency (CCE) found highly significant and positive at 1% level of significance. On the other hand, result related to human capital efficiency (HCE) and firm’s performance found to be insignificant for Pakistan.

In model III, political index is found positive and significant at the significance level of 10% for firms in Pakistan. Similarly, interaction effect of political risk with overall intellectual capital efficiency (VAIC) also found positive and significant at the significance level of 1% for the firms in Pakistan. On the other hand, when political risk is used as moderating variable in Model IV, the individual effect of each component is found to be different as compare to model II for firms in Pakistan. Customer capital efficiency (CCE) found positive and significant at the significance level of 1% for firms. In addition, Human capital efficiency (HCE) also found to be significant but negative at 10% level of significance. However, CEE and SCE are found to be...
insignificant in this model. The R2 varies from 80%, 82%, 81% and 82% from model I to IV respectively.

The above results reveal that the most significant components of intellectual capital are CEE and CCE for manufacturing sector of Pakistan. It implies that firms in Pakistan rely heavily on physical capital and relational capital for creation of the value for their business. The results of significant and positive relationship between physical capital and financial performance of firms in Pakistan is consistent with finding of other researches on intellectual capital, (Nadeem et al., 2017; Vishnu & Gupta, 2014; Joshi et al., 2013; Clarke et al., 2011; Chan, 2009; Young et al., 2009; Ting & Lean, 2009; Firer & Williams, 2003a). Human capital efficiency coefficient (HCE) found to have relatively lesser effect on value creation in the manufacturing sector of Pakistan, which consistently match with most of the other related studies on intellectual capital (Nadeem et al., 2017; Vishnu & Gupta, 2014; Joshi et al., 2013; Clarke et al., 2011; Chan, 2009; Young et al., 2009; Ting & Lean, 2009; Firer & Williams, 2003a).

The interaction effect of political index with overall intellectual efficiency is also significant and positive for firms in Pakistan. The significance of the result found similar as of Diamonte, Liew, and Stevens (1996). In addition, when added political risk as moderator with individual components in Model IV, CCE is again found as positively significant. The interaction effect of HCE and CCE also found significant but negative. Diamonte et al. (1996), suggested that portfolios which have experienced reduced political risk often yield better returns than high-risk portfolios. Finally, the empirical evidence gathered for the control variables in all four models reveals that firm size has a substantial and positive impact on firm efficiency. In Pakistan, however, the leverage ratio has a statistically important but negative impact on the firm's results.

Conclusion
These findings suggest that the IC of Pakistani firms is driven by physical efficiency coefficient (CEE), and the customer capital efficiency (CCE), primarily. While the structural capital efficiency (SCE) also significantly affects but its relationship is negative. Although, human capital efficiency coefficient (HCE) has relatively lesser effect value creation in the manufacturing sector of Pakistan, which are consistently match with most of the other related studies on intellectual (Firer & Williams, 2003a; Chan, 2009; Ting & Lean, 2009; Clarke et al., 2011; Joshi et al., 2013; Vishnu & Gupta, 2014; Nadeem et al., 2017).

This study has employed relatively a larger firms’ sample for a period of 10 years to examine the IC efficiency. As this study has also investigated the moderating role of political risk between IC, its components and firm performance. Considering most of the studies in Pakistan on the relationship between IC and firms, this research is a step forward in the research on intellectual capital.

Recommendation
Highly significant and positive result of customer capital efficiency (CCE) and Physical capital efficiency (CEE) implies that good performer firms in Pakistan rely heavily on physical capital and relational capital for the creation of the value for their business. It also implies that firms in Pakistan also realize the importance of relational capital for gaining competitive advantage. Therefore, it is recommended for the manufacturing firms in Pakistan to focus on the efficient utilization of physical and relational capital to gain competitive advantage.

In addition, significant moderating role of political risk suggest that in the situation of higher political risk, firms in Pakistan can earn profit on the basis of human and relational capital.

Limitations and Future Directions
The quantitative model has been used in this study for measuring IC efficiency, and therefore the
qualitative factors might found to be ignored. Since there are other methods to measure IC performance available (i.e. balanced scorecard, market-to-book ratio, and Tobin's Q ratio etc.) therefore future studies may apply other IC measuring methods and may cover others sectors or companies. In addition, this study has further expanded to a new direction for future research by applying political uncertainty factor on IC and company performance, especially in a highly political uncertain environment. So, this basic idea can be further extended to add or include other risk factors i.e., economic and financial risk etc, and this study can serve the purpose of future reference.

References


The Role of Higher Education as a Catalyst of Peacebuilding in Conflict Affected Regions. The Case Study of Khyber Pakhtunkhaw after FATA Amalgamation

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ARTICLE DETAILS

History
Revised format: May 2021
Available Online: Jun 2021

Keywords
Higher Education, Peace building, Educational Policies, Barriers to Education, FATA

JEL Classification
I23, I29

ABSTRACT

Purpose: The study critically reviews the educational structure, policies, emphasis, application of educational goals, achievements from rural to Higher education and protecting measures enabling the youth to get easy access to education. Since the creation of Pakistan emphasis laid down on the free and compulsory education for all but failed to address the nascent challenges surfaced in the form of violent extremism, sectarianism, intolerance, and lingual discrepancies. Although the literacy rate has been increased with the passage of time but the quality of education and practical application remains under darkness.

Methodology: To evaluate the educational targets and achievements of the elementary and secondary education in former FATA. Historical method of research was adopted and Education policies from the dawn of freedom 1947 to 2010 were studied. Moreover, The provincial initiative of Educational sector plan (ESP) and its practical outcomes were critically analyzed.

Findings: This research in its findings proposed that structure and curriculum of higher education be revisited and expanded promptly in Khyber Pakhtunkhwa (KPK) particularly within the newly merged areas for the restoration of social justice, cultural diversity, educational growth, state-building and peace building community.

Implications: The research addresses that after the amalgamation of Federally Administered Tribal Area (FATA) with the Khyber Pakhtunkhwa how these conflicts affected areas can be reconstructed or rebuild through higher education. The research has focused on the universal mechanism of peacebuilding education in post conflict areas keeping in view the three approaches namely, Stability, Restructuring and peacebuilding through higher education.

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Introduction
Pakistan has been given the title as “Land of Pure people” after its birth in 1947 as a revolutionary struggle against the British departure from the Sub-Continent. Historically, the North West region of Pakistan was subject to colonial administrative and governance rules which remain in force for many decades. The formerly FATA region for very long time remain the center of violent armed conflicts and wars due to which the state structure was completely destroyed. Although educational policies were initiated at the National level soon after the emergence of Pakistan but its practical application and proper educational growth in that region (FATA) seems to be a house of cards due to its complex tribal culture. The youth of this region including boys and particularly girls were forcefully deprived from the basic right of education over the decades. Pakistan grows gradually but to establish the peace and sustainable educational development remains in a state of fix. The history of violence-based incidents particularly in Khyber Pakhtunkhwa (KPK) and generally in Pakistan can be traced back after the communist invasion in 1979 and the War of resistance against that invasion in Afghanistan until 1992. In the era of state disintegration in Afghanistan more than 7 million Afghan refugees had shifted in the province of Khyber Pakhtunkhwa, Pakistan. It was a massive challenge to tackle these refugees including few groups of militants escaped from Afghanistan as a result of American invasion in 2002. The matter was not over yet surprisingly the incident of 9/11 took place which has further worsen the already pregnant situation in both Pakistan and Afghanistan. Moreover, the 9/11 event outbreaks the bloody war again in Afghanistan also with the beginning of insurgencies in Pakistan. The war of resistance and civil war altogether causes the unnatural death of more than 2 million people and approximately 5 million people were permanently disabled but the UN allies seems unsuccessful to restore peace and stability (Strand et al., 2017). The paper argues that present educational structure, curriculum, policies, and educational institutions have played their role to curb these violent attacks and does the higher education has any significant effects in newly merged areas and what measures has been taken now to maintain law and order situation by providing the access to higher education to the inhabitants of that localities suffered due to armed conflicts. Education has considered as prime target in armed conflicts in order to deprive the learners to pursue their higher education (Pherali & Lewis, 2019). The present stage of unseen crises depicts pessimism but there is another world in which things are curable (Kajevska, 2020). Over the past 2 decades the limited literature has surfaced on the role of higher education in conflict affected areas. It has been comparatively analyzed with the post war reforms in Sudan, Rwanda, Kosovo, Iraq and Afghanistan. Analyses shed light on these studies that almost in all educational reforms the focus was on the national higher education programs for the reconstruction and rehabilitation of conflict affected areas (Milton & Barakat, 2016). The research addresses that after the amalgamation of Federally Administered Tribal Area (FATA) with the Khyber Pakhtunkhwa how these conflicts affected areas can be reconstructed or rebuild through higher education. The research has focused on the universal mechanism of peacebuilding education in post conflict areas keeping in view the three approaches namely, Stability, Restructuring and peacebuilding through higher education.

The Directorate of Education situated in the former FATA Secretariat, developed a five-year comprehensive Education Sector Plan a planning document that was based on the 2009 National Education Policy (Naveed, 2018). The proposed educational plan sets forth the key barriers to education. After its amalgamation with Khyber Pakhtunkhwa new phase of reconstruction has taken place but the focus on higher education lain dormant. The primary, secondary and higher secondary educational institutions are also attacked and destroyed. Education has considered as
corner stone for development of society and peacebuilding process but sadly it was not the priority of the policy makers to achieve its ultimate goals. The public sector universities in Khyber Pakhtunkhwa can play a role as catalyst to reform and rebuild the harmonious environment and led the society towards stabilization. The 40 year period of unrest in Afghanistan has left worsen effects on Pakistan’s social, economic, and political culture. The educational policies in Pakistan had not addressed the need of the changing dimensions globally. The gross enrolment ration in public sector educational institutions is less than the proposed ratio in policy making decisions. The madrasa education could be taken into the government control and mutually agreed curriculum of peacebuilding, character-building, and state-building be expanded at all levels of education for violence free coexistence. The consistent approach is needed to formulate the smooth running of educational process, analyses of the data proved that there is major difference between the percentage of primary and secondary schools in rural and urban conflicted areas also as the level of education goes upward the chances to receive the higher education have reduced. The approach could also be implemented in Afghanistan also for the reformation of the society through education among other social development tools. This modal was used in Australia and Spain for the acquisition of civic and peaceful competence in schools to shape the individuals and community at large (Cابedo-Mas et al., 2017). Critical approach to education about the interpretation of religious beliefs can assist the young generation to mitigate the extremist and violent based ideology (Halafoff et al., 2019). The existing literature on peacebuilding with the context of post conflicted phase such as Sudan (Sørbo, 2010). Rwanda (Beswick, 2011) and Bosnia (Gromes, 2010) underpin numerous instruments to peacebuilding including educational, social, political and intercultural development. Intercultural and global approaches concerning peacebuilding and higher education lacked its enforcement and application (Deardorff, & Arasaratnam, 2017). The article consists of three phases in phase one, it will address the conceptual framework and relationship of higher education with peacebuilding process. Phase two begins with the critical role of higher education as a catalyst of peacebuilding in conflict affected regions and phase three presents its core findings and empirical analyses relying on the data of higher education institutions in Khyber Pakhtunkhwa before and after FATA amalgamation postulating three universal themes of Stabilization, State-Building, and Peacebuilding.

A Vulnerable and Neglected Sector

The educational institutions in Khyber Pakhtunkhwa remain under consecutive terrorist attacks after 9/11. Two major conditions i-e physical destruction and permanent threat of assault to education sector endangered its existence in war regions. The state educational structure was also vulnerable and these insurgencies added fuel to fire. The higher education sector had been grossly neglected by the stakeholders. The concept to target higher educational institutions by armed groups is not new rather it is a planned war strategy as in the case of Iraq it was reported that 84% of higher education institutions were burned, looted, or destroyed during the post-invasion chaos (Redly, 2005) Sectarian, lingual and armed attacks can trigger the forceful displacement of both learners and academics and this was the motive behind hitting the educational institutions in KPK. For example, after decades of conflict, Afghanistan had lost an estimated 20,000 experts and academics (MoHE 2009; Tierney,2011), since the commencement of armed conflicts in FATA the stakeholder priority was to protect and secure the infrastructure along with inhabitants but after FATA’s merger with KPK the rebuilding phase has taken place and the stakeholders could have to properly address this issue by establishing and promoting higher education as a key tool for peacebuilding and reformation. The former FATA has a rich but riotous history due to its distinguished geographical scenario, tribal based social governance system and conjunctive border with fragile Afghanistan. The region is home of approximate 5.5 million people 49.13 percent of whom are women population. First time in the history of the Sub-Continent that region (FATA) has brought up into main streamline and through 25th constitutional amendment on 31 May, 2018 it was officially merged with Khyber Pakhtunkhwa but to attain the desired
educational goals, peace, social order and rehabilitation have to be determined yet. The former FATA was once considered,

“The worst place for women to live, where all their basic rights to life are crushed. The region remained in the hands of the funded revolutionaries who killed, tortured, coercively confined and assassinated the women. All educational activities were strictly banned by radical leaders and pushed the region into the stone age”.

Methodology
Research process was the following: To evaluate the educational targets and achievements of the elementary and secondary education in former FATA.
1. Historical method of research was adopted.
2. Journal and research project reports related to evaluation of educational targets and achievements were studies.
3. Education policies from the dawn of freedom 1947 to 2010 were studied.
4. Five-year government plans were studied.
5. Reports and related literature was consulted to study the educational targets and achievements of the elementary and secondary education.
6. The provincial initiative of Educational sector plan (ESP) and its practical outcomes were critically analyzed.
7. Post conflict educational barriers and economic hindrances has taken into consideration for future Educational Reforms And Rehabilitation.

The Relationship between Higher Education and Peacebuilding: Conceptual Analysis
This research goes away from the traditional ideology of conflict and peacebuilding but in line with the work of Johan Galtung who describes peace as negative and positive. He further elaborates negative peace as primarily the absence of direct violence and positive peace as the combination of processes, mechanisms, stability of institutions, and conduct which ensures violence free, sustainable, peaceful social structure. The present study takes peacebuilding as the corner stone of development process including diverse ideologies, philosophies, tools, and methodology mitigating fierce conflict to transform sustainable state building relations. In this array of cognitive process higher education is one of them which is indivisible element of peacebuilding. Higher education is not a peripheral player but is a pivotal and central component of harmony and peace. In addition, higher education due to its intrinsic uniqueness can bolster the process of peacebuilding by taking away the social, cultural, economic and political inequalities. Thus, higher education has the unquestioned characteristics to lessen the violence and threat of conflict. For example, the Hindu nationalists in India and the ruling elites in Pakistan controlled the process and development of education in order to remain dominant and influential over the governance system (Lall, 2018). The pages of history reveals that there is indiscreet nexus between higher education and extremism, violence, and intolerance. Only higher education can remedy the roots of conflicts because academics and dedicated learners are often head the ferocious movements (Hayman, 2007). Very recently the Higher education has been observed as a major component to development of peacebuilding process that allows human, cultural, linguistic, socio political and educational progress through,

“The formation of human capital (primarily through teaching); the building of knowledge bases (primarily through research and knowledge development); the dissemination and use of knowledge (primarily through interactions with knowledge users); and the maintenance of knowledge (inter-generational storage and transmission of knowledge)” (Santiago et al., 2018).

The Review of Educational Institutional Planning in Khyber Pakhtunkhwa
Number of all level schools in KPK in 2017-18.

Table 1. Source. Department of Elementary and Secondary Education, (ESED) KPK

<table>
<thead>
<tr>
<th>Institution</th>
<th>Female schools</th>
<th>Male schools</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mosque</td>
<td>877</td>
<td>877</td>
<td>1774</td>
<td>3.06</td>
</tr>
<tr>
<td>Primary</td>
<td>8698</td>
<td>13036</td>
<td>21734</td>
<td>76.04</td>
</tr>
<tr>
<td>Middle</td>
<td>1284</td>
<td>1553</td>
<td>2837</td>
<td>9.92</td>
</tr>
<tr>
<td>Secondary</td>
<td>905</td>
<td>1523</td>
<td>2428</td>
<td>8.49</td>
</tr>
<tr>
<td>Higher secondary</td>
<td>260</td>
<td>445</td>
<td>705</td>
<td>2.46</td>
</tr>
<tr>
<td>Total</td>
<td>11,147</td>
<td>17,434</td>
<td>28,581</td>
<td>100%</td>
</tr>
</tbody>
</table>

The data in table 1 deals with the statistics of all level school institutions including the religious Madrassa’s which takes students for early education. The analyses of the data proved that almost 76 percent schools deal with the primary education (early education) and about 18 percent school institutions meet the requirements up to secondary level. Only about 2.46% educational institutions are providing higher secondary education which is evident that the stakeholders have not addressed the enrolment ratio of students at the higher secondary level due to which the number of higher secondary institutions have not increased. This is the area which needs serious attention of concerned authorities to be promoted as a necessary component of peacebuilding process.

Number of students in all types of schools in 2017-18

Table 2. Source. Department of Elementary and Secondary Education, (ESED) KPK

<table>
<thead>
<tr>
<th>Institution</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public sector</td>
<td>2468791</td>
<td>1914997</td>
<td>4383788</td>
<td>65.41</td>
</tr>
<tr>
<td>Private sector</td>
<td>1428867</td>
<td>642653</td>
<td>2071520</td>
<td>30.91</td>
</tr>
<tr>
<td>Religious institutions</td>
<td>205576</td>
<td>40787</td>
<td>246363</td>
<td>3.67</td>
</tr>
<tr>
<td>Total</td>
<td>4103234</td>
<td>2598437</td>
<td>6701671</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2 addresses the ratio of students in all sectors of educational institutions according to which 65 percent students were enrolled in public sector (government sector) institutions and about 31 percent were enrolled in private sector (non-government) and 3.67 percent got the attention of religious Maktabas. Table one shows that 76 percent students have tried to get their early education but gradually they were taken away from the educational institutions and resultantly only 3 percent students reached at higher secondary level as per their availability.

Number of all Government schools lacking basic requirements in KPK in 2017-18

Table 3. Source. Department of elementary and secondary education, (ESED) KPK

<table>
<thead>
<tr>
<th>Institutional level</th>
<th>Drinking water Boys girls total</th>
<th>Electricity Boys girls total</th>
<th>Boundary wall Boys girls total</th>
<th>Toilets Boys girls total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>2477 1298 3775 5704 2676 8380</td>
<td>2111 560 2671 2240 896 3136</td>
<td>144 69 213 96 26 122 56 37 93</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>407 194 601 409 291 700 108 56 164 96 45 3136</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>126 48 174 69 213 96 26 122 56 37 93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher secondary</td>
<td>82 74 156 37 29 66 33 26 59 29 17 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand total</td>
<td>3092 1614 4706 6294 3065 9359 2348 668 3016 2421 995 3416</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 argues about the lack of basic necessities in educational institutions. As per the data of
table one there were 28,581 schools from primary level to higher secondary level in the KPK province until 2017-18. The data in table three illustrates that out of total (28581) schools the 20497 schools (71.71%) out of (100%) schools have lacked fundamental requirements. Among from the majority of these schools were remain the prime target for violent armed attacks but this may be the one out of several reasons for freezing the sustainable educational development.

Educational Structure in Former FATA before Amalgamation
According to Annual education census data 2017 there were only 5874 public sector educational institutions in former FATA out of which 5234 were functional and 1987 were providing education to girls. The majority of the schools belongs to the primary sector and higher education institutions were seriously neglected. The former FATA secretariat’s initiative on Educational sector plan (ESP) had focused only the establishment of primary sector education and ignored the necessity to laid the foundation of colleges and universities. The political culture and influence in the seven former FATA agencies can-not be simply ignored as were highlighted in the ESP by concerned authorities that politicians are not in favor to establish the higher education institutions for girls. The local warlords are the owners of the land situated within the former FATA who only render few part of the land for primary schools and government seems paralyzed to acquire more land for better educational growth and development.

The Role of Varsities in KPK for Establishing Educational Growth
As per the statistics of the Higher Education Commission of Pakistan (HEC) there are 21 public sector universities and 10 private sector universities in Khyber Pakhtunkhwa. Out of these 31 public and private sector universities 12 universities are situated at the provincial headquarter (Peshawar). It is proved that there was no university in the former FATA region for the higher education of youth to provide the “free and compulsory” education as envisioned in various educational policies and plans. Annual Education Census data revealed the fact that the enrolment ratio of girls at the secondary level institutions is lowest at the country level and this is what happening in universities also. Apart from the universities located at Peshawar the rest of public and private sector universities are beyond the easy access of newly merged region population.

The Role of Higher Education as a Catalyst of Peacebuilding in Post Conflict Regions
Peacebuilding is a very complex phenomena with the context of Pakistan and Afghanistan. The concept of War, invasion, and Civil War needs clarity from the unbiased academics before nurturing the peacebuilding and state-building. The Afghan nationals consider Soviet attack as invasion while the opponents take it as a War but some other academics define it the period of unrest and civil war in Afghanistan. Moreover, after 9/11 the approach within the Afghanistan was again divided the former state representatives consider the defensive measures against Afghanistan as American invasion like Soviet invasion while opponents perceive it a War against terrorism in which Pakistan was also an alley with the international community. The developed countries assessed the Afghanistan after 2003 as post conflict region but this was the beginning of the resistance movement in Afghanistan and the era of civil war in Khyber Pakhtunkhwa including formerly Fata. During the unrest period in Afghanistan the educational ideology was trapped between Communism and Islamic ideology in 1979 as first phase and between capitalism vs Islamic ideology in 2001 as second phase. In Afghanistan, Libya, and Sierra Leone during the conflicts the Higher education institutions were completely destroyed as a result of war and large population (including learners and academics) was displaced permanently.

The Case of Higher Education in Afghanistan
The foundation of higher education in Afghanistan was laid down in 1932, however with the passage of time other higher education institutions like Nangarhar, Herat, Kandahar universities were established. The gradual process of social development and intellectual growth remain in
force even during the period of agony which resultanty paved the way for the formation of teachers and student unions led by communist and Islamic political leaders who time to time questioned the legitimacy of the state. Although there were political discrepancies but the constant state of unrest pressed the necessity of peace through dialogic pedagogy. This remarkable development resulted from the higher education has had unquestioned implications as three dominant ideological and political groups I-E Pro Soviet, Pro Islamic, Pro Communist and Nationalist ideologies surfaced during this phase. So higher education had played palatial role irrespective of the circumstances. In Afghanistan after decades of unrest and rebellions the country had suffered the irreparable loss of 20,000 educationists and academics (MoHE and IIEP, 2004). Similarly, in 2003, the Asian Development Bank reported that the education system in Afghanistan has collapsed (Sarvi, 2003). Another study states that during the period of war majority of the academics and learners, staff and administrators were either killed or displaced and campuses were destroyed.

The Rehabilitation Phase

Undoubtedly the sector of higher education was vulnerable during conflicts in Afghanistan. Historically higher education in post conflicted areas expanded slowly and the enrolment of students significantly increased from less than 8,000 in 2001 to about 152,000 in 2012 (Gropello, 2011) and grew to 174,425 as of 2015 (USAID 2021). The number of higher education institutions have been rapidly increased in recent years and there are now 36 public sector universities and 131 private sector universities in Afghanistan (Datzberger, et al., 2015). The major move is done towards bringing the girls into main stream by providing the opportunities of basic and higher education deprived previously. Despite the educational barriers and lack of institutions women’s education has gradually attained the lost glory and all this happen with due political will and international intervention. Education is now driving the social, cultural and economic development as part of peacebuilding process.

Unfortunately, the underline purpose of higher education has not achieved yet due to quest for attaining key designation within the higher education institutions, financial issues, inefficient governance structure, undermining its role, disciplinary challenges and several other factors render the sector towards instability (Collier, et al., 2008). One of the senior intellectual at Herat University expressed his concerns in the following ways,

“University sites are increasingly becoming home to politically active academics and students where some of them nurture extreme views on some issues e.g. democracy, Islam, women’s rights, human rights and the West’s intervention”. (Johnson, 2013).

Another academic official at Kabul University states that the rapid increase of university students and academics in promoting the violent and ethical differences would trigger the higher education sector towards ultimate destruction. She further added,

“Students and academics across the universities, have played a leading role in organizing riots that turned ugly and violent, civil disobedience and civil unrests”. (Cabeo-Mas et al., 2017)

One of the Vice Chancellor of private university at Kabul argues that,

“Many political and social parties have infiltrated universities and groomed lots of academics and students into their extremist views and agenda. This is an alarming threat to the stability of Afghanistan and must be addressed immediately”. (Sahar & Kaunert, 2021).

The major cause for this instability of higher education was observed that the curriculum was not updated regularly and the academic officials who occupied these educational offices during the period of unrest (1978-2001) were not highly trained and failed to adopt the approaches,
dimensions, methodologies taking place globally including research and practical outcome. All other activities excluding scholar, cognitive and academic activities were carried out within the higher education campuses. Keeping in view these loopholes within the higher education sector it can be restructured by the positive use of eligible human capital, resources, institutional reforms, rational development, just and fair democratic process, civic training, abolition of foreign intervention, equal distribution of resources etc. The official at the Ministry of Higher Education (MOHE) stated that,

“The progress we have achieved in the past 18 years is at risk as political stability and security worsen, which could lead the country to yet another round of chaos. One of the areas we should look to as a buffer is institution-building and HE is particularly important. Because HE is the foundation of good citizenship, politics, and economy. If a nation has a skilled and committed people, one day, it will find its way to prosperity. (Novelli & Smith, 2011).

The enthusiastic efforts of the international family for the state-building, reclamation and social integrity in Afghanistan has not cemented due to four core reasons i.e incumbent public and private office holders throughout the country, pervasive level of corruption, flourishing drug economy and malpractices. The higher education has not considered a sole player in Afghanistan for the revival of fractured social fabrics and state-building but a marginal player.

From 1978 to 2015 the State had lost the control of educational institutions resultanty the institutions and learners were dominated by the local warlords and recruit the students for the accomplishment of their funded and self-initiated political ideologies. Despite the fact the higher education is making progress in Afghanistan under the circumstances of fear and threat.

Key Educational Restraints
Educational Barriers in Newly Merged Region (FATA)
Some basic educational barriers have been observed in the newly merged region (FATA) of KPK as fundamental restraint for girls to pursue education namely,

1. The major was the parental mind-set that education is not useful for women and is followed as cultural obstacle.
2. More than 60 percent inhabitants are living below the poverty line due to lack of employment opportunities, industries, government structure, institutions both public and private so how can they spend on education.
3. The existing primary and secondary schools are far away from the villages/localities and there is no governmental set up of transportation and security which endangers the movement of the girls. The geographical situation of the region is complex and the militants can easily hit their targets (girls) and escaped.
4. Out of total number of schools only 11 percent are dealing with the secondary and higher secondary education (7 percent of which grossly lacks basic facilities) and in the newly merged region the number of these institutions are insufficient to take all the primary graduates.
5. In Pakistan education has become a matter of employment (which originally was not the purpose of education) the parents in tribal areas confined their girls within the boundary of four walls as they perceive no employment gain after education.
6. The FATA’s educational sector plan (ESP) was for the primary sector only and failed to provide the line of action and clear strategy for the establishment of higher education in the newly merged region.
7. The teachers and staff were not properly trained who had not delivered the real purpose of education and its importance in the lives of the human beings.
8. The curriculum was not updated and revised as per the changing needs and intellectual growth and left the already weak system on the disposal of those who had rigid thoughts and were not ready to accept the universal approaches and research methodologies.

9. During the armed attacks and military operations the majority of the people were displaced from their hometowns and provided temporary residence at other areas where no educational system for the young learners was maintained.

10. The tribal culture and governance system of social life set in motion by the British rulers in former FATA which remain in force for almost two centuries had deep cultural influence over the local citizens and contrary to the vision of the father of Nation about women’s education.

11. The provincial and Federal governments had not invited the private sector to establish educational and community schools to tie hands with the governments to literate the more devoted learners and enable them to lead a prosperous life.

12. The qualified female staff in girl schools was not hired according to need and no female role model had been portrayed for the motivation of the girls education.

The Overview of National Educational Policies and Application in Former Fata
Since the partition of the Sub-continent in 1947 seven educational policies were announced in Pakistan with the traditional recommendations, suggestions, implementation measures and goals without conducting comprehensive review on each policy and its practical outcomes. In all the policies the theme was the same which has damaged the educational structure in Pakistan. It needs to be addressed at the time of Communist intrusion in Afghanistan in 1979 under the intellectual supervision of the foreign educated experts for further policy making, designed and updated curriculum to counter the repercussions of Afghan war on Pakistani society. The last policy (1998-2010) has determined slightly changed priorities particularly the inclusion of establishment and access to higher education institutions, skilled academics, enhancing the role of community organizations along with government sector and the elimination of social disparity. But like other educational policies it has also some loopholes which need to be addressed timely for concrete social development and state-building.

Recommendations and Finding a Way Forward
1. The dedicated political stability and will is required to transform the sick educational structure irrespective of political gains and affiliations.
2. There should be two Educational Commission at national level one can monitor the educational growth from primary to higher secondary and second can look after the educational achievements at higher level.
3. The National Education Commission should be established in which the equal representation should be given to each province and their educational experts could review the outcomes of the previous policy and frame new policy in line with the culture, civilization, ideology of Pakistan keeping in view the global changes.
4. The private educational culture in Pakistan should be reduced and the capacity of the government sector could be focused and increased with strict administrative policies.
5. The educational policies can be made keeping in view the economic condition of the country because if this element has not into consideration than no plausible implementation would take place as currently going on at various educational levels.
6. Separate colleges for boys and girls and universities should be established promptly at each district head quarter of newly merged regions of KPK and skilled administrative, highly qualified, unbiased staff be recruited for the cognitive development of the learners for peacebuilding and state-building.
7. The number of higher secondary schools be accelerated in accordance with the percentage of the students graduated from the primary sector and secured their
enrolment in higher education institutions.

8. Free transport be provided to the students of the newly merged region of KPK in order
to develop their educational attitude and hurdle free access to educational institutions.

9. The budget should be allocated subject to performance and achievements of settled
educational goals and the promotion of the staff should also be subject to special
educational audit of the institutions.

10. The curriculum should be reframed considering the cultural diversity, focusing the
role of education towards peacebuilding and state-building process, enabling the
students to live a responsible life and develop their political ideologies to protect the
national interest and their affiliations remain with the integrity of the state rather to
support the bifurcating ideologies propagating linguistic, Ethnic, or sectarian theme.

11. The political pressure in the educational institutions concerning transfer, promotion,
and appointments should be abolished to make the institutional growth free from
influence.

12. The new syllabi of peace building education and character growth of the learners be
included at the intermediate, graduation, and higher educational level in order to
diminishing the influence of the violent culture of Afghanistan on KPK educational
institutions.

13. The state shall provide the land and all relevant facilities to educational sector instead
of throwing the matter for decision to the local feudal lords as was happened
previously.

14. The special quota for foreign scholarships be fixed for the students of the former
FATA to motivate them for higher learning.

15. To attract the attention towards education monthly based stipend (whatsoever the
amount) should be provided initially to each student to meet their educational
expenses independently be announced by the Provincial Government with due check
and balance.

Conclusion
Since the inception of Pakistan the educational priorities were differed from the demand. The
disruptive political system and discrepancy between civil and army approach over the
institutional reforms and sustainable educational growth has fractured the fabric of educational
sector. Seven educational policies, eight five year plans and many other educational strategies
have been inked and promulgated but implementation hindrances remain dominant and progress
stay stagnant. There was no concrete educational structure in FATA and policies were made to
address the initial level of education while secondary and higher education were grossly
neglected. The history in the conflict region has been changed now after former FATA
amalgamation with Khyber Pakhtunkhwa and light of hope sparked after four decades of
persistent butcherly unrest which deprived the young learners from their basic rights including
education. Furthermore, if it was a political strategy to expand the provincial authority without
addressing the core issues for which the FATA was merged it would be more exploitative if no
ground-breaking development has taken place. It is the desperate need of time to restructure the
inanimate institutions and take speedy developmental measures. Education can play the role as
catalyst in the peacebuilding, stabilization and state-building process along with other tools of
societal integrity and sustainable development. The former Afghan minister highlight the role of
higher education in peacebuilding process in the following manner,

“In the current context of Afghanistan, HE is playground where the infrastructure of peace can be
developed and sustained. Because HE gives you a powerful mechanism and tool through which
you can build the preconditions of peacebuilding agendas. HE in addition to empowering
individuals and train them into responsible citizens can bring opposing parties together. So, these
parties then get peace education, forge friendly relationships, and connect academics across
different establishments of peacebuilding as a discipline”. (Millican, 2017)

References
Pherali, T., & Lewis, A. (2019). Developing global partnerships in higher education for...


Framing of Kashmir Conflict in Elite Pakistani and Indian Newspapers after Revocation of Special Status of the Disputed Territory

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ARTICLE DETAILS

ABSTRACT

Purpose: India, using its legislative powers, divided Jammu and Kashmir J&K into two separate territories under federal control by revoking Article 370 that had given a special status to the disputed territory. This move stirred isolation and suppression in the people of the valley. The purpose of the study is to comprehend the peace and war framing of the Kashmir conflict after the revocation of the special status of the disputed territory in the Indian and Pakistani media. The study also attempts to explore the strategic relevance of Kashmir for neighboring China.

Design/Methodology/Approach: Framing, Peace and War Journalism theories were used in this study. Quantitative content analysis method was used to analyze the peace and war framing of the J&K conflict in Dawn and Times of India.

Findings: Content analysis findings supported assumption that war coverage was the most highly recorded coverage pattern in both Indian and Pakistani newspapers. Dawn took a lead in peace journalism framing with 25.56% of its editorials and columns dominated with peace journalism frames whereas 11.88% editorials and columns in Times of India were dominated with peace journalism frames. Implications/Originality/Value: The study finds that Kashmir dispute was framed in War Journalism viewpoint in media of both the neighboring countries. This research also shows that Beijing sticks to its strategic guns by giving peaceful verbal gestures for the region’s stability.

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Introduction
The magnitude of Kashmir conflict has evolved from a regional conflict to an international conflict as it enjoys the capability of drawing India and Pakistan towards a nuclear war (Nixon, 1992). Geographically Kashmir is surrounded by India, Pakistan and China. Kashmir is located in the Himalayan range of mountains and is also the origin point of many rivers in the South Asian region. India administers about 45 percent of Kashmir’s total area; Pakistan administers about 35 percent of Kashmir’s total area whereas China administers about 20 percent of Kashmir’s total area (Bukhari & Parveen, 2014). The Kashmir conflict although considered to be a concern for international peace has constantly given rise to ethnic outbreak, severe human rights violations and cross border terrorism including Line of Control violations in the region.

The year 2016 witnessed an intense violent atmosphere in the valley. Shortly after the formation of Mehbooba Mufti’s government in Jammu and Kashmir, a 21 year-old separatist fighter from Hizbul Mujahideen, Burhan Wani was gunned down along with his two associates by the Indian forces on July 8, 2016 (Dasgupta, 2016). Burhan Wani represented the fifth generation of resistance against the Indian policies in Jammu and Kashmir. He transformed the predictable form of protests by innovatively employing social media platforms. He also created a Twitter handle @Gazi_Burhan2 in 2012 and used it to disseminate pictures of atrocities carried out by the Indian forces (Pandit & Singh, 2016). Wani’s social media outreach created a stir both in the youth of Kashmir, which makes around 60% of the valley’s population and in the Indian and Pakistani media. He was referred to as the poster boy of Kashmir and had a bounty of one million rupees on his arrest (Rao, 2016). Killing of Burhan Wani had an intense impact on the Valley’s political, economic and security situation in terms of demonstrations by Kashmiris and longest imposed curfew by the Indian security forces. Wani relished impressive amount of support from Kashmiris both in his life and death because of four major reasons (i) armed rebels like Wani did not target civilians; (ii) they functioned independently without seeking foreign support; (iii) they choose a moderate path through welcoming Hindu pilgrims and favoring the return of migrant Kashmiri Pandits to their homes; (iv) their rebelliousness had a symbolic significance for the Kashmiri population (Geelani, 2016). The role of Kashmiri politicians in the post Burhan Wani incident grew more anti India. On the other hand the brutal policies imposed by the BJP led government in the center increased the gap between the Kashmiri public and the rest of the world. The unrest which engulfed the valley during Wani episode transformed into a devastating situation when the Indian Prime Minister Narendra Modi during his Independence Day Speech on August 15, 2019 announced his government’s step to strip Kashmir from the autonomous status in terms of abrogating the Article 370 of the Indian constitution. The researcher aimed at comprehending the framing of Kashmir dispute in Pakistani and Indian media after revocation of Article 370 of the Indian Constitution. The researcher also explored the relevance of the disputed territory for the neighboring China in context of this legislative move. Kashmir for China. The study is significant from an exploratory angle as the abrogation of Article 370 has not only altered the geographical status of J&K but has also put the stability of the whole South Asian region at an unprecedented risk. The paper also attempted to provide recommendations for improving the volatile conditions in the Kashmir valley.

Scrapping of Article 370
The scrapping of Article 370 was one of the major demands by the Hindu Nationalists since early 1950s. After mid-1960s only certain parts of Article 370 were left untouched which comprised of a state flag, an independent state constitution which was mostly symbolic and an autonomous penal code. Assurance of job opportunities and possession of land by the local residents was...
guaranteed through Article 35A which was also revoked later. Kashmiri state was primarily divided into union territories as the Indian constitution granted more authorities to the states as compared to unions (Bose, 2019). India divided Jammu and Kashmir into two federally administered territories after scrapping of Article 370. Jammu and Kashmir were merged into one territory and named after Jammu. Ladakh which bordered with China was made a separate territory (Jammu and Kashmir: India formally divides flashpoint state, 2019). The newly formed union territories were ruled directly from Delhi. Not only the Muslim population felt alienated and subjugated after the scrapping of Article 370 but also the Buddhist residents which were in majority in the eastern Ladakh district, felt deceived after losing their rights over job opportunities and land possession. BJP’s decision to divide the J&K in to separate federally administered territories can be regarded nothing less an undemocratic step by the Indian government (Gupta, 2019).

As Kashmir is a landlocked territory between India, Pakistan, China and Afghanistan resultantly the scrapping of article 370 rose concerns for security and peace in the South Asian region. Although China is not a South Asian country but it has deep rooted interests in the region. China is in possession of one-fifth part of the Kashmir region and also shares its border with Jammu and Kashmir. A relatively strong Pakistan has always been desired by China to contain India’s nuclear ambitions in the region (Bukhari & Parveen, 2014).

A clash between India and China which took place in the Ladakh region in the mid June 2020 left at least 20 Indian soldiers dead. India asserted that China has violated the agreement to abide by the Line of Actual Control (LAC) in the Galwan Valley. India also blamed China for deploying a large number of troops in the Galwan Valley and of occupying 38,000 sq. km of India’s territory in the Ladakh region. The boundary disputes between India and China failed to reach a consensus despite repeated round of talks during the last 30 years. A war was also fought between India and China in 1962 in which India suffered huge losses. Clashes also erupted in 2017 when China attempted to outspread a border road. The year 2020 was considered to be more violent as the Galwan Valley clashes which were battled with clubs and sticks instead of guns played a significant role in rising tensions between India and China (“India-China clash: 20 Indian troops killed in Ladakh fighting”, 2020).

Human Rights conditions were deplorable in J&K even in 2016 when Burhan Wani’s death was followed by anti-Indian riots across the valley. Curfew was forced in all districts of the valley on 15th July 2016 which continued for 53 consecutive days and was lifted on 31st August but was re-imposed the next day (Khurshid, 2017). During the curfew mobile and internet services were also shut down. Clashes between protestors and Indian Occupational Forces (IOF) resulted in the death of more than 150 people, injuring more than 16000 and blinding more than 150 (Khurshid, 2017). Wani aftermath brought life for the Kashmiris to the worst brink that they had witnessed during the last two decades. Routine in the valley was severely hampered as the business, transport and educational institutions were shut down for the longest period. Funerals of the killed Kashmiris lead to further clashes between the forces and protestors. The use of pellet guns by the security forces caused serious injuries to the protestors. The photographs of pellet ridden children and women stimulated an international reaction against the atrocities of Indian government in Kashmir as over 1000 people sustained eye injuries (“Jammu and Kashmir: Three months, 1,000 eye injuries by pellets”, 2016). According to the Standard Operating Procedure legs are targeted in acute volatile conditions but in case of rallies held in Kashmir more than 90% received injuries above waist (Sultan, 2016). According to Human Rights Watch the condition of Human Rights the state of human rights violations intensified after the abrogation of article 370 as “Hundreds of people remain detained without charge, critics are threatened with arrest, and access to the internet is limited” (Tanzeem, 2020). The intensification of violence and human rights violations in the Indian Administered Kashmir can never be analyzed in isolation as the
whole region is affected by the volatility of the decades old conflict.

**Peace and War Journalism**

Agenda setting has provided great theoretical support to war and peace journalism and effects studies. Framing which is seen as second level of agenda setting refers to the procedure of consolidating a news story thematically and accurately to convey the main agenda of story (Maslog et al, 2006). Entman (1993) defined framing as the selection and projection of certain aspects of the perceived reality which in turn helps in making specific causal interpretations of the reality more dominant and popular. Tankard (1991) also focused on media frames and defined them as the dominant organizing idea for content which provides a context through the use of selection, emphasis, exclusion and elaboration. Frames consist of main ideas, stock phrases and different visuals to facilitate a specific analysis. It is the recurrence and prominence of the texts and images with in a frame which makes the dominant interpretation more acceptable than other available options (ibid). Framing of news stories also influence audience members’ perceptions of the social reality (Khan & Yousafzai, 2005).

The study attempted to answer the following Research Questions (RQ):

**RQ1.** How the Kashmir conflict was framed by the Indian and Pakistani media in the post Article 370 scenario?

**RQ2.** What is the geo strategic relevance of Jammu and Kashmir for China?

**Methodology**

The method of content analysis was employed to answer the first research question which was aimed at comprehending the framing patterns of Kashmir conflict in the Pakistani and Indian media. The editorials and columns published in Dawn (Pakistani media) and Daily Times of
India (Indian media) were selected for the purpose of content analysis. Editorials and columns published after the scrapping of article 370 were selected for the study. Editorials and columns published from November 30, 2019 to November 30, 2020 in Dawn and Times of India retrieved from the e-paper websites of the two selected dailies. A total of 118 editorials and columns were retrieved from the websites of the two dailies. All the selected editorials and columns i.e, the total population was made part of the content analysis (N=118). Out of the total sample 60 editorials and columns were retrieved from Dawn and 58 from Times of India. A coding sheet was developed for the purpose of the content analysis which was based on the Galtung’s (1986, 1989) classification of peace and war journalism (Appendix).

Every individual editorial and column was considered as the unit of analysis for the study. Two independent coders were engaged for the study at hand. The inter-coder reliability test (Hostli’s formula) conducted on 20 stories yielded 92% or more than 92% agreement for all the frames. The second research question regarding the geo strategic relevance of Kashmir conflict for China was explored in the light of the available literature.

Results & Discussion

RQ1. How the Kashmir conflict was framed by the Indian and Pakistani media in the post Article 370 scenario?

Table 01: Difference of War Framing in Indian and Pakistani media

<table>
<thead>
<tr>
<th>War Frames</th>
<th>Dawn (Total Frames)</th>
<th>Times of India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible effects of war</td>
<td>52(12.94%)</td>
<td>60(13.05%)</td>
</tr>
<tr>
<td>Differences Oriented</td>
<td>40(9.95%)</td>
<td>46(10.00%)</td>
</tr>
<tr>
<td>Elite oriented</td>
<td>55(13.68%)</td>
<td>50(10.87%)</td>
</tr>
<tr>
<td>Here and now</td>
<td>42 (10.45%)</td>
<td>46 (10.00%)</td>
</tr>
<tr>
<td>Dichotomy</td>
<td>43(10.69%)</td>
<td>58(12.61%)</td>
</tr>
<tr>
<td>Two-party Orientation</td>
<td>42 (10.45%)</td>
<td>46 (10.00%)</td>
</tr>
<tr>
<td>Partisan</td>
<td>38 (8.15%)</td>
<td>48 (10.43%)</td>
</tr>
<tr>
<td>Zero-sum oriented</td>
<td>40 (9.95%)</td>
<td>48 (10.43%)</td>
</tr>
<tr>
<td>Uses of demonizing Language</td>
<td>50 (12.44%)</td>
<td>58 (12.61%)</td>
</tr>
<tr>
<td>Total N (%)</td>
<td>402 (74.44%)</td>
<td>460 (88.12%)</td>
</tr>
</tbody>
</table>

Note. Chi square= 18.521; df=8; p<0.05

The results of the content analysis showed that war framing was more frequently employed by the Indian and Pakistani media while covering Kashmir conflict after the scrapping of Article 370. Table 01 illustrates that Times of India took a lead in war framing with 88.12% of its editorials and columns dominated with war journalism frames whereas 74.44% editorials and columns in Dawn were dominated with war framing.

Table 02: Difference of Peace framing in Indian and Pakistani media

<table>
<thead>
<tr>
<th>Peace Frames</th>
<th>Dawn</th>
<th>Times of India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invisible effects of war</td>
<td>12 (8.69%)</td>
<td>10 (16.13%)</td>
</tr>
<tr>
<td>Solution Oriented</td>
<td>6 (4.34%)</td>
<td>6 (9.68%)</td>
</tr>
<tr>
<td>People Oriented</td>
<td>15 (10.87%)</td>
<td>7 (11.29%)</td>
</tr>
<tr>
<td>Causes and Consequences</td>
<td>27 (19.57%)</td>
<td>12 (19.35%)</td>
</tr>
<tr>
<td>Avoid labeling</td>
<td>18 (13.04%)</td>
<td>4 (6.45%)</td>
</tr>
</tbody>
</table>
Table 02 showed that peace framing was less frequently employed by the Indian and Pakistani media while covering Kashmir conflict. Dawn took a lead in peace journalism framing with 25.56% of its editorials and columns dominated with peace journalism frames whereas 11.88% editorials and columns in Times of India were dominated with peace journalism frames.

The study strengthened Galtung’s (1986, 1998) classification of conflict reporting into war and peace journalism. Results of content analysis supported the assumption that war coverage was the most highly recorded coverage pattern in both Indian and Pakistani media. Quantitative analysis further supported Lynch & McGoldrick’s (2005) explanation of war journalism with respect to revealing facts and truths related to others’ and covering up ours’ as majority of the analyzed stories used demonizing language. Presenting the opinions and views of elite and reporting conflict as a zero-sum entity were also among the frequently reported patterns of conflict coverage. The literature on peace journalism was also considerably supported as it focused on highlighting solutions, focusing on invisible effects of the conflict and covering all possible aspects of the story among other major practices (McGoldrick and Lynch 2000). Literature on framing was also rationalized by the study as media frames provided central ideas for analyzing the content by selecting, emphasizing and elaborating certain details in a contextual manner (Tankard, 1991).

RQ2- What is the geo strategic relevance of Jammu and Kashmir for China?

Kashmir conflict has been discussed time and again in the Indo-Pak context. Its relevance for the geo strategic positioning of China also needs to be explored in order to come up with more viable solutions to the world’s longest running conflict. China has strategic interests in both Indian and Pakistani parts of Kashmir. The interests of China in the South Asian region have also gained momentum in lieu of its strategic alliance with both Pakistan and India. China’s concerns with supporting Pakistan as a robust South Asian country are also interpreted in terms of engaging India with a strong rival for containing the latter’s ambitions in the region. The silk route which helped China in maintaining strategic supremacy over India connects China to Pakistan through Kashmir. The alliance with Pakistan over Siachin is also considered to be an asset for China to overpower India from a strategical point of view (Raina, 1994). It has been argued that China supported Pakistan’s nuclear ambitions to a certain extent in order to ensure that a strong ally against India is present in the region (Garver, 1992).

Although throughout the course of history China maintained a rather neutral point of view over Kashmir but at the same time it encouraged bilateral talk process between India and Pakistan, demilitarization of Siachen along with the commencement of bus service between India and Pakistan (Indo-Pak Peace Talks Seek Way Off Siachen Glacier, 2005). At the same time China has frequently rejected India’s control of Jammu & Kashmir and its declaration as integral part of India. In August 2019 the meeting of the UN Security Council took place in New York behind the closed doors. While addressing the media the Chinese Ambassador, Zhang Jun urged both
India and Pakistan to “refrain from taking any unilateral action which will further aggravate” the situation (UN News, 2019).

The Indo-China 1962 border conflict helped in reshaping the bilateral relationships between Pakistan and China. Pakistan extended its support to China for securing the UN seat and in return of this favor Chinese Prime Minister offered support for Kashmir by declaring that Kashmir dispute should be resolved “in accordance with the wishes of people of Kashmir as pledged to them by India and Pakistan” (Arif, 1980). China’s resolve over the Hunza Valley as a result of the 1963 agreement is considered crucial for the energy transportation purposes of China. It is through the route provided by the Pakistan administered Kashmir that the long term diplomatic and strategic interest of China in the Afghanistan region is served (Stobdan & Chandran, 2008). The Karakorum Highway which also passes through the Pakistan administered Kashmir is vital for China as it connects Kashgar to Gilgit.

During early 1980s a shift in China’s policy towards Kashmir was witnessed. It was the same era when China developed functional ties with New Delhi in order to adopt the policy of reconciliation in the whole of South Asia (Jain, 1989). In the post 9/11 scenario Pakistani president Pervez Musharraf visited China and expected some help from China in terms of resolving Kashmir conflict as per Pakistan’s demands (PRC President Jiang Zemin Hopes for Peaceful Settlement of India-Pakistan Dispute, 2002). But Beijing maintained its neutrality position by asserting that both India and Pakistan should maintain ceasefire on the line of control and seek to resolve the conflict through mutually agreeable peaceful means (Rao, 2002).

The construction of road connections as part of China Pakistan Economic Corridor (CPEC) will also help China in accessing the important areas of the world including Persian Gulf along with acquiring access to the natural reservoirs of Pakistan (Chandran, 2013). China also seeks to maintain stability in the region as the interaction of Xinjiang and Tibet with the western markets cannot be fully explored without developing strong linkages with both India and Pakistan.

**Recommendations**

- The Indian government has frequently reinstated that the only problem in Kashmir conflict is the involvement of Pakistan in armed resistance; a claim which Pakistan has repeatedly declined. The Pakistani government on its side of the border has successfully cultivated an exact opposite narrative by declaring India as the chief aggressor state. The third and more rational perspective which has gained international recognition is that paramount importance should be given to the will of the Kashmiris through holding a free and fair plebiscite.

- If the Kashmir conflict is left unaddressed it can prove to be more fatal then the combined nuclear ambitions of all three states including India, China and Pakistan as the conflict has the potential to initiate a full fledge war in the region. Therefor UN needs to play an effective role in holding a fair plebiscite in the Kashmir region. United nations also need to pressurize India at both International and regional levels to reduce its military ambitions in the Indian Administered Kashmir.

- By halting all channels of possible communication between the Kashmiris and the rest of the world BJP led Indian government has deepened the mistrust and made the valley more vulnerable. The uninterrupted and unconditional provision of basic human rights facilities will help in normalizing the life for Kashmiris.

- Every incident of violence by the Indian state has provided a reason to the Kashmiris to brew their feelings of subjugation and alienation which is leading to further radicalization in the valley. In a situation like this extreme resentment can be averted by engaging local
Kashmiri politicians and resuming dialogue channels for the indigenous population of Indian Administered Kashmir.

- China can play a vital role in resolving Kashmir conflict as it enjoys a strong foothold in the South Asian region and is also in a viable position to mediate fruitful bilateral talks between India and Pakistan.

References


Indo-Pak Peace Talks Seek Way Off Siachen Glacier. (2005, May 23). *Reuters*


Appendix

Galtung's (1986, 1989) classification of Peace and War Journalism

<table>
<thead>
<tr>
<th>War Journalism</th>
<th>Peace Journalism</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Visible effects of war:</strong> Casualties, dead and wounded</td>
<td>1. <strong>Invisible effects of war:</strong> Emotional trauma, damage to society, damage to property and culture</td>
<td>Story that contains none of the two approaches, i.e., war and peace journalism in the paragraph's or number of neutral values in a story are greater than the war and peace approaches, the story will be coded as neutral</td>
</tr>
<tr>
<td>2. <strong>Differences oriented:</strong> Report leads to the conflict</td>
<td>2. <strong>Solution oriented:</strong> Report leads to solution to the conflict</td>
<td></td>
</tr>
<tr>
<td>3. <strong>Elite oriented:</strong> Focuses on leaders and elites as actors and sources of information</td>
<td>3. <strong>People oriented:</strong> Focuses on common people as actors and sources of information</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Here and now:</strong> Reporting on the war arena</td>
<td>4. <strong>Causes and consequences:</strong> Reporting on the causes and future effects of the conflict</td>
<td></td>
</tr>
<tr>
<td>5. <strong>Dichotomy:</strong> Good guys and bad guys or victim and villain</td>
<td>5. <strong>Avoid labeling of good and bad guys:</strong></td>
<td></td>
</tr>
<tr>
<td>6. <strong>Two-party orientation:</strong> One party wins, one party loses</td>
<td>6. <strong>Multi-party orientation:</strong> Gives voice to many parties involved in the conflict</td>
<td></td>
</tr>
<tr>
<td>7. <strong>Partition:</strong> Bias for one side in the conflict</td>
<td>7. <strong>Non-partisan:</strong> (neutral, not taking sides)</td>
<td></td>
</tr>
<tr>
<td>8. <strong>Zero-sum orientation:</strong> One goal: to win</td>
<td>8. <strong>Win-win orientation:</strong> Many goals and issues, solution-oriented</td>
<td></td>
</tr>
<tr>
<td>9. <strong>Uses of demonizing language:</strong> Use of language such as vicious, brutal, barbaric, inhuman, tyrant, savage, ruthless, terrorist, extremist, fanatic, fundamentalist</td>
<td>9. <strong>Avoid demonizing language:</strong> Report on more precise descriptives, titles or names that the people give themselves</td>
<td></td>
</tr>
</tbody>
</table>
Impact of Psycho-Social Dimensions in Adoption and Use of Credit Cards. An Empirical Study from Pakistan

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ARTICLE DETAILS

ABSTRACT

Purpose: The main purpose of this study is to explore those psycho-social factors which are affecting the usage of credit cards in the present day. Furthermore, it is also aimed to investigate the impact of those factors like parental involvement, religiosity, impulsivity, compulsivity, locus of control, social status, customer attitude and financial distress on credit card usage in the context of Pakistan. Design/Methodology/Approach: For the purpose, the questionnaire has developed and distributed among users of credit cards in Bahawalpur region of Pakistan. This research is quantitative in nature and a probability sampling technique has been used to collect data. Moreover, regression analysis is used

Findings: The results reveal that parental involvement, compulsivity, and financial distress have a significant impact on credit card usage. However, the study failed to find any impact of impulsivity, locus of control and religiosity on credit card usage. Similarly, the customer attitude and social status also did not have any impact on usage of credit cards.

Implications/Originality/Value: The results of this study extend help to the banks, financial institutions and, particularly, futures researches in the field of digital currency. It is the time to start developing new digital banking tools.

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Introduction

In the whole world, as we know, banks are the most important and are playing a major role in a country's development and economic growth. Banks are beneficial in every field like in trade, agricultural development purposes, industrial development purposes, capital generation, credit generation, production of money, and transmit of money, and they also
play a significant role in the economic welfare of the countryside. Introducing of plastic money is one of the most innovative works of banks. One of the most modern and convenient ways of transferring money is plastic money. The change of this digital system of payment is very valuable for all. This digital method is very fast, easy, and cheap for the different transactions, and in this method, there is less crime risk of cards reduced by plastic money. Credit cards, debit cards, (ATM) cards are part of plastic money. Varieties of different facilities are offering credit cards. It is one of the sources of the fastest transactions for its customers (Brito & Hartley, 1995). It has been stated by (Khare et al., 2012) that those persons who have credit cards feel more comfort if even they do not have too much money. Credits cards are also a source of an idealized lifestyle. Married persons and those who have more income level hold credit card usually (Bulut and Koprulu, 2012). It is also possible that very intelligent people do use of the card.

Johan and Putit, (2015) argued that credit card is known as plastic money in the present modern world it might be used as a tool of payments. It gives the facility to its user it can buy any services and goods without meeting with the seller. Many countries are famous in the credit market like Canada, the USA, and Australia. According to the previous study, European countries' credit cards using ranged has been increased as compared to 2002 it has reached more than 59 million observed in 2016 (Thomas et al., 2005). He has done a lot of work on credit cards, (ATM), with the respect to different prospective like consumer behavior, credit card market, and banking. They also stated results that financial institutions were also given enough training to its consumers before the services were delivered. As we know, day by day competition is increasing in the banking sectors. Banks have been providing a lot of facilities like providing many financial facilities; financial derivatives, foreign exchange trading services, and foreign exchange trading, etc. Banks are also adopting many technologies in their services. It is expected credit cards have become the most popular among their services. In the recent era, there is an increase in credit card usage according to its volume and usage. But people are failed in their credit card payments. Therefore, this study aims to fill this particular gap that psycho-social factors towards credit card usage with data collected from its customers. The main objectives are to analyze the impact of independent variables like Parental involvement, compulsivity, impulsivity, locus of control, religiosity, financial distress on credit card usage which is dependent variable.

**Literature Review**

Kinsey, (1981) established research on credit card factors and stated that far above the ground in income is the most contributing factor in the growing number of a credit cards. This research is concentrating on the behavior of credit card users and this study was conducted by America and Canada. Kaynak and Uzmen, (1995) stated that credit cards are more secure than cash. That is one of the main reasons people preferred credit cards. Increased credit cards limit, fair charges and low- interest rates are the main factors for the more adoption of credit cards. Chan, (1997) studied in Hong Kong and stated that low annual fee and low-interest repayment phase were the main factors in the selection of credit cards. Many researchers have paid their concentration on the user’s choice of other payment methods compared to using debit cards. King and King, (2005) stated the major reasons why users prefer more debit cards than credit cards, and he also stated major reasons which fall in fear is debt in using a credit card, and the second reason is users of credit cards have not good history. Zinman, (2009) he also did research on plastic money and also has explained some more factors like time, rewards, motives, bankruptcy concerns, security concerns, and cost concerns. Butt et al, (2010) gathered data for the sake of selection criteria of credit card use data gathered from 800 card users he observed that factors security sense, convenience, these all have included as risk factors. These are very important factors in Pakistan from the
card’s selection points of view and another risk involves annual fees, interest rates, lack of awareness in people, security issues involve technical issues, and fear of loss of pin codes and issues like bankruptcy (Butt et al., 2010; Khalid et al., 2013).

Impulsive buying has been stated as an unconscious, less deliberate irregular decision process (Solomon, 2007). It is stated that impulsivity is a process of buying in which individuals favor sudden actions and not bothering long-term consequences. Other researchers stated that it is unplanned and unintended process in which individuals just focus on immediate satisfaction without the forethought of financial issues (Thomas et al, 2011–2012). According to the previous researches, impulsive behavior is defined as its unintentional and sudden urge to behave in a hedonically manner and on negative results acts without careful planning (Puri, 1996). For example, when a person purchased an extra expensive dress which is not in his or her budget, this is called impulsive behavior. Findings stated impulsive and compulsive these both traits have the same characteristics these both traits influence credit card usage and debt both. It is stated by (Solomon, 2007), that impulsivity is a short-term trait but compulsivity is an ongoing trait they both effects debt and credit card usage separately. And that both personality traits compulsivity and impulsivity are significantly affected the number of credit card owns by an individual. In credit card balances impulsivity is a significant independent variable. Compulsive purchasing stated as in which the individual cannot control his or her self from buying and individuals indulge in irregular and uncontrolled decision-making processes (Lo and Harvey, 2011). According to (Park and Burns, 2005) stated compulsive buying has a negative impact on consumer welfare and because of debt. In many studies, it is stated that due to compulsive buying behavior compulsive buyers possess many credit cards and they show less restraint while using these cards (O’Guinn and Faber, 1989; Roberts and Jones, 2001; Wang and Xiao, 2009). Previous studies also stated that college students possess more credit cards due to compulsive behavior them.

Compulsivity is the strong independent variable and it has a significant impact on an individual’s own credit cards. Solomon, (2007) stated Compulsivity is long-term traits and impulsivity is for a specific period. Compulsivity is not a significantly predictor of balances of a credit card. In teenagers’ individuals, compulsivity exists more that is adopted in by their factors of environment like family, parents, and friends. Parental involvement is positive phenomenon, parental involvement trains students for judicial credit card usage during attending college (Joo et al, 2003; Limbu et al, 2012). In social learning theory, it is stated that individuals learn from others’ behavior and also learn by observing others. Parents are also answerable to persuade their children’s credit card usage and behavior (Pinto et al, 2000). Joo et al., (2003) claimed that those individuals whose parents use more credit cards are more influenced by them. Hogan, (2003) noticed that most adults continue their lifestyle they enjoy while they living on their parent’s income. Parents play important role in their children brought up about money beliefs and attitudes.

As a source of outcomes in terms of rewards punishments stated as the locus of control. It is stated that people have more internal control as compare to external (Wang et al, 2009). Pinto et al, (2004) stated that consumers with a locus of control have believed and control over their behavior losses and rewards. Similarly, Cost is the major reason which persons face in acceptance of the credit cards. Use of credit card also changes with interest rates stated by (Gan et al., 2008). Another result stated that anxiety is directly proportional to debt but anxiety is not associated with the numbers of credit cards a person owns. Gross and Souleless, (2002) he stated when credit increase that automatically causes a significant rise in debt. That mostly affects the young individuals and those how to have less income. Religious and cultural factors also affect the usage of credit cards. Over interest rates, many religious
controversies influence the behavior of consumers of credit cards especially in Pakistan. According to the main principle of Islam, usury (Riba) is prohibited. According to the previous results, there is no relation exists between religiosity and credit card. Religiosity is just taken as spiritual wellbeing in daily activities. In financial matters, religiosity is not a significant factor. Many Muslims are not considered religiosity when they come to businesses (Soudien and Rani, 2015).

Users judge themselves and other people according to their possession they have, social status is premium that facilitates the individual lifestyle (Limbu et al. 2012; Roberts and Jones 2001; Wang and Xiao, 2009). Stated by Limbu et al., (2012) that materialism and social status had significantly affected the credit card debt but not a significant impact on the number of credit card use. Credit card is used as a status symbol in India. In urban areas, where an increasing financial and economic conditions with growing prosperity, banks feel that the middle class is desirable to adopt this business line. According to (Mottola, 2012) when people use credit cards, they feel happy because they can take more debt to fulfill their family needs and wants. Devlin et al. (2007) established that credit card users are of two types; first one who used it for convenience and the second one who paid installment later on. Moreover, they further divided the types of users into groups. People who belong to low socio-economics status use credit cards for payments purposes and people who belong to high socio-economics status use the credit card for their convenience (Gan et al., 2008). Pulina, (2011) and Johan and Putit, (2015) observed that there was a fine relationship between credit card usage and consumer attitude. The reason of good relationship is because credit card helped its consumer to check and balance their spending. Another benefit was people who used a credit card never lost their money.

Research Methodology
There is a scattered population; a practicable method of sampling is used. The population of this study including credit card users of Bahawalpur, reliability tests are done to measure the reliability of questionnaires. Usually, two types of collecting sampling techniques are probability sampling and non-probability sampling. Daniel, (2011) stated probability sampling is a technique in which the selected population is known and in non-probability technique, the selected population is unknown and unselected. In this study, random sampling technique is used. In social sciences, it is the rule of thumb that there should be at least each response collect each item in the questionnaire. The researcher decides to collect data from 114 credit card consumers for reliable and consistent results. The questionnaire was developed for data collection. The questionnaire developed for the credit card consumers of Bahawalpur, Pakistan.

Descriptive Statistics
In this study minimum, maximum, mean, standard deviation, skewness, and kurtosis are discussed in descriptive analysis. The acceptable range of skewness is -1 +1 and the kurtosis range is between -3 +3. It is shown in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBB</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.9754</td>
<td>1.035</td>
<td>-0.056</td>
<td>-1.158</td>
</tr>
<tr>
<td>BS</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.8567</td>
<td>0.9455</td>
<td>0.166</td>
<td>-1.105</td>
</tr>
<tr>
<td>FD</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>3.0278</td>
<td>1.0187</td>
<td>-0.021</td>
<td>-1.077</td>
</tr>
<tr>
<td>P1</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.9789</td>
<td>1.0287</td>
<td>0.173</td>
<td>-0.976</td>
</tr>
<tr>
<td>RB</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.1864</td>
<td>0.9101</td>
<td>-1.042</td>
<td>0.914</td>
</tr>
<tr>
<td>LC</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.8947</td>
<td>1.1307</td>
<td>0.148</td>
<td>-0.926</td>
</tr>
<tr>
<td>CCU</td>
<td>114</td>
<td>1.00</td>
<td>5.00</td>
<td>2.9756</td>
<td>0.9262</td>
<td>0.259</td>
<td>-0.674</td>
</tr>
</tbody>
</table>
The table shows that all the values are in the accepted range of skewness and kurtosis which confirms that there is no issue of normality of data. The most common measure of inter consistency is Cronbach’s Alpha is called reliability. It is mainly used to find internal consistency among items. The acceptance criteria are that alpha value must be higher than 0.6 (Taber, 2018). There are different criteria of the acceptance of Alpha. The value of 0.9 considered excellent, 0.8 considered well, 0.7 considered Acceptable, 0.6 considered questionable and 0.5 considered poor. The data of reliability is shown in table 2. The results show that there is no issue of reliability.

Table 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach’s Alpha</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsivity</td>
<td>.860</td>
<td>5</td>
</tr>
<tr>
<td>Credit card usage</td>
<td>.954</td>
<td>27</td>
</tr>
<tr>
<td>Social status</td>
<td>.896</td>
<td>11</td>
</tr>
<tr>
<td>Parental involvement</td>
<td>.902</td>
<td>10</td>
</tr>
<tr>
<td>Financial distress</td>
<td>.925</td>
<td>12</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.872</td>
<td>9</td>
</tr>
<tr>
<td>Consumer attitude</td>
<td>.881</td>
<td>12</td>
</tr>
<tr>
<td>Religiosity</td>
<td>.797</td>
<td>4</td>
</tr>
<tr>
<td>Locus of control</td>
<td>.866</td>
<td>4</td>
</tr>
</tbody>
</table>

Correlation

Correlation is a statistical measurement which indicates the relation between two variables. Its range is +1 to -1. If the value comes greater than the positive and negative one its means there is an error. In the interpretation, these are indicators of correlation. -1 indicates a perfect negative linear relationship between variables and vice versa. The relationship among different variables of study is shown in table 3.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>CBB</th>
<th>CCU</th>
<th>PI</th>
<th>FD</th>
<th>IBB</th>
<th>RB</th>
<th>LC</th>
<th>CA</th>
<th>SSQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBB</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCU</td>
<td>.568*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI</td>
<td>.299*</td>
<td>.497*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>.547*</td>
<td>.609*</td>
<td>.488*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBB</td>
<td>.481*</td>
<td>.515*</td>
<td>.456*</td>
<td>.635*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RB</td>
<td>.152</td>
<td>.376*</td>
<td>.268*</td>
<td>.263*</td>
<td>.388*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC</td>
<td>.470*</td>
<td>.517*</td>
<td>.434*</td>
<td>.600*</td>
<td>.575*</td>
<td>.519*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA</td>
<td>.223*</td>
<td>.383*</td>
<td>.258*</td>
<td>.256*</td>
<td>.467*</td>
<td>.562*</td>
<td>.420*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SSQ</td>
<td>.437*</td>
<td>.473*</td>
<td>.422*</td>
<td>.504*</td>
<td>.643*</td>
<td>.414*</td>
<td>.532*</td>
<td>.581*</td>
<td>1</td>
</tr>
</tbody>
</table>

** significant level is < 0.01 * significant level is < 0.05

CCU correlation value with CBB is 0.568 which shows a very strong positive relation at 0.01 level of significance. CCU correlational value with PI is 0.497 which indicates a significant positive relationship among them. CCU correlational value with FD is 0.609 which indicates strong positive relationship. CCU shows a strong relationship with IBB (0.515). CCU correlational value with RB is 0.37 which indicates a positive relationship among them. CCU correlation value with LC is 0.517 which indicates a moderate positive relation among these variables. All variables are significantly correlated except religiosity and compulsive buying.
behavior because its significance level is 0.152 which is not acceptable. Moreover, there should not be the correlation among independent variables greater than 0.8. Table 4 shows that there is no multicollinearity exists between independent variables. All variables correlation value is < 0.8.

Regression Analysis
In order to test the impact of independent variables on credit card usage, regression model is run and the results are shown in table 5.

Table 5

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.735</td>
<td>.540</td>
<td>.505</td>
<td>.65154</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), LC, PI, CBB, RB, IBB, FD, CA, SSQ

In this table, model summary shows R-value is 0.735 which indicates the strongly positive relationship between independent and dependent variables and R square value indicates how much overall impact of our model is on the dependent variable. R square value is 0.540 which indicates that the overall impact is 54% on the dependent variable. R^2 adjusted is 0.505 which is not greatly less than R^2 value which also indicates that the independent variables are not similar and they are independent of each other. The result of ANOVA is shown in table 6.

Table 6

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>52.359</td>
<td>8</td>
<td>6.545</td>
<td>15.418</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>44.573</td>
<td>105</td>
<td>.425</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>96.932</td>
<td>113</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: CCU
b. Predictors: (Constant), LC, CA, PI, CBB, RB, IBB, SSQ, FA

In this table, ANOVA reports how well the regression equation of regression fits data and gives information about model fit and shows whether it is significant or not. The significant value is 0.000 and the f value is 15.4. It indicates that the regression model statistically significantly predicts the outcome variables. The significance and contribution of each independent variable on dependent variable is shown in the table 7.

Table 7

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T statistic</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>216</td>
<td>.268</td>
<td>.807</td>
<td>.422</td>
</tr>
<tr>
<td>CBB</td>
<td>282</td>
<td>.075</td>
<td>.316</td>
<td>3.785</td>
</tr>
<tr>
<td>SSQ</td>
<td>.017</td>
<td>.017</td>
<td>-.168</td>
<td>.867</td>
</tr>
<tr>
<td>PI</td>
<td>187</td>
<td>.071</td>
<td>.208</td>
<td>2.622</td>
</tr>
</tbody>
</table>
This table of coefficient has four columns of unstandardized coefficients, standardize coefficients, t value, and significant value. Table shows that value of (CBB), (PI) and (FA) are significant on different levels CBB at 0.000 highly significant, (PI) is at .010 and (FA) is at .006. The t values of CBB, PI and FA are 3.785, 2.622 and 2.819 respectively. These three variables have a significant impact on the dependent variable. How much change occurs in the dependent variable through the independent variable which is indicated through unstandardized Beta value. So, CBB will cause .282 means 28.2 % impact on dependent variable, PI will cause .187 means 18.7 % impact on dependent variable and FA cause .257 means 25.7 % impact on dependent variable. Therefore, CBB, PI, and FA have positive impact on the credit card usage in Pakistan.

**Conclusion**

In this portion of the study, the results are compared with the previous study to reach on a conclusion. It is stated by (Solomon, 2007) that in credit card balances, impulsivity is a significant independent variable. Results are contradictory to the previous research because there is no significant impact of impulsivity found on credit card usage. Stated by many authors like (Roberts and Jones, 2001) that significant relationship exists between compulsive behavior and credit card usage. In this study, results are similar to the previous study. There is also a significant impact of compulsivity on credit card usage.

Joo et al, (2003) stated that those individuals whose parents use more credit cards are more influenced by them. In this study, there is also a significant impact of parental involvement on credit card using. These results are consistent with the previous studies. In previous results, social status has a significant relationship with credit card usage as stated by Limbu et al. (2012) that materialism and social status have significantly affected the credit card debt but not a significant impact on a number of credit card use. However, in this study, there is no significant impact of social status on credit card usage. Similarly, Plunkett & Buehner, (2007) argued that locus of control was as the strongest independent variable as students credit card balances. In this study, there is no significant impact of locus control on credit card usage. Another result stated that distress is directly proportional to debt but distress is not associated with the numbers of credit cards a person owns. Gross and Souleless, (2002), stated when credit increase that automatically causes a significant rise in debt. In this study, there is also a significant impact of financial distress and credit card usage. Hence, results are consistent with past results. In financial matters, religiosity is not a significant factor. Many Muslims are not considered religiosity when they come to businesses (Souiden and Rani, 2015). There is no significant relationship between a credit card and religiosity. In this study too, there is no significant impact of credit card use and religiosity. The results are consistent with the past studies. At the end, Pulina, (2011) and Putit & Johan, (2015) observed that there is a fine relationship between credit card usage and consumer attitude but in this study, there is no significant impact on credit card usage by the consumer attitude. Therefore, this study concludes that there is a significant impact of parental involvement and compulsivity on credit card use. Religiosity, impulsivity, and religiosity have no significant impact on
credit card use. This study is applicable to the banks. Though, this study is done on a very small scale but can be extended to larger scale. It is recommended that Banks’s offerings of plastic money should be more attractive and innovative.

References


Enigmatic Role of Female Directors on Boards towards Corporate Performance: An Empirical Study

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ARTICLE DETAILS

ABSTRACT

History
Revised format: Mar 2021
Available Online: Apr 2021

Keywords
Corporate performance, female directors, enigmatic role, Pakistan

JEL Classification
M0, M1

Purpose: The presence of female members on boards is quite enigmatic. Almost every academic author argues that female directors’ contribution in the board room is positive and significant, and their presence, improves organizational performance. This study purpose is to figure out the link between female members and organizational performance. Design/Methodology/Approach: For the purpose, Partial least square method of regression is used to develop the relationship. The measurement and structural model and theories are used to codevelop the formative constructs. Secondary data is used and collected from Pakistan stock exchange. Those KSE-100 companies are used in which female directors were there in any year from 2005 till 2012. Findings: The results reveal that there was a negative relationship, empirically, which strengthened the notion that female directors in Pakistan are just the cosmetic face of board of directors and more female directors on board hinder the firm performance. Female members on the board had negative impact on the financial measures of return on equity and assets turnover. Implications/Originality/Value: This study is helpful for the businesses in Pakistan to rely and utilize the knowledge, innovative skills and experience of female directors rather than to fill the seat as a regulatory requirement.

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Introduction
Directors on board have to make strategic decisions, comprising of finance, capital structure and investment (Liu et al., 2015). Therefore, it is important to apply different governance structures because it is argued that varying governance structures yield better firm performance (Low et al.,
Board diversity means directors having demographic characteristics in terms of age, experience, qualification, personality, values, colour, race and gender (Williams, 2000). Among them, the most important are the race and gender that have the attention of researchers and organizations (Daily et al., 1999). Gender diversity of the board is an important issue in the contemporary research on corporate governance and researchers intend to find out the impact of female directors on enhancing corporate performance, attaining access to a large talent pool and consolidating the corporate governance (Low et al., 2015). The distinguishing abilities and knowledge of female directors also contributed to the boards. Women have different experiences of the workplace, public services and community. Boards with women are significantly more active in boosting customer satisfaction, employee satisfaction, and gender representation, along with considering innovation and company communal responsibility (Low et al., 2015).

Similarly, there are number of studies proponents to the notion that female directors must be present on boards because they may enhance firm performance as shown in the studies of Abdullah et al. (2012) and Low et al. (2015). However, on the other side, some studies remained unable to develop any link between female directors’ performance on board and overall firm performance. Female directors had no relationship with the firm performance when Shukeri et al. (2012) tested the female role with firm performance. Adams and Ferreira (2009) concluded that the female presence on board had negative impact on firm performance. Therefore, due to the mixed results of previous studies, it is decided to conduct this research in the context of Pakistan. Hence, the objective of the study is to find out an association between women directors and company performance. This study posits the hypothesis as:

Hypothesis: There is a significant positive relationship between female board directors and firm performance.

Literature Review
There are good reasons in favour of women directors. It is argued that Women have unique innovative abilities to bring in the board for long term decision making (Dezs and Ross, 2012). Moreover, Bilimoria (2006) claimed that female members of the board are more likely to generate mentoring role, especially for the female employees and became a powerful source of hiring and retaining female employees. In the same way, Williams (2003) stated that female directors are more concerned for charity work and community welfare. They are more open and good communicator, have better understanding of effective monitoring and implementing organization strategy.

In addition, some pragmatic studies showed that firm performance can be enhanced and improved by adding female directors on board. Nguyen et al. (2015) found a marginal robust relationship of gender diversity on corporate performance of 120 firms in Vietnam for the years 2008 to 2011. They concluded that as the number of female directors’ increase on board, the firm performance also increases, however, when female size crosses the 20% of the total board size, then the firm performance started to decline. Low et al. (2015) studied four countries of East Asia, Singapore, Hong Kong, Malaysia and South Korea and found that female presence on the board results in the higher corporate performance of return on equity. However, they also concluded that board diversity benefits could be eliminated in those countries where female have more economic empowerment. They also warned that
mandatory gender quota in the boards may reduce corporate performance if female directors are appointed based on tokenism and familial relationship. Terjesen et al. (2015) studied 3876 firms of 47 countries and found that firms with more female directors have a higher firm performance by Tobin’s q and return on assets. Liu et al. (2014), using data from China, also concluded that firms with more female directors performed well as compared to the firms with less female directors. Lückerath-Rovers (2013) examined firms from the Netherlands and declared that firms with female directors performed better than those firms that did not have female directors. After having conducted analysis of 841 firms in Malaysia, Abdullah et al. (2012) showed that female directors had positive impact on ROA of firms, however, they did find a negative relationship with Tobin’s q. Similarly, Julizaerma and Sori (2012) found a positive association of gender diversified board and firm performance in Malaysia.

Nevertheless, studies can be found in literature that were unable to find any relationship between the females' presence on boards and corporate performance or even if they found it to be negative. Haslam and Ryan (2008) found that female directors’ presence on board did not have any impact on firm performance. Carter et al. (2010) failed to identify any link between female boards and corporate performance when studied S&P 500-index firms. Bøhren and Staubo (2014) mentioned that the law, forcing firms to have 40% females on their boards, may result in board inefficiency. Ahern and Dittmar (2012) stated that presence of compulsory 40% female directors in Norway yields a negative value for the firms, which is a result of incompetent and younger females. Darmadi (2011) showed that female presence has a negative impact on return on assets and Tobin's q in Indonesia. He concluded that female presence was a result of operating family business instead of female knowledge and skills, hence declining corporate performance. Adams and Ferreira (2009) concluded that the female presence on board had negative impact on firm performance when they investigated US firms. According to the findings of Catalyst (2011), of a sample of 4,200 private firms from 45 countries, women hold only the ten percent of board positions which is not in accordance with women’s education, accomplishments and performance in the labor market (Haveman and Baresford, 2012).

Theoretically, resource dependence theory suggests that large and diversified board can help the firms to improve its link with external networks and communication channels to secure and acquire its critical resources (Hillman and Dalziel, 2003). In other words, diversified boards might have benefits in gaining important resources; human capital, i.e., knowledge and skills of directors, guidance and advice, networks of communication; and legitimacy (Liu et al., 2014). Supportive to this theory, Hillman et al. (2007) found that female directors gained legitimacy as female equality and empowerment was recognized as a social value and the norm in the society. Moreover, board gender diversity helps to increase board reputation and is helpful to the firm performance as described by the resource dependence theory that provides substantial arguments in favour of board diversity (Carter et al., 2010). In Pakistan, Yasser (2012) declared that no significant link is found between board gender and corporate performance when he examined the KSE-100 indexed firms for the years 2008-2010. However, Mirza et al. (2012) showed a negative relationship between female on board and firm performance.

Therefore, this is a good opportunity to study this link in the context of Pakistan, thus, keeping in view all the above factors and varied literature, this study goes with the notion that women on board positively affect the company’s performance.

**Method**

The sample for this study is the Pakistan Stock Exchange 100 index (KSE-100) firms. These firms are main firms of Pakistan and account for a wide range of business activities and
economic output. The KSE-100 index comprises of 1 firm each (highest market capitalization firm) from all sectors in stock exchange and remaining firms picked on highest market capitalization ranking, without any consideration for the sector, to make a sample of 100 common stocks. Furthermore, only those companies are selected which have female board members in any year from 2005 to 2012. Hence, 186 firms are selected which had female board members (total number of female directors were 287) during this time period. The following table 1 shows the definitions and measurement of variables in study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female directors on board (B-FEM)</td>
<td>The number of female directors on board measures the board of directors' female directorship (Liu et al., 2014).</td>
</tr>
<tr>
<td>Return on total assets (ROA)</td>
<td>Operating profit divided by a total number of assets measures the return on total assets (Gaur et al., 2015). This ratio measures the efficiency and utilization of total assets to generate profit.</td>
</tr>
<tr>
<td>Return on equity (ROE)</td>
<td>Pretax profit divided by the total book value of equity measures the return on equity. It measures the ability of a firm to generate profits from its shareholders' investments in the company.</td>
</tr>
<tr>
<td>Total assets turnover (ATO)</td>
<td>Total net sales divided by total book value of assets measures the total asset turnover.</td>
</tr>
</tbody>
</table>

In this study, Partial Least Square approach (PLS) is used for analysis of data and it is a statistical path modeling technique. The PLS path model consists of two elements, namely Structural model and Measurement model. The structural model represents the constructs (blue circle or oval above) and the path between them. The measurement model represents the relationship between constructs and their indicators. Path models are developed based on the theory. Two types of theory are required to develop a path model: measurement theory and structural theory (Hair et al., 2014). Measurement theory specifies how the latent variables are measured. If the latent constructs are responsible to make changes in the indicators, it is called a reflective measurement model. However, if indicators make changes in the latent variable or they form that latent variable, it is called a formative measurement (Hair et al., 2014).

Analysis and Discussion
In this study, the formative measurement model approach is used as for corporate performance studies. Hair et al. (2010) and Tan et al. (2007) were of the opinion to practice the measures of financial performance, e.g., sales, revenue, expenses and profit as formative indicators. The mathematical equations for this this study are shown in following table 2.

<table>
<thead>
<tr>
<th>Measurement model equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\xi_1 = \gamma_{B-FEM} \cdot B-FEM + \zeta$</td>
</tr>
<tr>
<td>$\eta_1 = \gamma_{ATO} \cdot \xi + \gamma_{ROA} \cdot ROA + \gamma_{ROE} \cdot ROE + \zeta$</td>
</tr>
<tr>
<td>Structural model equation</td>
</tr>
<tr>
<td>$\eta_1 = \beta_1 \cdot \xi + \zeta$</td>
</tr>
</tbody>
</table>

Descriptive Statistics
The descriptive statistics shows that Female board members are a negligible part of the board that forms, for example, only 6.4% in 2012, 5.5% in 2011 and 5.3% in 2005, of the total board size. Females are 52% of the total population of Pakistan and their academic performance in all fields is better than the males so the firms must consider hiring more
females in order to get benefits from their knowledge and innovative skills (Terjesen et al., 2015). The table 3 also shows that 61.5% firms had only 1 female director on board and only 1 firm had 5 female directors on board.

Table: 3

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>B-FEM</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>115</td>
<td>1</td>
<td>61.5</td>
<td>61.8</td>
<td>1.543</td>
<td>0.8258</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>2</td>
<td>26.7</td>
<td>26.9</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>4</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>186</td>
<td>1</td>
<td>99.5</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>System</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Partial Least Square Analysis

This analysis starts with the evaluation of measurement model, which depends upon the nature of indicators either reflective or formative. The formative measurement model requires collinearity among indicators and significance of outer weights (Ringle et al., 2010). In measurement model, the validity of indicators is tested by calculating the significance of weights of each formative indicator to its construct with the bootstrapping option (Hair et al., 2014). Hence, Bias-Corrected and accelerated (BCa) bootstrapping approach with 5000 resamples in SmartPLS 3.2.2, is used to determine the significance of each indicator weight to its related constructs to measure the validity in the measurement model. The result of measurement model is shown in table 4.

The indicators of corporate performance ROA, ROE and ATO have been used in the prior business studies (Gaur et al., 2015; Haider et al., 2015; Liu et al., 2015). The outer weight of ROE remains significant at $\alpha = 0.05$ level, and the outer weight of ATO is significant at $\alpha = 0.10$ level, however the outer weight of ROA is insignificant at $\alpha = 0.128$ level.

The next step is the structural model analysis which consists of collinearity check, the significance of path coefficients, the level of $R^2$, the $f$ effect size (Hair et al., 2014). The structural model is shown in figure 1.

![Figure 1](image)
In above diagram, the relationship between B-FEM and CP constructs is negative. The significance of path coefficient (β) is determined through running, Bias Corrected and accelerated (BCa) bootstrap approach of 5000 resamples and the results along with R², adjusted R² and f² values are shown in table 5.

<table>
<thead>
<tr>
<th>Path coefficient</th>
<th>T value</th>
<th>P value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F²</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.229</td>
<td>2.880</td>
<td>0.004</td>
<td>0.053</td>
<td>0.047</td>
<td>0.055</td>
</tr>
</tbody>
</table>

The table 5 shows that the negative relationship between female directors on board and firm performance is significant at α = 0.01 level. However, the small value of R² depicts that the negative impact of adding more and more women directors on company performance is just minimal i.e., 5.3%.

Conclusion

It is important to understand the role of female directors in productivity and profitability aspect of the firm performance. Female directors are positively related to the productivity i.e., ATO (though significant at 10%), however, they are negatively related to the profitability of the firms i.e., ROE and ROA. It may mean that female directors who have exposure and experience contribute, somehow, in the board meetings and are helpful in operational activities to enhance productivity but unable to have a positive impact on the profitability of the firms. Female negative contribution (α=0.05) towards corporate performance (profitability) is as the same as shared by previous studies of Shukeri et al. (2012); Adams and Ferreira (2009), who concluded that the female presence on board had negative impact on firm performance.

The possible reason of the negative contribution of female directors may be the fact that female directors in Pakistani firms are appointed based on ‘tokenism’ and the familial relationships, and not based on their expertise, knowledge and skills (Low et al., 2015). However, different countries like Norway, Denmark, France and Brazil have legislation for the firms to include female directors (30% to 40%) on the board which shows the promising role of females in developed countries to improve governance structure in the organizations. For future researchers, it is recommended to investigate the impact of female directors on other variables like intellectual capital performance and the mediating role of female directors’ characteristics or attributes on improving their relationship with firm performance. Another way is to use any other statistical method except regression to understand the limitations of the regression model.

References


Organizational Form to Avoid Board Upheaval. *Journal of Corporate Finance*. 28, 152–168.


Student’s Perception and Expectation Regarding Library Services Quality: A Case Study of a Public Multi Campus University of Punjab, Pakistan

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ARTICLE DETAILS

ABSTRACT

Purpose: The disparity between students’ perceptions and expectations is measured in this study to determine the perceived service quality (SQ) of sample university’s academic library units.

Design/Methodology/Approach: Under the typology of quantitative approach survey method was used. The SERVQUAL instrument consisting of 22 items was adopted for assessing student’s expectations and perceptions. The students enrolled in regular programmes of the academic year 2013-2014 were taken as population. Using stratified random sampling through proportional allocation, a sample of 372 respondents was designed. Data were analyzed quantitatively using descriptive statistics and qualitatively using NVIVO software for content of open-ended questions.

Findings: The results revealed that student’s expectations were higher than their perception.

Implications/Originality/Value: Based on the findings, it was concluded that the concerned authorities may take initiatives to improve the library services provided by the library staff. In this way the students’ expectations can be met.

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Introduction

Over a few decades, the function of libraries has simply been revolutionized from the warehouse of books and other physical objects to information centers of access to databases in the advanced countries. Now, the main purpose of libraries and information centers is to provide a service to its...
According to Ameen (2005) “increasing the size of the collection has been aim of libraries and considered a sign of greatness” (p.113). Until 19th century the aim of the libraries was to build and maintain big collection of books, manuscripts, pamphlets and magazines, etc. but their use was not considered important.

During the late 19th century librarians began to understand that the collection should be used for the personal help of users. Green (1876) was the first to present this notion. The Classical Five Laws of Ranganathan (1931) provided the user-centred philosophy that ‘books are for use, every reader his or her book, every book its reader.

The role of a librarian is the mediator between user and library material. So, the librarian should serve the good of humanity by using library material (Cooke, 2004). Thus, the libraries have changed from the collection-centred to user-centred. Now the central purpose of libraries is to provide services to its users rather than simply the warehouse.

Rubin (2017) emphasized that the main change on the part of libraries began from 1980s after the invention of digital media like CD-ROM, OPACs, issue return and acquisition systems (p.64). The uprising of information was activated with the growth of computers and internet.

Meanwhile the cultural and financial changes around the libraries have a direct influence on the function of libraries. During the past forty years the function of the libraries has changed due to change in cultural environment. The programme of user care and satisfaction, reduction in public expenses was combined with financial decline in the 1980s (Crawford, 2006).

Due to fast advancement in technology, user’s needs of information and expectations concerning the quality of library services has been multiplied. Now librarians and other library staff must have a proper classification and collection of books and provide required services to the users. Cultural and financial changes put multiple pressures on libraries to evaluate analytically SQ and show their value in relation to funds spent on them.

Service Quality is a 1990’s phenomenon originated in the business and industry. The concept of SQ has been used in the service-oriented organizations including health, higher education institutions and libraries. The word “quality” has no single definition due to its numerous dimensions.

According to Evans and Lindsay (2004), the most common definition of SQ accepted by service marketing researchers is “Meeting or exceeding customer standards. The two important dimensions are objective quality and perceived quality. The perceived quality is user’s judgement about the total quality of a service. The opinion of user is ranked significant for the evaluation of SQ.

According to Parasuraman et al. (1985), SQ perceptions came from contrast of user’s expectations against perceptions. Mathematically this relationship can be best explained as;

\[ Q = P - E \]

Where \( Q \) = service quality, \( P \) = users’ perception about service quality, and \( E \) = users’ expectations about service quality.

For the analysis of perceived service quality performance, Darden (2000) divided the findings of this discrepancy into four groups i.e. 0 to -1; -1 to -2; -2 to -3; and -3 to -4.

As per up-to-date information library management systems and the struggle from stake holders
i.e. publishers, digital and Internet media, libraries are facing crises of existence and growth. A big variety of the studies in this field has revealed that the libraries face following contests under present day scenario:

Ever increasing user’s expectations
Increasing usage of information technologies
Advancement of information technology
Explosion of knowledge
Struggle among suppliers and industries

The libraries have to evaluate their SQ, if they want to encounter the above-mentioned contests. In this way, the libraries will be able to understand whether they are meeting user’s demands and expectations or not. The librarians are exercising marketing strategies to understand user’s demands and desires, plan quality services, fulfill expectations and distribute the user-oriented services,

Assessing SQ is the first step in keeping customers in today’s competitive environment, according to Cullen (2001). Evaluation of SQ contributes towards discovering SWOT regarding delivering quality library services. If the libraries want to provide quality library services, the evaluation of user’s perceptions and expectations has a major part. Librarians have to take measures to improve their services and meet the expectations of the users.

Seay et al. (1996) stressed that users are only the stakeholders to evaluate the SQ. Users are better evaluators of SQ rather than the librarians, library patrons etc. Library holds duty which may confirm that it not only provides better services but also it fulfills the need of users. So a good library should be updated keeping in view the SQ and user satisfaction. Under the present circumstances the libraries especially the university libraries should evaluate their services to recheck their strengths and weaknesses.

Libraries are regarded as the ‘Heart of Universities. The foremost objectives of a university are to provide education and produce research scholars. Therefore, the university libraries are bound to provide relevant information needed to their users involved in research activities.

It has become the prime responsibility of librarians to understand student’s ever-changing needs and to offer correct and ready delivery of information to facilitate the process of education and research.

Pritchard (1996) stated that developing countries are moving ahead from the evaluation of SQ of libraries towards delivering quality services and ultimately incorporating principles of TQM into library management. So, the understanding regarding evaluation of library SQ in developing countries is rising gradually. In Pakistan an attempt was made by the researchers in the field of TQM to assess the quality of university library services by using SERVQUAL (Awan et al., 2007).

According to Naz (2006); Saeed & Ramzan (2003); Samina (1991); and Samreen (2006), the following surveys on user satisfaction and studies on evaluation of total library SQ as well as specific library SQ have been organized in Pakistani Universities:

Reference Services
Reader’s services
Availability of library material
Usability of OPAC
The present study was conducted to evaluate SQ of the sample university Libraries. According to Higher Education Commission (2015) statistics, there are 153 universities in Pakistan. Majority of these Universities have modern library material. University of Education was established in the year 2002. It currently offers 25 degree programs ranging from B.Ed. to Ph.D. in its three Divisions and ten Campuses, and plans to offer additional programs as part of its continual expansion (University of Education, 2015).

The sample university produces dynamic leaders and practitioners in the field of teaching, research, and management. There are total 17,700 Students enrolled in academic programmes offered by the University.

The sample university has no main library. However, its campuses and divisions have their own libraries. The University has started numerous new programmes during the last 5 years, the number of students has increased, but the setup of libraries of the university remained the same. Students are not satisfied with the facilities provided and allocation of the library staff. So the importance of knowing the perceptions and expectations of students regarding the SQ of libraries.

Under the changing environment it is not enough to evaluate quality of traditional indicators such as size of collection of library material, number of library staff, and library budget only. New techniques of evaluation have been developed to better determine SQ of libraries. The past researches has indicated that there are number of techniques for evaluating the SQ of libraries such as user surveys, interviews, observational techniques, check lists and suggestion box. Some tools for evaluation have been developed mainly in business and trade area such as SERVQUAL and SERVPERF.

SERVQUAL has been used both in profiteering and non-profiteering organizations. This study has been organized to judge the student’s perceived SQ of university libraries using SERVQUAL. Although SERVQUAL can be modified to evaluate SQ of specific library services; however, SERVQUAL has been adapted for the evaluation of overall SQ of libraries.

To judge students’ expectations regarding ideal library services and perceptions of actual library performance, a seven-point, semantic differential scale has been used to get the response for 22 statements regarding different aspects of quality library services.

Statement of the Problem
The discussion mentioned above revealed that it is need of the hour to evaluate the library SQ due to emerging information communication technology and rising expectations of library users. The evaluation of SQ in libraries does not have much research work in its credit. Therefore, there is need to evaluate the SQ of libraries.

Objective of the Study
To study the SQ by calculating the gap between the students’ perceptions and expectations and hence giving recommendations for the improvement of the services of the university libraries.

Rationale and Significance of the Study
This research work will explore the perceptions and expectations of students regarding library facilities and services. This will also expose the SWOT analysis of library services and offered valuable data for librarians for further improvement of SQ. It will be important for librarians to change and set the focus and direction of library services to meet student’s demand.
It is expected that university libraries may benefit from the findings of this research work in discovering user’s expectations, analysing service polices, and reconsidering resource allocations.

**Delimitations**
The present study included all 10 campuses and 3 divisions of the the sample university offering different programmes. The study delimited to bachelor and master level students because of time and financial constraints.

**Methodology**

**Population and Sampling**
Morning students of bachelor’s and master’s programs of session 2013-14 were used as population (N = 5163) of the study. Stratified proportionate random sampling technique was applied to determine the sample size (n = 372). Four different programmes offered by the university were taken as strata.

<table>
<thead>
<tr>
<th>Program Categories</th>
<th>No. of Total Students</th>
<th>Selection of students as sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBA</td>
<td>700</td>
<td>50</td>
</tr>
<tr>
<td>Education &amp; Special Ed</td>
<td>2539</td>
<td>182</td>
</tr>
<tr>
<td>Fine arts and social sci</td>
<td>821</td>
<td>60</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>1103</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5163</strong></td>
<td><strong>373</strong></td>
</tr>
</tbody>
</table>

**Note.** Yamane (1967) Sample Size = \( n = \frac{N}{1+(e)^2} \)
Where N = size of Population e = margin of error = 1 – confidence interval = .05 Confidence Interval = 95%

**Data Collection**
A self-completion questionnaire based on the SERVQUAL pattern was used to collect data for evaluating students’ preferences and perceptions. As per the suggestion of Babbie (2002) for proper survey research design, both structured and unstructured questions should be included. Closed-ended questions rated using seven points scale with (1 = extremely good) to (7 = extremely poor). Questionnaires were distributed directly to the target students. The response rate was almost 80% (296 out of 372).

**Analysis of Data**
The questionnaire was consisting of three sections: demographic questions, closed-ended questions consist of 22 items, and open-ended questions. The researcher used SPSS version 20 for analysis of data. Whereas for open-ended questions, content analysis was performed using N-Vivo 10 for windows.

**Demographic Analysis**
According to results of demographic data, the females dominated (72.3%), age group 18–27 years (99.7%), students of bachelor’s level (53.4%), in education/special education program (46.3%), and who do visit library once in a week (35.8%).

**Expectations and Perceptions of students regarding SQ of Libraries**
Expectations are the demands of users regarding library services while perceptions are the beliefs of users regarding library services (Parasuraman et. al., 1988). The data reflect students’
expectations of library services lingered on higher side within a range of 5.02 to 5.46 (mean value = 5.28) with standard deviations from 1.52 to 1.92.

Students' perceptions were described by Hernon and Altman (1988) as impressions created from library interactions about the library services given to them. Students’ perceptions about library services were on lower side within a range of 3.35 to 4.03 (mean value = 3.68) with standard deviations from 1.61 to 1.93. Item ranks with respect to mean values of expectations and perceptions are also given in descending order.

Last column in table 5 conveys gap between perceptions and expectations. Values of these gaps are between -1.33 and -1.88 (mean gap = -1.60).

### Table 2
Analysis regarding SQ Attributes

<table>
<thead>
<tr>
<th>SQ Attributes</th>
<th>Expectations (E)</th>
<th>Perceptions (P)</th>
<th>P-E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Appearance and dressing of library staff</td>
<td>1</td>
<td>5.46</td>
<td>1.76</td>
</tr>
<tr>
<td>Provision of library services</td>
<td>2</td>
<td>5.46</td>
<td>1.62</td>
</tr>
<tr>
<td>Library staff is consistently polite</td>
<td>3</td>
<td>5.46</td>
<td>1.64</td>
</tr>
<tr>
<td>Convenient Library Timings</td>
<td>4</td>
<td>5.45</td>
<td>1.78</td>
</tr>
<tr>
<td>Performing of library services for students</td>
<td>5</td>
<td>5.41</td>
<td>1.53</td>
</tr>
<tr>
<td>Students are assured regarding accuracy and confidentiality library services</td>
<td>6</td>
<td>5.39</td>
<td>1.56</td>
</tr>
<tr>
<td>First hand provision of library services</td>
<td>7</td>
<td>5.33</td>
<td>1.67</td>
</tr>
<tr>
<td>Reliability in solving students service problems</td>
<td>8</td>
<td>5.32</td>
<td>1.67</td>
</tr>
<tr>
<td>Providing service at the promised time</td>
<td>9</td>
<td>5.30</td>
<td>1.74</td>
</tr>
<tr>
<td>Willingness of library staff to help students</td>
<td>10</td>
<td>5.29</td>
<td>1.74</td>
</tr>
<tr>
<td>Library Staff who have the student’s best interest at heart.</td>
<td>11</td>
<td>5.29</td>
<td>1.72</td>
</tr>
<tr>
<td>Students’ queries are answered by the skilled and knowledgeable library staff</td>
<td>12</td>
<td>5.26</td>
<td>1.7</td>
</tr>
<tr>
<td>Giving students individual attention</td>
<td>13</td>
<td>5.25</td>
<td>1.65</td>
</tr>
<tr>
<td>Up to date equipment in the library</td>
<td>14</td>
<td>5.23</td>
<td>1.74</td>
</tr>
<tr>
<td>Dealing Students in caring fashion</td>
<td>15</td>
<td>5.23</td>
<td>1.63</td>
</tr>
<tr>
<td>Library maintains error free students and library material catalogues</td>
<td>16</td>
<td>5.22</td>
<td>1.71</td>
</tr>
<tr>
<td>Respond to student’s queries by the library staff</td>
<td>17</td>
<td>5.21</td>
<td>1.61</td>
</tr>
<tr>
<td>Library staff understands the needs of their students</td>
<td>18</td>
<td>5.15</td>
<td>1.81</td>
</tr>
<tr>
<td>Timely provision of library services for students</td>
<td>19</td>
<td>5.15</td>
<td>1.52</td>
</tr>
<tr>
<td>Students’ problems regarding library services are solved</td>
<td>20</td>
<td>5.12</td>
<td>1.92</td>
</tr>
</tbody>
</table>

Physical facilities are aligned with the services provided by the libraries.
Visually appealing physical facilities

<table>
<thead>
<tr>
<th></th>
<th>Mean (SQ)</th>
<th>STD</th>
<th>N</th>
<th>Mean (SQ)</th>
<th>STD</th>
<th>N</th>
<th>Gap (SQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>5.09</td>
<td>1.68</td>
<td>21</td>
<td>3.76</td>
<td>1.62</td>
<td>-1.33</td>
<td></td>
</tr>
<tr>
<td>Visually</td>
<td>5.02</td>
<td>1.75</td>
<td>22</td>
<td>3.54</td>
<td>1.71</td>
<td>-1.48</td>
<td></td>
</tr>
</tbody>
</table>

Service Quality (SQ)
In terms of differences, all 22 elements may be classified as category B(-1 to 2), which denotes “a marginally positive or neutral overall consistency of the relationship and satisfaction with the service. A lot of work needs to be done on this relationship right now.

Academic Level (Cross-tabulation)
Cross-tabulation of two major categories show that bachelor’s students have higher expectations but similar perceptions about library services as compared to master’s degree students. Quality gap for bachelor’s students and master’s students remained -1.7 and -1.4 respectively.

Table 3
Response of students’ expectations and perceptions based on academic status

<table>
<thead>
<tr>
<th>AS</th>
<th>M (E)</th>
<th>M (P)</th>
<th>G (P-E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>4.4</td>
<td>2.7</td>
<td>-1.7</td>
</tr>
<tr>
<td>Masters</td>
<td>4.1</td>
<td>2.7</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Note. M (E)= Mean Expectation M(P)=Mean Perception G(P-E) = Gap (Perception-Expectation)

Overall SQ
Overall service quality of library was measured through seven-point scale (1 = extremely poor to 7 = extremely good). It was found that 37% students were dissatisfied, 42% are undecided, whereas only of 21% students are satisfied with the services provided by the university library.

Table 4
Overall Service Quality

<table>
<thead>
<tr>
<th>7 Point Scale</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Poor</td>
<td>38</td>
<td>12.8</td>
<td>Zone of dissatisfaction</td>
</tr>
<tr>
<td>Very Poor</td>
<td>32</td>
<td>10.8</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>39</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>Undecided</td>
<td>125</td>
<td>42.2</td>
<td>Neutral</td>
</tr>
<tr>
<td>Good</td>
<td>27</td>
<td>9.1</td>
<td>Zone of satisfaction</td>
</tr>
<tr>
<td>Very Good</td>
<td>26</td>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td>Extremely Good</td>
<td>9</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>296</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Examining the Expectations of Students
Students were asked to mention any other aspirations they had in an open-ended query. Only 123 people (out of a total of 296) replied to the issue. Open ended questions have a lower answer rate (42%) than closed ended questions. NVivo software was used for qualitative data analysis. The data collected through interviews were transcribed and entered into software. Data were further classified into parent and child themes. Following were the parent themes of the data.

Physical facilities provided by the libraries
Collection development
Infrastructure maintained by library
Appearance and dressing of library staff
Timings and other miscellaneous expectations.

Conclusion
Based on the qualitative findings, it was concluded that the most important library SQ expectations for students were; Staff who are well-dressed and attractive, who provide facilities as expected, and who treat students with respect. Students have a positive impression of library hours that are convenient. The SQ attributes which were perceived somewhat well were that library staff was well dressed and appeared neat. The staff had been providing good services to the library users.

References


The Effectiveness of Early Childhood Education Program in Public Schools of Punjab

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ARTICLE DETAILS

ABSTRACT

Purpose: The present study aimed to evaluate the effectiveness of the current Early Childhood Education (ECE) Program regarding the facilities provided in Public Schools of Punjab. The study was quantitative in nature.

Design/Methodology/Approach: The study was quantitative in nature. Eleven districts out of fourteen districts of central Punjab were selected randomly. A self-developed checklist was deployed to collect data from public ECE schools of Punjab through a convenient sampling technique. The reliability of the checklist was measured through the pilot study with the Cronbach alpha value of 0.78. Quantitative data were analyzed through descriptive and inferential statistical techniques.

Findings: Results of this study indicated that there was a shortage of separate allocated ECE rooms, trained ECE teachers, Care-giver, ECE kits, learning corners, teacher-made toys, portfolios, and furnished playgrounds. The results of this study further revealed that on average the enrollment and retention rate of katchi in the year 2018 is higher than the enrollment and retention rate in katchi of the year 2013.

Implications/Originality/Value: This study was a comprehensive report about the ECE program in Punjab which will be very useful and informative for policymakers, administration of the Quaid-Azam Academy for Educational Development, Punjab to modify the program according to the need for achieving goals as well as researchers.

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Introduction

Early childhood Education (ECE) plays an important role in the whole child's development. It is considered a core phase in the holistic development of a child worldwide (Arshad & Zamir, 2018;
The world has committed to spreading it universally by the signatory to Education for All (EFA), Millennium Development Goal (MDGs), Sustainable Development Goals (SDGs), and Universal primary education (UPE) (UNESCO, 2019). Pakistan is making substantial efforts to spread ECE over its territory as a partner of these international commitments regarding ECE (MoE, 2017). ECE is provided in the form of pre-primary education with the name of “Katchi class” for 3-5 years old children in public schools of Pakistan. Pakistan focused on ECE by implementing Article 25-A of the 18th Amendment in April 2010 along with National Education Policy (NEP) 2009; NEP, 2017. Before the implementation of the Single National Curriculum, (2021) national ECE curriculum was designed in the year 2002 and revised in the year 2007 (AEPAM, 2017).

The “Punjab” (a province of Pakistan) is also accumulating extensive steps in spreading ECE over its territory as being the partner of all national commitments. Punjab has become the first province of Pakistan by launching the Early childhood Education Policy (ECEP), (2017) to achieve the settled targets of ECE. Quaid-e-Azam Academy for Educational Development (QAED), schools education department, Government of Punjab, was handed over the responsibility of launching ECE in public schools of Punjab by the government of Punjab in the year 2013 (GoP, 2017). QAED has launched the ECE program with the title “Introduction of ECE in Primary Schools in Punjab with High Enrollment and Improvement of Environment of Schools to convert them into Child-Friendly Schools (CFSs)” in its all 09 divisions and 36 districts since 2013 (QAED, 2018).

However, the anticipated benchmarks for the ultimate goal of 100% enrolment in ECE are consistently underachieved in Punjab. An extensive dropout ratio and a low rate of retention of students at the primary level in public schools are the major problems in Punjab (Bhutta, 2020). The prevailing ECE program could not be proved a source of solution to these problems. There is an enormous gap between policy and implementation in Punjab. Parents are more willing to register their children in private schools due to enormous differences in the provision of facilities between public and private schools (Arshad & Zamir, 2018; Saif, Inam & Abiodullah, 2020).

The increasing demand for early childhood education and less enrollment in public schools has placed question marks upon the given quality in public schools (Ismail & Awan, 2019). Thus, it is the need of the hour to investigate and evaluate the prevailing program in public schools to benchmark the practices. So that the existed differences and deficiencies among the public schools may be explored. Therefore, the present research was intended to investigate the effectiveness of the Early Childhood Education Program in Public Schools of Punjab regarding the physical facilities as well as to find out retention rate and increase in enrollment at the primary level.

Objectives:
The objectives of the study were to:

- Examine the physical facilities of the Early Childhood Education program in public schools of Punjab.
- Compare the enrollment ratios and retention of ECE students.

Research Questions
1. How much is the availability of physical infrastructure for ECE in Public schools of Punjab?
2. What are the benefits of ECE program in terms of increasing the retention rate and enrollment?
Review of the Related Literature

According to the global report of UNICEF, (2017) "Early moments matter for every child, showing the critical importance of the first years of a child's life. A child's brain is 90 percent developed by his fifth birthday, meaning that the foundations for success at school and in later life are already in place". Empirical research has proved that quality early childhood education proved as a change agent to change the adverse outcomes of poverty and it sets a positive cycle of long-life learning (Bailey, Duncan & Odgers, 2017; Boat, Dinnebeil & Bae, 2010; Jenkins & Duncen, 2017; Luby et al., 2013; NAEYC, 2015; Thornton, 2019; UNICEF, 2019). By recognizing the importance of ECE, all the countries of the world have done so many international legislations for the dispersion of ECE e.g. Education for All (EFA), Universal Primary Education (UPE), Millennium Developmental Goals (MDGs), and Sustainable Developmental Goals(SDGs 4). SDG4 is applauded globally, “which ensures inclusive and equitable quality education and promotes lifelong learning opportunities for all. The adoption of SDG 4 offers a compelling opportunity to amplify global support and meet the promise of universal pre-primary education” (UNICEF, 2019). SDG-4 targets about ECE are:

4.1: By 2030, ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes.

4.2: By 2030, ensure that all girls and boys have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education (UNESCO, 2015).

The need of delivering a quality ECE program is advocated by "OECD, World Bank, and UNICEF" based on cost/benefit analyses. The reports of these organizations have ascertained that the quality ECE provides higher rates of human capital return compared to investment at any other stage of life (Allen, 2009; Dahlberg, Moss & Pence, 2007; Hunkin, 2018; UNICEF, 2019). "Quality pre-primary programs can reduce the achievement gaps caused by poverty and help the most vulnerable children keep up with their peers” (UNICEF, 2019). National Association for the Education of Young Children (NAEYC) stipulates that "high-quality education can promote intellectual, language, physical, social, and emotional development, creating school readiness and building a foundation for later academic and social competence" (NAEYC, 2006; NAEYC, 2018). Development of skills (language, math, and social) at an early age can significantly influence the quality of care and education provided to children in ECE programs (Thornton, 2019). The high-quality ECE is a source of the development of critical thinking, collaboration, resilience, and creativity as the modern job market demands (UNICEF, 2019). Pianta, (2011) indicated that the effectiveness and quality of ECE could be enhanced by improving the capacity of ECE educators to enable them to understand the importance of learning through play and activity. NAEYC, (2018) released a list of 10 standards equated to quality early childhood programs, i.e., "Programs are required to meet standards grouped into ten areas: relationships with children, curriculum, teaching approaches, child assessment, nutrition and health, staff qualifications, relationship with children's families, relationship with the community, physical environment, and program leadership and management" (NAEYC, 2018, p. 1).

In the context of Pakistan, Islamic or Quranic education of a child is started at the age of 3 years old in form of three modes: formal, informal, and non-formal. This education is considered compulsory even in the remotest areas and mothers are very concerned to educate their children at an early age (Khan, 2018). It is estimated that 80% of children get an Islamic education between the ages of 3-5 years (Khan et al., 2017). There was the absence of public policies, investments, and commitments regarding ECE till the 1990s in Pakistan. After the commitment with the world Education Conference 1990 "EFA," ECE became prominent in the eyes of the Government as well as policymakers. Previously, ECE was delivered by a few private elite schools which fee was unaffordable for an ordinal person (Ahmed, 2011; Khan et al., 2017;
Khan, 2018; Syeda, 2016; UNESCO, 2015).


Following are the key features of the National Education Policy (2017);

- Expand, strengthen, and promote universal, comprehensive Early Childhood Education to ensure the holistic development of children to prepare for formal schooling.
- Achieve universal quality primary education covering all the three dimensions/aspects of universalization, i.e., universal access/enrolment, universal retention, and universal achievement by 2020 (MoE, 2017).

At present, there is an alarming situation regarding the performance of Pakistan on the rating scale of GER and NER, which is lagging to its neighboring countries i.e. Sri Lanka, Iran, Indonesia, Vietnam, Egypt, and India (ASER, 2019; UNESCO, 2015; World Bank, 2015).

On the other hand, when we talk about the accessibility of ECE, it is harsh to listen to that still to date, there is not physical accessibility to all children of the nation. People of rural areas as well as in urban areas are not sending their children ages 3-5 to the pre-primary school (AEPAM, 2018; Khan et al., 2017; Khan, 2018; Niamatullah et al., 2017; Shaheen & Abida, 2012). Pakistan is still far away to achieve EFA, MDGs, and SDG4 goals because of having insufficient attention of policymakers as well as planning and managerial departments of the national and provincial levels due to lack of access, poor quality of education, equity, and governance. Other external factors include budgetary constraints and weak management (AEPAM, 2018; Khan et al., 2017; Syed, Asif & Yousaf, 2011; Syeda, 2016; World Bank, 2015). Several types of research have analyzed the ECE program at the national level, and they are at the standpoint that ECE still needs much work to meet international commitments (Arshad & Zamir, 2018; Bhutta, 2020; Hunzia & Nisar, 2017; Ismail & Awan, 2019; Khan et al., 2017; Khan, 2018; Niamatullah et al., 2017; Saif, Inam & Abiodullah, 2020; Syeda, 2016). Policies are made by the statements that what to do but do not deal with who will do and when will do. To answer these questions, and to stop failure in policy, there shall be developed effective implementation framework feedback mechanism (Khan et al., 2017; MoE, 2017). In this current scenario of Early Childhood Education in Pakistan, there is a strong need of streamlining "ECE" for the sake of economy, proper utilization of workforce and benefitting the target group of the children possibly (Bhatti, 2017; Ismail & Awan, 2019; Saif, Inam & Abiodullah, 2020).

Positively, Punjab is the largest inhabited province of Pakistan, with 53 percent the highest enrolment rate in the pre-primary age group (ASER, 2015; Farooq, 2018; Ismail & Awan, 2019). Besides it, ECE is not organized at the international level in Punjab by the administration. According to Arshad and Zamir (2018), Saif, Inam & Abiodullah (2020), Shakeel and Aslam (2019), Naz, Yousaf, and Arshad, (2019) ECE in Punjab are not up to the satisfactory level despite implementing Punjab ECE policy 2017. The primary reason for failure is poor coordination between the School Education Department (SED) and government schools. Schools are lagging in achieving settled targets because of having scarce resources (Bhatti, 2007). According to Sabil, Feroze, and Tong (2017), getting higher ratios of enrollment in ECE is not only the way of achieving settled targets of UPE and other international commitments nevertheless, but the need for the hour is also to retain student's ratios until the completion of primary education. Practically, Punjab has a 40 % drop-out ratio at the primary level up till now.
despite launching the ECE program. The gap is to retain these dropout ratios (GoPb, 2017).

The annual report of Alif Ailaan, (2018) depicts the accomplishment of ECE in Punjab and affirms the implementation of ECE policy, 2017 along with the execution of ECE project by QAED. QAED has established over 5,000 ECE classrooms in government schools across the province. Due to launching the ECE program in Punjab, enormous increase in enrollment (almost over 300,000) has been reported in public schools with more than 5,000 trained teachers and a similar number of caregivers deployed in the ECE centers. QAED has provided ECE kits in the classrooms to facilitate the children. These steps have helped to bring the total enrolment in “kachi” to above 2.4 million children”.

However, despite the initiatives as mentioned earlier, there are still few challenges that need to be addressed at the provisional level, i.e., Lack of school capacity, access and enrollment, low parental engagement, service delivery (teacher recruitment policy) including institutional challenges which include implementation strategy by the head teachers and financial commitment to ECE (ASER, 2019). Out-of-school children (OSC) is another massive bump into the province “Punjab”. PEMIS, 2019 reported 8.27 million children between 5 and 16 years old out of school in the 2013-14 in Punjab. So, there is a strong need to intensify provincial efforts in the provision of physical facilities along with the increasing enrolment capacity and retention of students beyond primary school age (ASER, 2019; I-SAPS, 2016; PMIU, 2019).

Methodology
A survey design was deployed for the identification of physical facilities of ECE in public schools of districts Punjab, i.e. Lahore, Okara, Toba Tek Singh, Gujranwala, Hafizabad, Faisalabad, Pakpatin, Kasur, Shakhupura, Nankana Sahib, Mainawali. Data was collected from 11 districts out of 14 districts of central Punjab through a random sampling technique. A convenient sampling technique was deployed in the selection of schools in the pandemic COVID-19. This study applied a self-made checklist, which was established with the consultation of interventions provided by QAED to measure the physical facilities of ECE in public schools. The reliability of the self-developed checklist was measured through the pilot study conducted in three districts i.e. Lahore, Okara, and Toba Tek Singh. The checklist comprises a list of facilities-based on two categories, i.e., physical facilities and instructional facilities. Physical facilities include boundary walls, toilets, three ECE rooms, ventilated rooms, three ECE teachers, presence of care-giver, clean water, presence of First aid box, chair per child, blackboard, ECE kit, portfolio, decorated ECE classroom (as per QAED instructions), play area, play equipment while instructional facilities deal with the indoor play equipment, display of children’s artwork, presence of Audiovisual aids (AV aids) and accessibility of AV aids to children. Five experts from the relevant field measured the validity of the checklist. The Cronbach Alpha value for the reliability of the checklist was found 0.78 through “Statistical Package for Social Sciences” (SPSS) version 22.

Findings
Collected data were tabulated and analyzed by using different statistical techniques with the application of SPSS version 22.

<p>| Table 1: Descriptions of Districts |
|-----------------------------------|-----------------|</p>
<table>
<thead>
<tr>
<th>F</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lahore</td>
<td>100</td>
</tr>
<tr>
<td>Okara</td>
<td>128</td>
</tr>
<tr>
<td>Toba Tek Singh</td>
<td>100</td>
</tr>
<tr>
<td>Gujranwala</td>
<td>21</td>
</tr>
<tr>
<td>Hafizabad</td>
<td>21</td>
</tr>
<tr>
<td>Faisalabad</td>
<td>29</td>
</tr>
</tbody>
</table>
Table 1 shows the percentage of collected data from the different districts of Punjab. 16.4% of data was collected from the district of Lahore. Meanwhile, data was collected from Okara, Toba Tak Singh, Gujranwala, Hafizaabad, Faisalabad, Pakpatn, Kasur, Shakupura, Nankanashaib and Mianawali: 21%, 16.4%, 3.4%, 3.4%, 4.8%, 4.3%, 1.5%, 2.6%, 8.2% and 18% respectively.

Table 2: Provision of Physical Facilities of ECE in Districts

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary Wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>602</td>
<td>98.2</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>1.1</td>
</tr>
<tr>
<td>Toilets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>602</td>
<td>98.2</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>Clean Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>608</td>
<td>99.2</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>3 ECE Rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>370</td>
<td>60.4</td>
</tr>
<tr>
<td>No</td>
<td>240</td>
<td>39.2</td>
</tr>
<tr>
<td>3 trained ECE Teachers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>43</td>
<td>7.0</td>
</tr>
<tr>
<td>No</td>
<td>567</td>
<td>92.5</td>
</tr>
<tr>
<td>Lighting</td>
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<td></td>
</tr>
<tr>
<td>yes</td>
<td>557</td>
<td>90.9</td>
</tr>
<tr>
<td>No</td>
<td>53</td>
<td>9.1</td>
</tr>
<tr>
<td>Ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>494</td>
<td>80.6</td>
</tr>
<tr>
<td>No</td>
<td>116</td>
<td>19.4</td>
</tr>
<tr>
<td>Painting walls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>221</td>
<td>36.1</td>
</tr>
<tr>
<td>No</td>
<td>389</td>
<td>63.5</td>
</tr>
<tr>
<td>Caregiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>84</td>
<td>13.7</td>
</tr>
<tr>
<td>No</td>
<td>526</td>
<td>85.8</td>
</tr>
<tr>
<td>First Aid Box</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>413</td>
<td>67.4</td>
</tr>
<tr>
<td>No</td>
<td>526</td>
<td>32.6</td>
</tr>
<tr>
<td>Chair per child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>491</td>
<td>80.1</td>
</tr>
<tr>
<td>No</td>
<td>119</td>
<td>19.9</td>
</tr>
<tr>
<td>Black board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>582</td>
<td>94.9</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td>5.1</td>
</tr>
<tr>
<td>ECE KIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>342</td>
<td>55.8</td>
</tr>
<tr>
<td>No</td>
<td>268</td>
<td>43.7</td>
</tr>
<tr>
<td>Portfolio</td>
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</tr>
<tr>
<td>yes</td>
<td>41</td>
<td>6.7</td>
</tr>
<tr>
<td>No</td>
<td>569</td>
<td>92.8</td>
</tr>
<tr>
<td>Room décor</td>
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<td></td>
</tr>
<tr>
<td>yes</td>
<td>368</td>
<td>60.0</td>
</tr>
<tr>
<td>No</td>
<td>242</td>
<td>39.0</td>
</tr>
<tr>
<td>Language corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>20</td>
<td>3.9</td>
</tr>
<tr>
<td>No</td>
<td>590</td>
<td>96.1</td>
</tr>
<tr>
<td>Math corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>16</td>
<td>2.6</td>
</tr>
<tr>
<td>No</td>
<td>594</td>
<td>97.4</td>
</tr>
<tr>
<td>Reading corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>47</td>
<td>7.7</td>
</tr>
<tr>
<td>No</td>
<td>563</td>
<td>91.8</td>
</tr>
<tr>
<td>Art corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>38</td>
<td>6.2</td>
</tr>
<tr>
<td>No</td>
<td>572</td>
<td>93.8</td>
</tr>
<tr>
<td>Science corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>37</td>
<td>5.9</td>
</tr>
<tr>
<td>No</td>
<td>573</td>
<td>94.1</td>
</tr>
<tr>
<td>Outdoor play area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>500</td>
<td>81.6</td>
</tr>
<tr>
<td>No</td>
<td>110</td>
<td>18.4</td>
</tr>
<tr>
<td>Play equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>170</td>
<td>27.8</td>
</tr>
<tr>
<td>No</td>
<td>440</td>
<td>72.2</td>
</tr>
</tbody>
</table>

Table 2 shows the provision of physical facilities of ECE in public schools of Punjab. It shows...
that there was a presence of boundary walls in 98.7% of public schools. While 1.1% of schools did not have boundary walls. 98.7% of schools had the facility of toilets for the children of ECE class. While 1.3% of schools were deprived of this facility for young kids. 99.7% of schools had this facility and .3% of schools did not have clean water. 60.7% of schools had separate rooms allocated for the sections of ECE class. While 39.3% of schools did not have three separate rooms as per the settled requirement of starting ECE class by QAED. 7% of schools had three trained ECE teachers by QAED. While 93% of schools did not have three trained ECE teachers. 91.3% of ECE classrooms had adequate lighting. While 8.7% of ECE classrooms were missing this facility.

There were 81% ECE classroom which had appropriate ventilation system. Although, 19% of ECE classrooms were lagging to this facility. Only 36.2% of classrooms were meeting the settled criteria of the presence of decorated and colorful ECE classrooms as per QAED requirement and 63.8 had not colorful ECE classrooms. 13.8% of ECE schools had hired caregivers privately. While 86.2% of schools did not hire a caregiver for the help of ECE teachers. The provision of the first-aid box for any emergency to ECE kids in ECE classroom was found in 67.7% schools which had it in the office of the headteacher, not in ECE classroom. While 32.3% did not have it not only in the ECE classroom but in the head teacher’s office too. 80.5% of ECE classrooms had the presence of chairs per child in the class of ECE. On the other hand, 19.5% of ECE classrooms were missing this facility for kids. 95.4% ECE classroom had the availability of board in the ECE classrooms. 56.1% of ECE schools had received the ECE kit provided by QAED. While 43.9% of schools had not provisioned ECE kits.

Prepared portfolios of children by ECE teachers were present in 6.7% of classrooms only. On the other hand, 93.3% of ECE class teachers had not prepared it. 60.3% of schools had colorfully decorated ECE classrooms as per QAED’s instructions. While 39.7% of schools had a traditional set up of ECE classrooms. 3.1% of ECE classrooms had language corners as per QAED’s instruction in the classroom. Although 96.7% of classrooms had not followed it.

There were only 2.6% of ECE classrooms that had maintained Math’s corner in the classroom. Although 97.4% of classrooms had missed it. Only 7.7% of ECE classrooms had established a reading corner within the ECE classroom. While 92.3% of ECE classrooms had not established it. There were only 6.2% ECE schools which had art corner within the ECE class. While 93.8% of schools had not this provision in the premises of the ECE classrooms.

There were only 5.9% ECE classrooms with managing science corner as per QAED instructions while 93.9% schools had lagging to this provision. 82% of schools had the presence of ample space for play outside the ECE classroom. On the other hand, 18% of schools had not enough space for outdoor play activities. The provision of play equipment in the playground for ECE children was present in the 27.8% of schools that had some sort of swings fixed in playgrounds but 72.8% of schools had not any type of swings in the playground for ECE children.

<table>
<thead>
<tr>
<th>Table 3: Condition of learning facilities in ECE Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play Material</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Cumulative Percent</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Commented [MZA6]: What is VB, B, G,...
Table 3 shows the condition of learning facilities of ECE in the schools. There were 33.4% ECE classrooms that had bad condition of play material and 31.3% classrooms had a good condition of these play equipment. Whereas, 31% of schools have badly displayed the condition of artwork while 33.8% of ECE classrooms had good display conditions of artwork done by the ECE kids. The presence of quality prepared toys by teachers in the ECE classrooms show that 31.8% of ECE classrooms were badly equipped with teacher-made toys while 31.5% of ECE classrooms had a good type of teacher-made toys. Meanwhile, there were 28.2% of ECE classrooms badly equipped with learning aids. Although 42.3% of ECE classrooms had a good condition of learning aids.

<table>
<thead>
<tr>
<th></th>
<th>EX</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Display of Children's work</td>
<td>VB</td>
<td>82</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>189</td>
<td>44.4</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>206</td>
<td>78.2</td>
</tr>
<tr>
<td></td>
<td>VG</td>
<td>83</td>
<td>91.8</td>
</tr>
<tr>
<td></td>
<td>EX</td>
<td>50</td>
<td>100.0</td>
</tr>
<tr>
<td>Preparation of toys by ECE Teacher</td>
<td>VB</td>
<td>102</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>194</td>
<td>48.5</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>192</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>VG</td>
<td>84</td>
<td>93.8</td>
</tr>
<tr>
<td></td>
<td>EX</td>
<td>38</td>
<td>100.0</td>
</tr>
<tr>
<td>Presence of learning aids in ECE Classroom</td>
<td>VB</td>
<td>89</td>
<td>14.6</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>172</td>
<td>42.8</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>258</td>
<td>85.1</td>
</tr>
<tr>
<td></td>
<td>VG</td>
<td>55</td>
<td>94.1</td>
</tr>
<tr>
<td></td>
<td>EX</td>
<td>36</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>610</td>
<td></td>
</tr>
</tbody>
</table>
Results of the paired-sample t-test in table 4 show that on the average the enrollment of katchi in the year 2018 is higher than enrollment in Katchi of the year 2013 (M[katchi13-katchi18]= -15.22, SD[katchi13-katchi18]= 19.26) at the .05 level of significance (t= -12.294, df= 241, p<.05, r= .66**). On the average the enrollment in class one of the year 2018 is higher than the enrollment in class one in the year of 2013 (M[one13-one18]= -14.81, SD[one13-one18]=16.13) at the .05 level of significance (t= -14.283, df= 241, p<.05, r= .81**).

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 2 one13 - one18</td>
<td>-14.81</td>
<td>16.13</td>
<td>1.03</td>
<td>-16.85 -12.76</td>
<td>-14.283</td>
<td>241</td>
<td>.81**</td>
</tr>
</tbody>
</table>

Table 4: Paired t-test of Enrollment

Note: p<.001*** p<.01** p<.05*

The descriptive analysis shows that enrollment of katchi class in the year of 2018 (M=46.79, SD= 23.45) was higher as compared with the year of 2013 (M= 31.56, SD= 23.12) While retention rate in class one in the year of 2018 (M[one13-one18]= -14.81, SD[one13-one18]=16.13) at the .05 level of significance (t= -14.283, df= 241, p<.05, r= .81).

Table 5: Descriptive analysis of Paired Samples Statistics

<table>
<thead>
<tr>
<th>Mean</th>
<th>N</th>
<th>SD</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 katchi13</td>
<td>31.56</td>
<td>242.00</td>
<td>23.1</td>
</tr>
<tr>
<td>katchi18</td>
<td>46.79</td>
<td>242.00</td>
<td>23.4</td>
</tr>
<tr>
<td>Pair 2 one13</td>
<td>32.90</td>
<td>242.00</td>
<td>24.3</td>
</tr>
<tr>
<td>one18</td>
<td>47.71</td>
<td>242.00</td>
<td>27.1</td>
</tr>
</tbody>
</table>

Note: katchi 13, katchi 18= enrollment of katchi class in 2013 and 2018
One13, one 18= enrollment of class one in 2013 and 2018

Discussion and Conclusion
The perspectives regarding early childhood programs have shifted from just care and supervision of children towards laying an educational foundation for young children for their academic and professional futures (Allgood, 2020). Various researches were conducted to explore the facilities of ECE in Punjab i.e. “(Arshad and Zamir, 2018; Bhatti, 2007; Bhutta, 2020; Shakeel and Aslam, 2019, Naz, Yousaif, and Arshad, 2019). The study conducted by Saif, inam and Abiodullah, (2020) explored the current status of katchi class concerning early childhood education policies and practices in Punjab. The findings stated that “primary schools providing katchi class show a poor and low quality of education which lacks basic infrastructure facilities, trained teachers and a holistic learning environment as instructed in the NCECE”. Another study was conducted by Bhutta, (2020) to measure the availability of physical facilities at ECE classrooms in public schools which highlighted that provision of the classroom environment and physical facilities present at schools has a positive impact on school performance. The findings of his study highlighted the provision of ECE in public schools of Punjab which reported that there are currently missing factors of the quality classroom environment and physical facilities in public schools at a massive level.

The findings of this study highlighted that almost all schools have boundary walls, toilets, and clean water in public schools of Punjab. But the provision of three trained ECE teachers and allocation of three separate ECE rooms, fulfillment of the set criteria of the presence of decorated and colorful ECE classrooms as per QAED requirement, of hiring of caregiver to assist the ECE
teachers, provision of the ECE kit provided by QAED, Prepared portfolios of children by ECE teachers, absence of different learning corners (language corner, math corner, reading corner, art corner, and science corner) within the classroom due to shortage of space in the ECE classrooms, provision of play equipment in the playground, good condition of play material in ECE classroom and well display of the children’s artwork in the schools were not found in the majority of the schools. Furthermore, this study explored that on average the enrollment of katchi in the year 2018 is higher than enrollment in katchi of the year 2013, and on average the enrollment in class one of the year 2018 is higher than the enrollment in class one in the year of 2013. It is also revealed that the retention rate of katchi class in the year 2018 was higher as compared with the year 2013. While retention rate in class one in the year of 2018 2103 was higher as compared with the year of 2013.

Recommendations
Based on the findings of this study, the following suggestions were given:
1. The government should allocate separate budgets and resources for ECE in all public schools.
2. All public schools should be facilitated with trained ECE specialized teachers.
3. Trained caregivers to assist the ECE teachers should be hired permanently.
4. Self-developed Audio-Visual Aids at a cheap price should be prepared by the ECE teachers.
5. Display of children’s artwork should be done properly to motivate the students.
6. Playgrounds should be equipped well with different types of swings.

References


Incorporation of Vision, Knowledge and Creativity in Innovation and Technology Management: Synthesizing a Sequential Model

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**ABSTRACT**

Purpose: The primary objective of the paper is to synthesize the available literature on technology and innovation management in business firms. The study examines and elaborates the sequential relationship between all constructs that ensure innovation and technology management happen in an integrated way.

Approach/Design/Methodology: The study employs a qualitative approach of deductive reasoning, based on the reverse engineering method. Existing literature has been used as secondary data to harmonize the constructs as delineated in the conceptual framework for the research.

Findings: Several empirical and conceptual studies besides academic contributions have reasonably helped to find that innovation and technology management require essential support of creativity, knowledge and leadership vision. Not only a significant relationship exists but a sequential order is also affirmed for the whole process.

Originality / Value: This study presents the mechanism through which organizations can ensure better innovation and technology management. The inclusion of vision, knowledge and creativity in an orderly manner has added another dimension to the subject matter as a new contribution. It will help researchers, academicians and decision-makers to look into the process in a different yet practical manner.

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**Keywords**

Technology, Innovation, Creativity, Knowledge Management, Vision, Leadership

**JEL Classification**

O0, O3

**Recommended citation:** Asghar, W., Rasheed, R. and Niazi, A. A. K. (2021). Incorporation of Vision, Knowledge and Creativity in Innovation and Technology Management; Synthesizing a Sequential Model. *Journal of Business and Social Review in Emerging Economies*, 7 (2), 343-357

**Introduction**

For many years, the importance of innovation and technology management is growing in academia, research and practice likewise. The matter has evolved into a full academic subject due
to its implicit and explicit significance. The reason behind all this development is that organizations especially business firms have identified and discerned innovative ways and means to explore and serve new as well as existing market segments more effectively and efficiently. For this purpose, they may introduce new products or modify the same products including the services. But to let all this happen, there is a need to explore a model to maximize innovation and technological efforts.

Companies concentrating on technology, either in B2B or in B2C markets, are much more influenced by newer technologies. Technology retardation poses serious threats to the sustainability of business firms specifically. Management of technology needs leadership attention to set the stage for completion of a complex process, which entails several constructs. These constructs are leadership vision, cultivation of knowledge culture in the organization, creativity, innovation and technology management itself. Although all these constructs are reflected in existing literature, none of the researchers has focused on an integrated approach for a unified model and process. This study has focused to explore a sequential relationship between these constructs that ensures success for technology management and the resultant sustainability of the organization.

Therefore, the objective of the study is to bring in a theory based conceptual framework, which can be utilized in this era’s business environment. In order to obtain the purpose, the front-end of technology management has been discussed in conjunction with the relevant theoretical background. Then using the reverse engineering methodology, all-important constructs have been identified in the first instance and later on, a relationship has been developed to converge into an integrated sequential model. In the end, the conclusion has been given as an implication of the conceptual framework.

**Literature Review**

The sustainability of any business is the biggest challenge that organizations face from their inception (Gray, 2010). Only those companies survive, for a longer period, which are conscious of innovation and resultant technology adoption. The multilevel framework, and technology and innovation arrangements are theoretically close concepts, which ultimately lead to important consequences and implications for change in technology (Boschma, Coenen, Frenken, Truffer, 2017). A lot many definitions for innovation have produced an equivocalness in the way the concepts of innovativeness and innovation have been operationalized and used in the existing literature about new product development, marketing and management (Garcia & Calantone, 2002). A survey of the literature in the fields of marketing, new product development as well as engineering has given a bit of clarity to the application of these concepts. Nevertheless, a perspective of marketing and technology, as well as macro-micro level has been taken into account while describing innovations.

Innovation is thinking of unique and creative ideas which when implemented produce effective results towards the solution of a problem (Fagerberg, Mowery and Nelson, 2005). To let the innovation prevail, people in the organization must be sufficiently creative to think otherwise than the prevailing mindset. Creativity can be described as an activity of transforming ingenious thoughts into reality. In other words, it is the mental ability to conceive the world in new and different ways, to discover obscure patterns, and to establish connections between apparently uncorrelated phenomena, and to find out solutions for seemingly unresolvable problems. Having the capacity to think and produce differently requires knowledge and the cultivation of a knowledge culture within an organization is a substantive requirement (Lee and Park, 2005). Learning organizations make the tacit knowledge of individuals available for organizational purposes. In the whole process, the role of leadership becomes predominantly significant as only an enabling vision can transform an organization into an innovative entity that is technologically capable and
competitive as well (Abbas & Asghar, 2010). From the perspective of the above discussion, it can be noted that there are different constructs to innovation and resultant technology management. The constructs in this whole process are an innovation that is directly dependent upon creativity, which itself relies upon knowledge. None of the constructs will be fostered in any organization until it has a leader having a clear vision to cultivating such a supportive culture.

In the existing literature, the matter has been discussed but in bits and pieces. Akram, Siddiqui, Nawaz, Ghauri, and Cheema (2011), for example, posited that knowledge success factors are important in diffusing knowledge between employees, which tones up the organizational knowledge culture. They maintained that for boosting the process, firms should carry out the determinants of innovation that are the exact reasons for the innovation itself. But in their research, they did not consider other determinants that they mentioned. In another study, Koellinger (2008) attempted to discover the relationship between technology and innovation in relation to firm performance but did not include all necessary constructs.

In another research, Martins and Terblanche (2003) propounded the relationship between innovation, creativity, and organizational culture. In a conceptual framework engaging these determinants, they presented a background of their model and identified the determinants of organizational culture. They discovered the determinants like structure, support mechanism, behavior, and strategy, which boost open communication culture, and resultantly innovation. In a recent study, Saroghi, Libaers & Burkemper (2015) also worked on the correlation between innovation and creativity and propounded a multi-level analysis of organizational, environmental and cultural aspects for exploring this correlation. Their research conforms to the previous findings that a firm correlation exists between innovation and creativity, not only at the individual level in an organization but also at various levels of the technology being used.

Gurteen (1998) in his research established a relationship between creativity, innovation, and knowledge. According to Gurteen, creativity and innovation are dependents upon knowledge management. He very lucidly expounded the bottlenecks in the way of innovation through creativity and knowledge but did not discuss the impact upon technology and the vision of the leadership.

Some researchers have focused the innovation-related knowledge, creativity and resultant innovations e.g. Cohendet & Parmentier et al., (2017) contend that management of creativity is equal to management of ideas. They further argue that the major bottleneck at this stage is capturing the imaginative ideas from human brains that are like a Blackbox. They proposed a structured framework but without a sequential relationship.

Similarly, some literature is available about the relationship between technology and innovation. For example, Smith, Busi & Van der Meer (2008) maintain that technology facilitates innovation and vice-versa but neither technology nor innovation alone is sufficient for the process to ignite and consummate. In their view, technology with the utilization of technical skills, education, and strategy make a strong base for innovation.

To conclude, although existing literature has reasonably deliberated on all important constructs of innovation and technology advancement as given above, yet severally in segments. Some of the studies have included knowledge and creativity in the discussion as well. But no deliberations are made to encompass all the essential constructs in a single study. Similarly, no study is available that depicts the logical and rational sequential relationship for giving a vivid and clear picture to make innovations and technology changes more practicable for businesses.
Conceptual Framework

A more detailed, integrated and sequential model has been delineated taking into account all important constructs keeping in view the purpose of the study, which is to explore all important antecedents to innovations, and resultant technology management. A rudimentary approach is required to delve into all requisites, which are considered the sine qua non to ignite and complete the whole process. To logically synthesize the model in a natural sequence, the deductive reasoning approach, based on the reverse engineering method, will be employed to explore the entire process with requisite antecedents. Let us start the discussion with technology and its management.

Technology
Technology can be generally defined as immaterial and material entities, produced by utilizing physical and mental processes for creating some value (Faulkner and Runde, 2011). Technology may involve the use of tools and machines, which is ultimately utilized for solving real-world issues (Yli-Renko and Janakiraman, 2008). Consistent technology development is worthwhile so far as it is valuable to the customer. That is why the management in a firm must have the capacity to analyze and decide when to invest in technology and when to divest (Schilling, 2002). Management of technology can also be described in terms of integrated planning, operationalization, and control of technology products and their optimization, and the end purpose of any technology is its use for human advantage (Betz, 2003).

One way to manage the technology may be Technology Watch (TW). Product and services organizations both can constantly track emergent technologies and applications in an attempt to maintain core competencies in technological areas particularly where they have an edge. The major objective of this TW technique is to keep an eye on the technological advances of other similar organizations. It will help to collect and retrieve data that can help to make a similar decision on technology adoption or adaption, investment, cooperation, and competition strategies (Lee and Park, 2005). Even if viewed apparently, the adoption of the TW technique will be a defensive approach instead of an offensive one.

Extensive Research and Development is another mode that may contribute to technological developments. In their research, Brady, Rush, Hobday, Davies, Probert, and Banerjee (1997) have emphasized that competitive performance is dependent upon investment in technological
initiatives through R&D. But sparing only the resources to the activities about innovation like R&D is insufficient. Many such organizations still have failed to manage the technology advancement successfully.

Another way to technology development rather acquisition is technology cooperation outside the organizational boundaries. Typically, the cooperation between business entities is viewed in terms of the vertical relationship for economic exchange (Hagedoorn, 1997). However, modern organizations develop a linear relationship for sharing advancement of research and diffusion of scientific-technological knowledge amongst participating companies. Some motives are related to the increased complexity and intersectional nature of new technologies and the cross-fertilization of scientific disciplines and fields of technology (Hagedoorn, 1997). But the cardinal debate remains intact i.e. does this cooperation and relationship guarantee the continuous technology advancement to a firm for a sustainable competitive advantage? Those that have been successful have not only devoted resources to technology; they have also learned to manage innovation (Brady & Rush et al. 1997). If the innovation process is well maintained in an organization, it will ensure such technological advancement ensuring vantage in terms of competition. So, the management of the innovation process internally within the organization can be recognized as the herald to technology management.

Innovation

Innovation can be described as the implementation of newly created ideas for generating business value. More precisely, innovation is about utilizing new ideas and turning them into something useful and practical. So, it is a process of converting theory into action. However, the process may be having three basic dimensions. Firstly, it may be changing, improving, or replacing the procedures of business for increasing productivity or enabling a firm to enhance the range of quality services and products. Secondly, there may be the development of altogether new better products or services by bringing in technology breakthrough. Thirdly, it may be an addition to the existing portfolio of products or services or the markets as a whole by differentiating from competitors and increasing the perceived value to the markets and the customers. Nevertheless, the most common style of innovation is scalable, which implies finding ways to create incremental improvements to your products and services. Fancis and Bessant (2005) have summarized all these dimensions under four Ps. His P1 refers to innovation for introduction or improvement of products; P2 is innovation regarding introduction or improvement in processes; P3 is innovation for defining or re-defining the positioning of the products of a firm, and; P4 refers to innovation for defining or re-defining the prevailing paradigm of the firm. Fancis and Bessant (2005) also identified two kinds of innovations i.e. “do-better” innovation and “do-different” innovation and professed for attaching more focus to the latter one as it brings a radical shift to new products and perhaps for the industry as well.

A lot of research is available about the success and failure of innovations that provide some hints as to bring improvement in innovation and technology management. This plethora of research provides an opportunity to extract a long list of factors, characteristics, capabilities, and mechanism that organizations may require to put in place for becoming successful innovators. Mogee (1993) points out that firms for the most part do not recognize innovation management as a matter to focus deliberately in a systematic way. Innovations need a team of employees to include engineers, sales and marketing personnel, investors, business planners and financial experts and managers. The way to organize a set of employees capable to introduce new imaginative ideas from a discussion place or a laboratory to the market provides a real opportunity to incorporate innovation management discipline in the organization.

So, it becomes obvious that firms require to build the capacity for exploring out-of-the-box and
thinking and explore the crucial do-different as propounded by Francis and Bessant (2005). It refers to the capacity of the employees in terms of innovation potential and to deal with the challenge of generating creative ideas. Zhong, Mei, and Xie (2009) posit that creativity and innovation have attained greater significance in the workplace as these are being considered as important determinants of a firm’s sustainability over a long time due to its ever-increasing performance and success. As an organization strives to discover the process for the generation of imaginative ideas and their implementation, creativity becomes a permanent source, which ensures competitive advantage in the form of continuous innovation (Zhou and Shalley, 2003; Anderson, De Dreu, and Nijstad, 2004). The next section, therefore, explores creativity and its management attributes.

Creativity
Sternberg and Lubart (1999), while defining creativity, describe it as the capacity to produce something novel (i.e. unexpected as well as original) and appropriate (adaptive, useful, and concerning task limitations). It capacitates business firms to discover something new that may be a complete breakthrough. To let this happen, it is required that blur and collisions take place to trespass bounds established by the disciplines. In this way, it will become easy for a firm to obtain new ways and means to solve technical, operational, financial or marketing problems.

Recently, the creative worker role has been identified and evolved. In an amazing development, knowledge workers are being replaced with creative workers, which explicitly mean that just acquiring knowledge is of no avail. Management of creative teams and inspiring diversity has become a necessary part of the role of a team leader. Even ordinary workplaces have the potential to innovative and creative in their workflows. The management role is much more scrupulous in managing creativity in an organization. Amabile and Khaire (2008) questioned whether management was “a net positive or a net negative” for creativity. “If there is a bottleneck in organizational creativity,” they inquired. “Might it be at the top of the bottle?” they continue to comment. One thing that is as clear as daylight is that one manages for creativity instead of managing creativity.

The foremost important thing in managing creativity is engaging the right persons at the right time to the right degree in creative tasks. Instead, a bottom-up approach is required in place of a top-down strategy. Tapping ideas from all levels in the organization is an essential condition. To create synergies, there should be then a fillip for collaborations as most innovations are drawn through contributions instead of individual breakthroughs.

Another important factor for creativity is opening the organization to a variety of perspectives. When employees with different backgrounds, disciplines, and experts share their ideas, innovations are most likely to take place. Often, the ramification of a problematic issue demands diversity like engaging people having different background like mathematicians, designers, medical doctors, neuroscientists, electrical and electronics engineers, etc. It may also happen that the use of experience and method of one field or area may bring a breakthrough for another field or area facing a particular or seemingly problem.

If intellectual challenge and independence are indeed the keys to creativity, leadership must find ways to deliver it. For the most part, this requires awareness of people’s interests and skills. When people are good at a project, giving them independence comes with less risk. Ideally, workers having a creative bent of mind would be able to define their plans, at least in part. So, in essence, the knowledge of individual people in an organization becomes more important to pave the way for creativity.
Brinck (1999) views creativity as a cognitive activity. According to him, it involves much the same elements as problem-solving, that is, knowledge-representations, rules for manipulating knowledge, standards for evaluating solutions, and a halting rule that puts an end to the search. Prendergast (2000) maintains that problems arise when knowledge is incoherent or insufficient, in the sense that there is a clash or a lacuna among the set of representations supposed to cover a certain area. According to many researchers, academicians, and practitioners without knowledge, the objectives of creativity and innovation cannot be realized (Malecki, 2010; Vehar, 2013; Park and Lee, 2014; Mohtar, Halmin & Sulaiman, 2015; Bontje & Musterd, 2016). “One cannot think creatively unless one has the knowledge with which to think creatively. Creativity represents a balance between knowledge and freeing oneself of that knowledge” (Sternberg, 2012). Gieras, (2019) depicts the interplay of knowledge and creativity in Figure 2.

Knowledge
Knowledge can be described as theoretical or practical comprehension of a discipline. Prusak and Davenport (1998) described knowledge as a product of formed experiences, values, contextual information, and expert opinions that provide a basis for evaluating and incorporating new information and experiences. More precisely, knowledge refers to the understanding of a matter by theory or practice. It may be explicit (as with the theoretical understanding of the subject) or implicit (as with practical skill or expertise). Looking from another perspective, it can be more or less systematic and formal. In the organizational context, the management of knowledge is more important than the mere its excogitation.

Knowledge management is for the most part similar to knowledge sharing. In that sense, knowledge management is converting ‘Tacit Knowledge’ to ‘Explicit Knowledge’. Tacit knowledge is explained as knowledge in someone’s head that looks like a black box. Hence, it is difficult to get tacit knowledge as it is in the form of skills, abilities, thoughts and ideas in the minds of people. Tacit knowledge cannot be disseminated among members of an organization if it is not applied and practiced by those who have it in their heads. On the other hand, it is easy to capture explicit
knowledge. Similarly, it is easy to capture, disseminate and share amongst members of the organization in the form of soft and hard data, defined procedures as well as standardized principles (Akram & Siddiqui et al., 2011).

To cultivate a knowledge management culture in an organization, different activities are required. Neilson (2006) identified eight activities that are knowledge creation, its acquisition, capturing, aggregation, sharing, integration, leveraging and exploration. He further divided these activities into three classes like knowledge development, knowledge combination and knowledge usage. All these activities help to obtain knowledge from within the outside the firm increasing the overall value for the organization as illustrated in Figure 3.

Besides, these activities ensure to enrich the knowledge assets and the repository of the organization. Equally important concepts to unleash the potential of knowledge cultivation are organizational unlearning and organizational relearning. According to Zhao, Lu, & Wang (2013) “these are the indispensable factors to the dynamic knowledge management. Organizational unlearning positively affects the dynamic knowledge management by discarding the outdated and useless knowledge, while organizational relearning has a positive influence on the dynamic knowledge management by acquiring the new knowledge”. This organizational learning and unlearning have a synergetic effect on knowledge management.

When this continuous yearn for knowledge becomes a routine matter, it becomes a conspicuous culture. But this is not perhaps an easy task to establish and cultivate a culture that converts the organization into a progressive and modern entity paving the way for creativity and innovation. Janz and Prasarnphanich (2003) write, “Organizational culture is believed to be the most significant input to effective knowledge management and organizational learning in that corporate culture determine values, beliefs, and work systems that could encourage or impede knowledge creation and sharing” And who is going to establish such a supportive culture? The role of a leader in developing and promoting a knowledge-sharing culture by creating a continuous learning environment at the individual and organizational level is very crucial. This can be done by developing a knowledge promoting system and structure through visionary thoughts and wise decisions accordingly. The next section expatiates the role of vision in the process.
Vision
The term “vision” sometimes is expressed with words like “personal agenda, dream, goal, purpose, legacy, or imaginativeness”. Some other terms have been cited like long term goals, long term objectives, images, doctrines, and core ideology (Price, 2001). It defines the core values and activities that differentiate organizations from one another. It is defined as a statement of purpose, as described by management based on the core values and beliefs of the organization, specifies its identity, and combines the ideal expression of its direction with a real recipe for achieving its goals (Ford and Pasmore, 2006).

McGyvern and Tworick (1998) argue that the traditional concept of organizational vision has been presented in two different contexts. In the first, vision is seen as an approach that determines business strategy, and in the second, as an approach that contributes to the development of organizational culture. Putting it another way, as posited by many scholars and practitioners, a significant constituent of culture is corporate vision (Melewar & Jenkins 2002; Lee, Kim & Jun, 2007). A vision that diffuses through the organization can extend to the employees a requisite sense of purpose, which transcends everyday activities to include knowledge creation, diffusion and sharing. According to Rahimnia, Moghdasian & Mashreghi (2011), the overall vision is intended to generate clear organizational goals and helps to bring in essential changes in the organization so that it can attain its intended future objective of sustainability. The vision can envisage not only a statement that demonstrates a clear and unambiguous direction of the organization, but it can also integrate corporate culture that promotes knowledge, creativity and innovation. Through a well-phrased and well-communicated vision, it is ensured to engender a sense of participation and contribution amongst organization members (Rahimnia & Moghdasian et al., 2011).

Sequential Relationships between Different Constructs
Relationship between Vision and Knowledge
Knowledge is something organic and alive. It is like a stream, which flows between people who are facing up a challenge or are in any disruption or disturbance in specific circumstances, with shared norms, values and language that enable them to reach their purpose efficiently, adeptly, and eagerly. Every organization may take the form of an ecosystem provided the solutions are constructed jointly with real-time commitments and without roadblocks and even bottlenecks. Here leaders act as motivators, conveners, and facilitators of agile conversations with a clear vision of laying out knowledge stream (Wieneke & Phlypo-Price, 2010). Vision accompanied by corporate values system ascertains the requisite type of knowledge and knowledge related activities that are endured and promoted. Explicitly stated vision can promote the outgrowth of knowledge within the organization. Then openness and trust are mostly cited as two of these explicated values, which encourage knowledge management behaviours. Generally, a focus on the vision statement and value systems should be placed on the organization components that promote effective knowledge management. However, the creation of a vision and set of organizational values is not enough. They must be effectively communicated throughout the organization (Gold, Malhotra and Segars 2001).

Relationship between Knowledge and Creativity
Once the vision establishes the ground for the proliferation of knowledge, the latter will sprout creativity in the organization. There are confronting theories concerning the mechanisms underlying creative thinking and the role of knowledge in creativity. Although certain approaches present a contradictory relationship between creativity and knowledge, yet for the most part a positive relationship has been posited by researchers and practitioner. In his research Weisberg (1999) concluded at extensive domain-specific knowledge is a prerequisite for creative functioning. He further suggests that we need to change how we conceptualize the conflicting or undermining relationship between creativity and knowledge.
Many other researchers have explored a significant positive correlation between commitment to knowledge management and employees’ creativity (see for example Ardakani, Damaki, Nasab and Golkarikh, 2008; Mosloo, Damneh & Jalilian, 2009; Azari, Baryamani and Gholikani, 2011) concluded that there is a significant correlation between creativity and knowledge management.

In their experimental research on a product design project, Christiaans & Venselaar (2005) concluded that strong a relationship was discovered between the amount of knowledge utilized and the creative design. There is a resultant inclination for subjects whose designs have a higher creativity rating to elicit on average a greater amount of both implicit and explicit knowledge than other participants. What is the meaning of this relationship? They explained that the participants, who obtained the required knowledge and are guided by it, are more capable to generate solutions that are creative in principle. So, at this stage, it can be concluded that to manage creativity in the organization, first we need to manage the promotion of requisite knowledge in the organization as a culture.

Relationship between Creativity and Innovation

It is generally considered that creativity opens the way for innovative activities. Empirical studies of the effects of creativity on innovation, while positive, have yielded extensive results. In their study, Sorogi, Labers, Berkemper (2015) examined this relationship empirically and particularly focused on how organizational, environmental and cultural factors, in particular, inhibit creative innovation. They discovered a strong positive relationship between creativity and innovation particularly at the individual level. Heunks (1998) finds an interesting moderating effect in which the correlation between creativity and innovation is stronger for large firms, process innovations, and low-tech industries relative to small firms, product innovations, and high-tech industries.

It has been suggested by the researchers and academicians that creativity necessitates the cognitive processes to initiate primarily in the minds of individuals—hence an intra-individual activity; whereas innovation, for the most part, corresponds to the intra-individual social process in the workplace (Rank, Pace & Frese, 2004). In short, creativity centres around idea generation but innovation focuses upon idea implementation. Creativity, therefore, is mostly seen as the opening requisite move towards innovation (Anderson, Potočnik & Zhou, 2014; Amabile, 1996; Mumford & Gustafson, 1988; West, 2002).

Relationship between Innovation and Technology

There is an agreement amongst researchers, academicians and practitioners that technological innovations largely depends upon the innovation capabilities of a particular organization or the so-called innovation potential (see for example Moore & Benbasat, 1991; Gurbel, 2002; Pavitt 1999, Plewa, Troshani, Francis, & Rampersad 2012). According to Gurbel (2002), Innovation should be generally perceived as everything, which is the result of practical primary usage of a certain idea called creativity. In their study, Plewa & Troshani et al. (2012) while discussing technology adoption posit that innovation diffusion is complementary for this process to start and complete. They consider innovation diffusion as a societal system and behavioural process that guide the organizational members to adopt or adapt to new technology or modify, at least, the existing one. The innovation environment within the organization helps to improve not only developing or acquiring new technology but also supports the understanding relative advantages of complexity, trialability, and compatibility of technology adoption (Rogers, 2003). Some researchers go to the extent of arguing that innovation diffusion and technology adoption cannot go in the silo as the integration of both is unavoidable (Agarwal & Prasad, 1998; Cheng and Cho, 2010).

The relationship between innovation and technology is so much robust even the type of innovation impacts the manifestation of technology. For example, incremental innovations
exploit the potential of established designs and often supports the supremacy of already dominating companies. They refine the existing functional capacities of technology through small scale improvements by adding value and augmenting attributes like quality, performance, safety reducing the overall cost. On the other hand, radical innovations, bring in new concepts that go away from the past and traditional practices and support processes and products bases upon varying concepts of science and engineering and often introduce entirely new potential applications and resultantly products and markets (Henderson & Clark, 1990). Interestingly innovation has been defined as "the commercialization of new products and technologies that have a strong impact on the market, in terms of offering wholly new benefits, and the firm, in terms of its ability to create new businesses." (O'Connor & Veryzer, 2001). To conclude, those who have been successful have not only devoted resources to technology; but they first learned to manage innovation for success.

**Relationship between Technology and Vision**

Technology appears to be one of the most powerful drivers of change in the environment of organizations. Advances in science and technology are important factors influencing the worldview of organizations. Delphi’s wide range of technology research and research in nearly all industrialized countries strongly suggest that the impact of an overarching technological vision and related developments will increase significantly in the coming decades (Anderson & Potocnik et al., 2014).

The importance of technology for the development and survival of organizations is steadily increasing due to the frequency of their use and due to the ever-increasing use and application of new technological and scientific developments (Betz, 2003). These developments, in turn, improve the way business is conducted and the corresponding changes in the vision and mission statements of companies. This is perhaps a natural phenomenon, as technological developments are causing great changes in organizations, customer expectations, and even in society at large. The integration of the new overarching vision into the organization is guided and shaped by the existing vision of the organization, which is modified by that very technological process itself (Bases, 2003).

**Conclusion**

The purpose of this study was to explore an integrated approach for innovation and technology management taking into account other factors that play important role in the whole process that was lacking before. There are several components involved in this model like technology, innovation, creativity, knowledge and knowledge culture, and the vision. The existing literature extensively supports the model which was delineated and presented in Figure 1. There are several components involved in this model that are interconnected sequentially. There are several components involved in this model which are interconnected sequentially. The way to technology up-gradation and adoption goes through innovation, which is directly dependent upon creativity. But for creativity to take place, employees in the organization must have plenteous knowledge. To let all the factors play their due role, the support of visionary leadership is a sine qua non. When an incremental or new technology is introduced or adopted, it helps to revisit the vision and vision statement of the organization that again triggers the whole process from knowledge management to technology management and vision in sequential order.
References


reputation review, 5(1), 76-90.


research journal, 24(1), 3-12.
### Developmental Change of Approximate Number System Acuity (Keenness) Reveals Delay

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**Article Details**

<table>
<thead>
<tr>
<th>History</th>
<th>ABSTRACT</th>
</tr>
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<tbody>
<tr>
<td>Revised format: May 2021</td>
<td><strong>Purpose:</strong> Major aim of the study was to investigate the development of mathematical thinking and processing in Pakistani sample. Particular focus of the study was to figure out whether Pakistani people across various age groups process numbers with similar sophistication as their western counterparts from developed countries. Mathematics plays a huge role in the development of the society and research evidence in this context from Pakistan is scarce.</td>
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<tr>
<td>Available Online: Jun 2021</td>
<td><strong>Design/Methodology/Approach:</strong> 261 participants ranging from 5 to 72 years of age participated in the study. Panamath task being the robust measure of ANS acuity was administered.</td>
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</table>

**Keywords**

Approximate Number System, Acuity, Keenness, Development, Change

**JEL Classification**

I20, I25

**Findings:** Results revealed that numerical acuity got precise with an increase in age. However, most sophisticated acuity has been shown around age 46-50 as compared to the western population showing its peak around 30 years of age. Delay in developing most sophisticated approximate number system acuity across the groups as compared to the trend reported in the western population raises many questions in terms of cultural variations and practices contributing to the development of number sense.

**Implications/Originality/Value:** We need to improve our mathematical learning and teaching practices so that it could be helpful in economic growth in turn by better mathematical performance across various age groups. On a general note, economical practices, math-related curriculum policies, lack in math-related games, math practices at home and at educational institutions with varying level of curriculum and pedagogical practices might be a contributor for this trend. The study has important implications for understanding the development of number sense cross-culturally keeping in view the evidence from various cultures.

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Social Review in Emerging Economies, 7 (2), 359-368

Introduction
Approximate number system (ANS) keenness also called acuity is related to children's mathematics achievement (Halberda, Mazzocco, & Feigenson, 2008). This system plays a foundational role in the development of numerical ability and school math performance. ANS is present early in development and newborn babies have been reported to process numbers approximately (Hyde & Spelke, 2011; Izard, Sann, Spelke & Steri, 2009; Libertus & Brannon, 2009; 2010; Lipton & Spelke, 2003; Xu & Spelke, 2000). It is functional before formal schooling (Gilmore, McCarthy, & Spelke, 2007) and continues to develop throughout the development. The increase in ANS acuity (keenness) continues throughout childhood (Halberda & Feigenson, 2008; Piazza et al., 2010), until around 30 years of age (Halberda, Ly, Wilmer, Naiman, & Germine, 2012).

The approximate number system operates independently of education and language for processing number (Gordon, 2004; Pica, Leman, & Izard, & Dehaene, 2004). Correlational research evidence has revealed that approximate number system is correlated with later math achievement (Bonny & Loureneo, 2013; Chen & Li, 2014; Fazio, Bailey, Thompson, & Siegler, 2014; Feigenson, Libertus, & Halberda, 2013; Fuhs & McNeil, 2013; Halberda, et al., 2008; Libertus, Feigenson, & Halberda, 2013b; Libertus, Odic, & Halberda, 2012; Inglis, Attridge, Batchelor, & Gilmore, 2011; Libertus, Feigenson, & Halberda, 2011; Mazzocco, Feigenson, & Halberda, 2011a).


However, other studies have not found approximate number system performance to be correlated or predictor of later math (De Smedt, Noel, Gilmore, & Ansari, 2013; De Smedt & Gilmore, 2011; Gilmore, et al., 2013; Holloway & Ansari, 2009; Landerl & Kolle, 2009; Lyons, Ansari, & Beilock, 2012; Rouselle & No’el, 2007; Solt’esz, Szucs & Szucs, 2010; Sasanguie, Gobel, Moll, Smets, & Reynvoet, 2013; Vanbinst, Ghesquiere, & De Smedt, 2012).

Mixed results have been reported by other researchers (Sasanguie, De Smedt, Defever, & Reynvoet, 2012; Gilmore, Attridge, & Inglis, 2011). The non-symbolic numerical magnitude was predictively related to arithmetic proficiency in second grade but not in first grade (Desoete, Ceulemans, Weerdt, & Pieters, 2010; Vanbinst, Ghesquiere, & De Smedt, 2015). Children map on approximate number system when they have to solve symbolic math problems (Brankaer, Ghesquiere, & Smedt, 2014a; Castronovo, & Gobel, 2012; Mundy & Gilmore, & Spelke, 2009).

The meta-analysis (Schneider, et al., 2017; Chen, & Li, 2014; Fazio, et al., 2014) and review research evidence has also reported a positive correlation between approximate number system acuity and math performance (De Smedt, Noel, Gilmore, & Ansari, 2013). Individuals with math learning difficulties have been reported to have impaired approximate number sense (Brankaer, Ghesquiere, & Smedt, 2014b; Mazzocco, et al., 2011a). Research evidence indicates that approximate number system training can play important role in math improvement. Approximate number system training has been reported to enhance children's performance on symbolic math (Dillon, Kannan, Dean, Spelke, & Duflo, 2017; Hyde, Khanum, & Spelke, 2014; Park, & Brannon, 2013; 2014). Education has also been reported to alternatively enhance the approximate number system (Piazza, Pica, Izard, Spelke, & Dehaene, 2013).
Purpose of the Present Study
The developmental trajectory of the approximate number system has been investigated in western culture (Halberda & Feigenson, 2008; Halberda, et al., 2012). However, no such research evidence has been informed from the Pakistani context specifically indicating the developmental trajectory of approximate number system acuity except a comparative study of approximate number system acuity first-grade children from USA and Pakistan (Khanum & Hanif, 2014). Research evidence from the USA (Hyde, et al., 2014) and Pakistani (Khanum, Hanif, Berteletti, Spelke, & Hyde, 2016) first-grade children showed that Pakistani children had slightly lower Weber fraction as compared to USA children although both were trained under similar training conditions (Table1). These results led to an intriguing question about numerical acuity development in various cultures subject to differences in many aspects.

Table 1
Comparison of approximate number system acuity from Hyde, et al., 2014 and Khanum et al., 2016

<table>
<thead>
<tr>
<th>Experimental Conditions</th>
<th>Weber Fraction</th>
<th>Weber Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-symbolic approximate addition</td>
<td>.17</td>
<td>.19</td>
</tr>
<tr>
<td>Brightness Comparison</td>
<td>.17</td>
<td>.20</td>
</tr>
<tr>
<td>Line Length addition</td>
<td>.21</td>
<td>.23</td>
</tr>
</tbody>
</table>

Above mentioned results raised the question whether Pakistani people will have lower approximate number system acuity throughout their life span as compared to the western sample (e.g., Halberda & Feigenson, 2008; Halberda et al., 2012)? So, the current study has been carried out to investigate the developmental trajectory of the approximate number system acuity in Pakistan. Findings of research can have important implications for researchers indigenously as well as internationally.

Method
Participants
The total number of participants recruited for the study were 265 (133 males and 132 females’ participants). Responses of seven participants were excluded from the main data due to child eye-related issues (1), participant withdrawal from the experiment (2), laptop/system failure (2), and researcher assistance to the respondents (2).

Data was collected from participants of varying backgrounds including, Airline ticket agents (2), Army officers (4), Teachers (14), Maids/ help at home (3), Software and IT engineers (39), Marketing and Finance experts (30), Doctors (14), Property dealers (4), Interior designer (1), Clerical staff (2), Drivers (7), Housewives (47), Lawyer (2), Security guards (3), Photographer (1), Laborer (5), Chef (1), students from community schools (8), private school (52), university (20), telecom engineers (2), and Librarian (2).

Materials
Apparatus, Distance of Participant from
The laptop was approximately 13 cm. The participants were seated right in front of the laptop and they were allowed to adjust the screen angle and distance. The keyboard was covered with a black sheet except for the spacebar, F, and J keys. F was covered with yellow paper and J with blue paper. The space bar was covered with a white sheet.

Panamath Task
Approximate number sense acuity or keenness was measured through the Panamath task (Halberda et al., 2008). The beta version of the game was installed on the laptop having a screen size of 11.6 inches. The task involved sets of yellow and blue dots and the participants had to indicate through a button whether
there were more yellow or blue dots. The mask display time for each trial was 200 ms. Participants completed a varied total number of trials for participants varying with age groups as mentioned in table 1. Weber fractions were calculated through a built-in macro (Halberda et al., 2008). The participants played the game with its default settings and medium difficulty level and audio feedback through beep (positive and negative) was given. However, instructions were given both verbally and on screen. The number of dots ranged between 5-21 dots. For kids, age range 5-7, the array of dots accompanied Sesame street characters. Dot set 1(yellow dots) was accompanied by a big bird and dot set 2 (blue dots) by Grover. For age 8 and above, the arrays of dots appeared on the screen without any characters or borders. The ending screen presented the performance stats having Weber Fraction, Reaction Time, and graphical display of the results. The same apparatus was used for all the 265 participants. Further details are given at http://panamath.org.

Procedure

Participants were introduced to the experiment in a manner that they will be playing a computer game through which their number acuity can be measured. Instructions were given bilingually, in national language Urdu and English and they were explained about how to play the game.

The purpose of the experiment was explained to all participants in their native language Urdu. Informed consent was obtained from all participants. However, before presenting the consent form, permission was taken from each participant verbally. In the case of participants under 16 years of age; permission was taken from school higher authorities and parents as well.

Mode of instructions and experimental conditions were kept similar. All the queries were answered to avoid any confusion. Data from participants was collected in varied settings. However, the researcher ensured that the experimental conditions should remain similar during the task across participants. Each participant had the chance to play the game only once. Depending upon the age groups compensation was given to all participants.

Analysis

Data was analyzed after grouping the participants with an interval of around five years of age resulting in 13 age groups. The numerical acuity of the participants was analyzed for each group and it was analyzed across age groups (Table 2). Data analysis was carried out in terms of Weber fraction across various age groups. One-way ANOVA was carried out (Table 3) between the Weber fraction and Age.

Table 2

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Mean W</th>
<th>Mean RT</th>
<th>Percent Correct</th>
</tr>
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<tbody>
<tr>
<td>5-10</td>
<td>32</td>
<td>.32</td>
<td>1494.56</td>
<td>12.4</td>
</tr>
<tr>
<td>11-15</td>
<td>23</td>
<td>.25</td>
<td>939.71</td>
<td>8.9</td>
</tr>
<tr>
<td>16-20</td>
<td>14</td>
<td>.19</td>
<td>779.62</td>
<td>5.4</td>
</tr>
<tr>
<td>21-25</td>
<td>28</td>
<td>.25</td>
<td>635.99</td>
<td>10.9</td>
</tr>
<tr>
<td>26-30</td>
<td>18</td>
<td>.22</td>
<td>710.63</td>
<td>7.0</td>
</tr>
<tr>
<td>31-35</td>
<td>19</td>
<td>.18</td>
<td>672.10</td>
<td>7.4</td>
</tr>
<tr>
<td>36-40</td>
<td>22</td>
<td>.19</td>
<td>825.35</td>
<td>8.5</td>
</tr>
<tr>
<td>41-45</td>
<td>19</td>
<td>.19</td>
<td>688.78</td>
<td>7.4</td>
</tr>
<tr>
<td>46-50</td>
<td>16</td>
<td>.13</td>
<td>625.72</td>
<td>6.2</td>
</tr>
<tr>
<td>51-55</td>
<td>22</td>
<td>.16</td>
<td>687.39</td>
<td>8.5</td>
</tr>
<tr>
<td>56-60</td>
<td>18</td>
<td>.17</td>
<td>771.97</td>
<td>7.0</td>
</tr>
<tr>
<td>61-65</td>
<td>20</td>
<td>.16</td>
<td>942.99</td>
<td>7.8</td>
</tr>
<tr>
<td>66+</td>
<td>07</td>
<td>.14</td>
<td>809.81</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>.21</td>
<td>847.00</td>
<td>100.0</td>
</tr>
</tbody>
</table>
*1-Weber fraction indicated the keenness score of participants.
*2-Reaction time indicates the time participants took to respond to each trial

<table>
<thead>
<tr>
<th>Table 3</th>
<th>One Way Analysis of Variance of Weber fraction* by age (n=258)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
<td>df</td>
</tr>
<tr>
<td>Between Groups</td>
<td>.79</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4.63</td>
</tr>
<tr>
<td>Total</td>
<td>5.43</td>
</tr>
</tbody>
</table>

*Weber fraction indicated the keenness score of participants, the lower values indicate the more sophisticated ability of number and the higher values indicated the less sophisticated ability of number

Results revealed that there was a significant difference between age groups in terms of Weber Fraction ($F$ (12, 245) = 3.49, $p = .00$, $\eta^2_p = .146$). It showed that participant's precision of the approximate number system was increasing with age (Figure 1). Weber fraction values were getting more sophisticated (smaller decimal points indicate better performance) with increasing age. Post-hoc analysis revealed that the major significant difference in mean Weber fraction occurred around age 30 and above. Beyond age 30 Weber fractions was getting further sophisticated (Table 3). These results should be interpreted with caution keeping in view educated and non-educated individuals in the sample.

![Figure 1. Weber Fraction of participants across age groups](image)

Results revealed that that there was significant difference between age groups in terms of reaction time ($F$ (12,245) = 11.18, $p = .00$, $\eta^2_p = .354$). It showed that participant’s reaction time on the Panamath task was decreasing with age although variably (Figure 2). Posthoc analysis revealed that reaction time performance was significantly different across all age groups. However, the mean reaction time (see Figure 2) of age group 46-50 was fastest.
Conclusion and Discussion

Results revealed that approximate number system acuity across various age groups got more precise with increasing age. These results are in line with the finding from other researchers who investigated the developmental trajectory of the approximate number system in western culture (Halberda & Feigenson, 2008; Halberda, et al., 2012; Odic, Libertus, Feigenson & Halberda, 2013).

However, results revealed delayed acuity as compared to the western population and the most precise Weber fraction in the Pakistani sample has been shown around age group 46-50 (W = .13). Whereas in the USA, Weber fraction of adults group ranging from 18 – 32 years of age has been reported as .11 (Halberda & Feigenson, 2008). Similarly, optimal precision in the Weber fraction is around age 30 in Halberda et al., 2012.

The findings raise intriguing questions about the development of the approximate number system acuity in varying cultures and backgrounds. It is important to investigate why the Pakistani sample has shown a lower Weber fraction than the USA sample and why the most precise W has appeared so much delayed along the trajectory as compared to the USA sample. This trend of data indicates that although numerical acuity gets precise with age and many factors might be contributing to the precision along with age. Participants belonging to various backgrounds and educational levels can also be a contributing factor showing these trends of data other than developed and developing country context-related differences.
These differences might also be attributed to economic factors, less technology exposure, and educational systems difference as compared to the USA. Home numeracy environment, math-related games, the importance of performance and achievement in math as compared to conceptual understanding of math, etc. can also be the contributing factors. This research evidence can have an important contribution in terms of figuring out the possible factors affecting approximate number system acuity as well as various strategies to improve this acuity either through training or education. Approximate number system acuity plays an important role in quantitative reasoning throughout the human life span. It has important implications for later mathematical achievement. Future research focusing on possible predictors of better numerical acuity and the cross-cultural aspect of the development of the approximate number system can shed further light on the developmental trajectory of the approximate number system.

**Acknowledgment**
The corresponding author conceptualized the idea, designed the research project. The second author collected data. Both authors analyzed and wrote the paper collaboratively. The authors declare that there is no conflict of interest.

**References**


Schneider, M., Beeres, K., Coban, L., Merz, S., Susan Schmidt, S., Stricker, J., & De Smedt, B. (2017). Associations of non-symbolic and symbolic numerical magnitude processing with mathematical competence: A meta-analysis. *Developmental Science, 20*(3), e12372.


Speech-Language Intervention used by Professionals for Children with Autism Spectrum Disorder in Pakistan

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ARTICLE DETAILS

Purpose: This study will benefit the field of Autism as well as incorporation of communication interventions for the Professionals for Children with Autism in Pakistan. The objective of the study was to find the most common types of Speech-Language interventions used by professionals, Speech-Language interventions preferred by professionals, Speech-Language interventions supported by parents of children with autism.

Methodology: The study was quantitative the data was collected from the 100 health Professionals working in government and private autism centers or settings in different cities of Punjab. A purposive sampling technique was used. The researcher developed a questionnaire was developed by research considering literature review. The questioner had 35 questions related to interventions given by health professionals working in government and private autism centers.

Findings: Findings of the study showed that many institutions were giving various therapeutic services to children with Autism Spectrum Disorder regarding speech and language but mostly experienced people were practicing speech therapy and PECS as speech and language intervention.

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Introduction

Autism was an early childhood neurodevelopmental condition that could be characterized fully based on specific gaps in the child's social and emotional development, communication, and language processing. Autism was a behavioral disorder with a variety of traits that led to a significant socializing shortfall, significant unusual behavior, and limited repeated actions and sensitivity. Autistic children from early infancy will face difficulties in day-to-day activities.
The disability had a diverse variety that ranged from one individual to the other. As a consequence of a broad spectrum disorder, several scholars and trials have developed the disorder, with several recent pieces of the study carried out on this particular side. Autism impacted a person across his life so early diagnostics is very important for early interventions and a better life for children with autism. Recent research analysis has found that, before 2018, one in 59 children has autism; the CDC reported Autism has risen by 10% and one out of five children had autism.

ASD was a delay in responsive and verbal expression, and a majority of the population examined did not improve their communication to the extent that was the most essential prerequisite for development. These limitations and delays, along with the increasing number of the population diagnosed with ASD, have resulted in a significant and urgent need for the recognition of evidence-based practices, especially for those who were unable to communicate using traditional methods.

**Literature review**

The autism disorder was a diverse neurodevelopment disorder, it was scientifically characterized by lack of socialization skill absence of creative playing, expressive and receptive language, repeated behavioral and specific patterns, desires, and action. The key characteristics of autism were based on three pillars: Dysfunction in both the social and non-social situations can result in inadequate or improper socialization. Rigidity and perseverance involve both stereotypic actions, such as meaningless repeated actions and resistance to adapt (Calkin, 2020).

In children with autism, language loss normally occurred very shortly when the kids reached age two. According to studies from parents of autistic children, 25 percent began producing speech around 12 months and 18 months before they lost language. Many trials and studies have shown that language and speech disorders have had sufficient impact on other aspects of development to play a significant role in improving communication with ASD children by developing successful therapies (Mehlenbacher, 2017).

Researchers have shown that children with autism are also struggling in various ways, such as socializing, communications, and cognitive processing that cause hearing incentives to be attended, imitated, controlled, and understood. Children with autism required alternate means of communication such that the sensory prompt could be in the form of pictures, cards, symbols, and written sentences, both tangible and subjective examples of the real world (La Roche, Bush, & D’Angelo, 2018).

The relative effectiveness of the Picture Exchange Communication System (PECS) vs. a speech-generating instrument (SGD) was discussed as a single topic longitudinal study for the acquisition of skills to request three primary children with extreme autism. The results showed an improvement in stressful output for all participants through both intervention processes (Koegel, Bryan, Su, Vaidya, & Camarata, 2020).

Therefore, the vibrant need for initial and functional communication instruction for children with ASD was created. It will be impossible to choose the most effective technique for a single ASD child between parents and the psychiatrist in an environment where multiple communication interventions were possible. Children with ASD had numerous characteristics and issues so that it could be hard to say which intervention is better for a specific individual or related to diagnosis and which children would benefit from augmentative and alternative communication. As well as on the other hand responses of different ASD children remained different to interventions so it is very difficult to reach one approach of intervention decisions (Alzrayer,
As the reactions of multiple ASD children have been different from treatments, one solution to intervention decision is extremely hard to come up with. Language instruction explored speech and comprehension difficulties and complications and aimed to enhance oral, nonverbal, and social communication. The key aim was to encourage individual cooperation in more appropriate and effective ways. There would be differences in communication and language disorders in one another; others would not be able to communicate, some would not speak, nor could not speak and understand the physical reaction and facial gestures as they engage with others (Doak, 2018).

A SLP pathologist evaluated the strengths and weaknesses of the individual's comprehension, then established specific objectives before it began language-speaking therapy. The main objectives of the treatment were to enhance linguistic abilities, to acquire non-verbal skills such as signals or expressions, and to interact by alternative methods (e.g. pictures and technology) (HICHOIUR, 2019).

There have been several ways to improve practical communication skills. This system (PECS) has been considered a special training and development method designed to circumvent speech problems. To teach functional speech to autistic children and associated intellectual disorders, the Picture Exchange Communication System (PECS) was recognized and accepted. Its conjectural foundations are based on the applied study of actions and alternative and increased connectivity (Vento-Wilson, 2019).

PECS was recognized as a curriculum for manual education for children about the use of a clinical and school communications method dependent on an exchange; it was the traditional choice for care with Nonverbal ASD children. This technique has many benefits compared to the techniques of imitation (both verbal and gestural) and symbolic collection. The device started by swapping the one basic symbol and then progressed gradually into the form of the phrase. The machine emphasized also that the request utility was established earlier than its ability to address fundamental questions or to make various observations (Kurniawan, 2018).

Although training in functional communication and speech production may be seen as the priority of the PECS programs, it was established that it was an extremely valuable advantage. Persons that were nonverbal or spoke small wanted a contact device they could quickly start to use. You may know about the picture exchange communications scheme whether you are in special education or have a child with an autism diagnosis (PECS) (Hu & Lee, 2019).

It was accepted because of its evidence-based practice and because it succeeded when applied in accordance. For objects, behaviors, and other individuals to be sought, PECS offered a very valuable methodology and applied behavior analysis theory to include and encourage social interactions. PECS began with random requests and moved to answer asking such questions about things in the environment (Ferreira et al., 2017).

It was also important to consider that while PECS was originally designed for younger learners with autism but was eventually used with a wide range of learners of all ages with different cognitive, physical, and communication issues and difficulties (Raja, Saringat, Mustapha, & Zainal, 2017).

Additional techniques, such as manual signs, voice generators, naturalistic language training, and linguistic modelization were contrasted with PECS intervention. Several trials have shown some tests that PECS works better than sign and symbol, and that there is still little consideration behind PECS processing interference for speed and verbal stimulation techniques with time-delay.
Additional experiments by Gregory have shown that the participants replied differently (Chua & Poon, 2018). This study will benefit the field of Autism as well as the incorporation of therapeutic interventions used by Professionals for Children with Autism in Pakistan.

Objective
The objective of the study was
1. To find the most common types of Speech-Language interventions used by professional in children with autism
2. To find out Speech-Language interventions preferred by speech professionals, clinical psychologists, educationists for children with autism
3. To find out Speech-Language interventions supported by parents for children with autism

Methodology
The study was quantitative the data was collected from the 100 health Professionals working in government and private autism centers or settings in different cities of Punjab. A purposive sampling technique was used. The researcher developed a questionnaire was developed by research considering literature review. The questioner had 35 questions related to interventions given by health professionals working in government and private autism centers.

Results

![Graph showing most common types of Speech-Language interventions used by professional in children with autism](image1)

Fig: 1: Most common types of Speech-Language interventions used by professional in children with autism

The above figure showed that common types of Speech-Language interventions used by professional in children with autism were PECS (55%) while 45% was used speech therapy for improving communication in ASD children

![Graph showing preference of speech professionals, clinical psychologists, and educationists](image2)
Fig 2: Speech-Language interventions preferred by speech professionals, clinical psychologists, educationists for children with autism

The above mention, figure shows that PECS was preferred by speech professionals, clinical psychologists, educationists for children with autism as compared to speech therapy.

Fig: 3 Speech-Language interventions preferred by parents according to speech professionals, clinical psychologists, educationists for children with autism.

The above figure Speech-Language interventions preferred by parents was PECS according to speech professionals, clinical psychologists, educationists for children with autism.

**Conclusion and Discussion**

The study found that many institutions offered different educational programs to children with autistic spectrum disorder of speech and language (speech, PECS interventions), but mainly experienced individuals who practiced speech and beginners became PECS followers. In any case, various measures are needed to overcome the special ability to communicate to children with an autism spectrum disorder.

Also, the analysis found that this trend had improved somewhat and that experts and clinicians did not reflect on alternative means of intervention with children with ASD with language learning. But in this sector, we also needed a huge area of transition. Also, in comparison with governmental institutions, our private institutions practiced the PECS program. Health professionals have contributed by suggesting that PECS activity played an important role in rapid language acquisition and communicating, but that the efficiency of speech operation remained lasting.

The study reveals, in comparison with speech therapies, that most psychologists practiced PECS for language learning in children with autism. On the other hand, second-number speech therapists preferred PECS intervention rather than speech and third-number special needs teachers favored PECS intervention. The study findings show that more parents of autistic children remain more content with PECS intervention than with speech therapies, according to Health Professionals.

**Recommendation**

The institutions should provide the parents of the children with an ASD with full knowledge of...
their communications issues with autism and provide appropriate advice or counseling on their therapy treatment through courses, seminars, and lectures. Institutions should schedule parents' meetings to raise awareness about concerns for other families with problems and parents to be involved in teachers' or institutions' meetings.

By giving relevant intervention, focus and events, professionals and parents alike will play a crucial role in developing childhood language and communication skills. Maximum educators and parents should be motivated to take part in these practices by communicative contact between infants, several websites and networks for children with ASD have been operating in this regard.

References


Gender Equality but Never-Ending Inequity in FATA, Pakistan

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**ARTICLE DETAILS**

**History**  
Revised format: May 2021  
Available Online: Jun 2021

**Keywords**  
*Inequality,*  
*Women Empowerment*  
*FATA,*  
*Financial Inclusion,*  
*PDHS 2017-18,*

**JEL Classification**  
*D6,D63*

**ABSTRACT**

**Purpose:** Conventional wisdom in women development generally supports the link between acceptance of unequal gender norms, which is reflective of their work participation rate, and income gaps. While this link is intuitive in the literature, the presumed impact beyond merely women empowerment, including women’s socio-economic development, while lacking sufficient evidence for the case of FATA (Pakistan). This inhand study devolves on the factors which may have promising impact towards women empowerment, consisting upon a sample data of 962 female from secondary data sources i.e. PDHS 2017-18.

**Design/Methodology/Approach:** Survey based data of PDHS 2017-18 was used in this study. Moreover, Binomial Logistic Regression is applied as an econometric technique.

**Findings:** The disaggregated results confirm that women in FATA are less benefited as compared to men, particularly when it comes to financial status; affecting their household decision making and adding miseries to their socio-economic conditions. Not only that, the persistent gender gap in this region also shares a prominent link with their age, education, exposure to media, fertility preference and employment status.

**Implications/Originality/Value:** Lastly, the study scientifically concludes that access to education and employment is the only enabling factor to women’s empowerment and achievement towards their socio-economic goals. On the same hand, above much depends on the attitude of the people towards gender equality, which may require intensive social reforms to change their behaviors.

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**Introduction**

Women's empowerment is an essential objective to engage them in economic life fully and achieve sustainable growth throughout the world (Khalid, 2020). Over the past five decades, the
idea of women empowerment has transformed from a welfare-oriented approach to equity and parity approach. It is a mechanism by which the weaker segments of society can gain greater control over their lives. Empowerment is all about having power or authority over resources and narrative. As per Sen and Baltiwala (2000), it results in progress of fundamental abilities, self-confidence, and an all-out inner transformation of one’s consciousness. In this manner, one can overcome all external obstacles. Kabeer (1998) emphasized that empowerment allows one to make independent life choices which are generally restricted by poverty and socio-religious norms. The ability to make independent life choices depends on three things mainly assets, agencies, and accomplishments. “Empowerment” is a broader concept and is used to describe various types of outcomes (Malhotra et al., 2002). According to Kutty (2003) empowerment of women is all about creating awareness and making them politically active, economically productive, and independent in a way that they can make intelligent choices. Women’s empowerment is also about transforming lives in economic and social domains and to enable them to fully participate in decision-making. It affects their lives by providing them leadership training, coaching, and consulting. It also provides enabling tools to women to lead their communities, regions, and countries successfully.

Relationship between development and gender have been investigated by (Moser, 1993). Moser emphasized that economic development cannot be achieved without empowering women’s. Moreover, numerous studies have tried to measure the inequalities such as gender inequality. Annand and Sen (1995) are among one of them and also measured the gender inequality. Furthermore, a new methodology has been introduced by (Pillarisetti and Gullivray, 1998) to construct and find out the determinants of gender inequality. Bardhan and Klasen (1999) evaluated the gender equality measures and claimed that both theoretical and empirical issues exists in methodology. Moreover, they advocated some reforms with a change of the earned income factor of GDI. As per their recommendations UNDP improved the method for measuring GDI.

The notion of empowerment is so comprehensive that calculating it has been challenging at all time. In view of this issue, numerous studies have been carried out to develop number of indicators to calculate this multifaceted idea (Kabeer, 1999). Despite the fact, differences exist to calculate this notion, similar results can be found in the literature. Various factors such as household decisions authority, expenditure choice have given much importance to formulate the “women’s empowerment” (Hameed et al., 2014; Alam et al., 2015). Other factors like social status, available opportunities and norms also affects the empowerment (Abbas, 2020). From this point of departure, the current research endeavors to classify and recognize numerous factors of women’s empowerment in FATA.

To study women’s status in FATA is very important as the area is attributed to be a male dominant society, further, in Pakistan generally and in FATA specifically, those factors must be investigated which hinder the progress of women empowerment (Akram, 2018). Research shows that empowered women can make better decisions about healthcare, they can live a healthy physical and mental life (Roy & Chaudhuri, 2008). Although a greater number of women are now acquiring higher education but for top tier positions still, they are not considered as good as their male counterparts. Early marriages, female feticides and infanticide, dowry, bride burning, rape, molestation and kidnapping still haunt them. Number of crimes against women are increasing (Sharma and Gupta, 2004). Even in daily social, economic and political life women are not at par with males. Besides low literacy, many other factors have contributed to gender biases. In many parts of Pakistan, a newborn girl is still given less priority over a newborn boy. Studies show that bearing a girl child is less desirable and evokes less happiness than that of a boy child (Seth, 2001). It is deeply rooted into the society, with no exception of religion, cast and area. Since her birth, a girl is victimized in economics, social and daily life. (Lopez-Claros,
2005).

In 2002, the “Government of Pakistan” has initiated some programs such as “National Policy of Development and Empowerment” to increase the “women empowerment”. This program targeted to increase the political, economic and social empowerment (Bhattacharya, 2014). Half of the population in Pakistan is consist of women and still Pakistan stands at lowest position globally in “women empowerment”. Strengthening and authorizing them possible will develop society’s wellbeing and welfare. A lot of women in Pakistan are mistreated and offended by male especially in FATA where the customary Pakhtun culture treats the women at inhumane manner.

Literature on “women empowerment” and the factors affecting them in Pakistan is relatively scant especially the empirical literature. Moreover, this study is the first attempt to identify the determinants of “women empowerment” in FATA up to my knowledge. Keeping in view the above mentioned factors, the current study designed to highlight the empirical based socio and economic factors of “women empowerment” which are much needed to raise the status of women in FATA. Furthermore, this research also incorporated the financial inclusion as a determinant of “women empowerment” as the literature on the impact of financial inclusion on “women empowerment” is limited in Pakistan.

Literature Review
Numerous studies discussed women empowerment, but only a few examine the true concept of women empowerment. The previous research showed that women's education, participation of women in economic, social justice, economic opportunities, gender inequality, women having bank account, and labour force participation increase women's empowerment.

Noreen and Khalid (2012) discussed women empowerment by explaining the effect of women education, parents and women having any assets or property. The main factor for women’s empowerment is female education, but early age marriage and poverty are the factors which reduce girl’s education. (Wahid et al., 2020) discussed women empowerment by focusing on the political and socio-economic factors of women empowerment. The report presented females' age, schooling’s age, schooling level, working status, monthly income, resources to economic credit, female bank account, educational and health resources, investment in different saving organizations, residence’s area, and positive and statistically significant. Butt (2014) discussed females at indigenous frames’ level and women’s role in indigenous representation. Indigenous representation is one of the valuable instruments to empower women. In Pakistan, females are empowered but they are not empowered in actual standings. Females at the ordinary level are usually blocked, consequent, and seen as minimum concerns about their rights and role in political affairs. For real women’s empowerment, the resident illustration should be reinforced by expressive contribution and a greater percentage of women. This stage can be used primarily to train them for rational level of politics and have their due rights. Akinsanya (2011) create that females are followers in the growth of economy, but some determinants disturb the contribution of women in the economy. The report presented that women’s education conveys empowerment to females which can face challenges encountered in working & realizing other societal roles and occasions. Various studies have investigated the factors associated with women’s empowerment worldwide such as (Habibov et al., 2017) conducted a study in Azerbaijan and showed that women’s educational attainment and level of earnings equal to or higher than their partners is positively related to an increased level of empowerment. Bushra and Wajihah (2015) reveals that women education, economic involvement, opportunities and poverty are the significant determinants of women in Pakistan. Gupta and Yesudian (2006) conducted a study in India and found that women’s educational level, media exposure and age are significant predictors of women’s empowerment using multiple logistic analyses. Rahman et al., (2020) investigated that women’s education and age significantly impact women’s empowerment among microcredit
borrowers in Bangladesh. To identify the important elements of “women’s empowerment”, collected information from 500 ever married women of Chapai Nawabganj district in Bangladesh and performed. Logistic regression analysis. Their study reveals that women’s education, media exposure, age at marriage significantly influence women’s decision making power. Dey and Khudri (2015) showed that women’s age, division, education, job status, religious belief, wealth index, and significantly influence women empowerment. The findings of two studies suggest that access to education, working status, and media exposure contributes significantly to promoting women empowerment in Bangladesh.

**Methodology**

**Data**

This research used survey statistics from the “Demographic and Health Survey of Pakistan” (PDHS) 2017–18. The research is further confined to only marrying women at all times. Demographic and health surveys are performed with funding from the United States Agency for International Development in various developing countries (USAID). These surveys are nationally representative and provide information on various health aspects, such as family planning, preferences for fertility. Moreover, these surveys also provides the maternal and child health, baby, child, adult and maternal mortality, HIV/AIDS awareness, nutrition and empowerment of women, domestic violence, and household socio-economic characteristics. The reference period for the study was 2017-18, and the FATA region is considered as the study area. The sample size was 962 women of reproductive age.

**Model**

WE = f (age, residence, education, Higher Education, bank Account, BISP, employment, violence, Print Media, Electronic Media, No of daughters, fertility preferences, wealth index, property)

The statistical model is specified as:

\[
WE = \beta_0 + \beta_1 AGE + \beta_2 RES + \beta_3 EDU + \beta_4 HEDU + \beta_5 ACC + \beta_6 BISP + \beta_7 EMP + \beta_8 DV + \beta_9 PM + \beta_{10} EM + \beta_{11} DAU + \beta_{12} FP + \beta_{13} WI + \beta_{14} PRO + \mu_i
\]

**Variables Construction**

To evaluate women empowerment this study used four proxy variables related to decision making in four categories. Categories include decision making about who decides to spend partners earning, who decides about visits to family/relatives, decision making regarding household spending and spending on health services. Respondents had to choose from 6 options provided to them including respondents alone, along with husband, along with other family members, husbands alone and family elders. Options were coded from 1 to 6 respectively. It was coded as 1 by combining these three categories. Again husband alone, someone else and others.it was coded as 0. So where women were involved in decisions coded as 1 and including other cases where women were not participating coded as 0.

Besides these proxy variables related to decision making study also assessed women empowerment using dichotomous dummy variables about ownership of assets by women. To assess ownership empowerment two question were asked. One question was whether she owns a home solely or together with someone else. Other question was whether she owns a piece if land on her own or jointly with someone else. Response was coded one if the answer was yes and zero otherwise. These responses were then combined in one variable about ownership of house/land whose response was recorded as 1 if she owned anyone of the assets and zero if she owned none of the assets. In regression analysis several independent variables were regressed on dependent variable where women empowerment was used as dependent variable. The present study used independent variables like age, residence, education, Higher Education, bank Account, BISP, employment, violence, Print media, Electronic media, No of daughters, fertility preferences,
wealth index, watching TV is used as a proxy for electronic media and frequency of reading newspapers that is named as print media. The wealth index, we can say its social status as it is a combination of radio, TV, refrigerator, bicycle, motorcycle, and car/truck. Employment status was categorized as 0 for not employed and 1 for employed. Fertility preferences were coded as 1 for having another, 2 undecided, 3 no more. The third category is a combination of Sterilized (respondent or partner and Declared in fecund). “Benazir income support program” and the bank account was coded as 0 if the respondent did not get this benefit and ‘1’ if getting this one.

Results and Discussion

Binary logistic regression has been applied to find the causing factors of empowerment because the dependent variable in our study is binary in nature. Moreover, this study also calculated the odd ratios to provide the policy in true sense.

Table 01: Health Care Decision in FATA

<table>
<thead>
<tr>
<th>Socio-economic characteristics of respondent</th>
<th>Beta</th>
<th>Significance</th>
<th>Odds</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td><strong>Age in 5-year groups</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19 Ref</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>-1.327</td>
<td>.002</td>
<td>265</td>
<td>.113</td>
</tr>
<tr>
<td>25-29</td>
<td>-1.843</td>
<td>.000</td>
<td>158</td>
<td>.066</td>
</tr>
<tr>
<td>30-34</td>
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<td>.013</td>
<td>326</td>
<td>.135</td>
</tr>
<tr>
<td>35-39</td>
<td>-1.607</td>
<td>.002</td>
<td>201</td>
<td>.072</td>
</tr>
<tr>
<td>40-44</td>
<td>-1.118</td>
<td>.096</td>
<td>327</td>
<td>.088</td>
</tr>
<tr>
<td>45-49</td>
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<td>.043</td>
<td>3.911</td>
<td>1.042</td>
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<tr>
<td><strong>place of residence</strong></td>
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<td></td>
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</tr>
<tr>
<td>Rural Ref</td>
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<tr>
<td>Urban</td>
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<td>.927</td>
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<tr>
<td><strong>Highest educational level of respondent</strong></td>
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<td></td>
</tr>
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<td>.388</td>
<td>.113</td>
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<tr>
<td>Secondary</td>
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<td>.087</td>
<td>.397</td>
<td>.138</td>
</tr>
<tr>
<td>Higher</td>
<td>.326</td>
<td>.511</td>
<td>1.386</td>
<td>.524</td>
</tr>
<tr>
<td><strong>Bank account</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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<td>.487</td>
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<td>No education Ref</td>
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<td>Primary</td>
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<td>1.028</td>
<td>.552</td>
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<td>Higher</td>
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<td>.124</td>
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<td>.859</td>
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<td><strong>Respondent currently working</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
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<td>.407</td>
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<td><strong>BISP</strong></td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>.760</td>
<td>.035</td>
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<td>1.054</td>
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<td><strong>Print media</strong></td>
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<tr>
<td>No</td>
<td></td>
<td></td>
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<td>.737</td>
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<td>.090</td>
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<tr>
<td><strong>No of daughters</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No daughter Ref</td>
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<td></td>
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<td>.135</td>
<td>.558</td>
<td>.259</td>
</tr>
<tr>
<td>Two daughters</td>
<td>.721</td>
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<td>2.057</td>
<td>1.004</td>
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<td>.651</td>
<td>1.229</td>
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<tr>
<td>Four daughters</td>
<td>.1067</td>
<td>.094</td>
<td>.344</td>
<td>.098</td>
</tr>
</tbody>
</table>
In FATA, age is significantly associated with health care decisions. The women of the age group 44-49 years are 3 times more likely to make decisions than young women. Place of residence is significantly associated with empowerment. Urban women are more empowered to relate to health as compare to rural women. Educated women are more likely in decisions making. Having a bank account in FATA is not significant, but the women who have bank accounts are more likely to make decisions. The women whose husbands are highly educated are more independent in their decisions. They can make decisions quickly without any restrictions. Employment status has also an insignificant impact but likely in their decisions. Fata women are getting benefits of BISP and they are playing a significant role compared to those who are not taking this facility. Print media, domestic violence, and fertility preference have an insignificant impact on empowerment.

Source: Author’s compilation

Table 02: Household Purchase Decision in FATA

<table>
<thead>
<tr>
<th>Socio economic characteristics of respondent</th>
<th>Beta</th>
<th>Significance</th>
<th>Odds</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in 5-year groups</td>
<td></td>
<td></td>
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<tr>
<td>15-19</td>
<td></td>
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<tr>
<td>20-24</td>
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<td>.185</td>
<td>.074 .461</td>
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</tr>
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<td>.571 2.423</td>
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<td>Highest educational level of respondent</td>
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<td>.382 4.850</td>
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<tr>
<td>No education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

380
In major household purchases, the old age women of 45–49 years are more empowered than other women. Urban women and the women who have bank accounts are empowered in their decisions. Education, employment status, print media, number of daughters, and domestic violence are insignificantly associated with empowerment, but ownership of property and fertility preferences significantly impact empowerment in case of purchases.

### Table 03: Visit to Family Decision in FATA

<table>
<thead>
<tr>
<th>Socio-economic characteristics of respondent</th>
<th>Beta</th>
<th>Significance</th>
<th>Odds</th>
<th>95% C.I. for EXP(B)</th>
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</thead>
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<tr>
<td></td>
<td></td>
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<td>Lower</td>
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<tr>
<td><strong>Age in 5-year groups</strong></td>
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<td>Ref</td>
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<td>.001</td>
<td>.204</td>
</tr>
<tr>
<td>35-39</td>
<td>-1.866</td>
<td></td>
<td>.000</td>
<td>.155</td>
</tr>
<tr>
<td>40-44</td>
<td>-2.642</td>
<td></td>
<td>.002</td>
<td>.071</td>
</tr>
<tr>
<td>45-49</td>
<td>-1.85</td>
<td></td>
<td>.777</td>
<td>.831</td>
</tr>
<tr>
<td><strong>place of residence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Ref</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the case of a visit to family or relatives, age is a significant part. The women who are living in urban areas are more likely in decisions making. Having bank accounts also give confidence to women in decisions. The women whose husbands are educated they show a significant role. Print media is significantly associated with empowerment. Domestic violence and ownership of the property have a significant impact on empowerment and more likely in decisions.

Table 04: Women’s Participation in Decision making regarding spending on husband’s earning in FATA
<table>
<thead>
<tr>
<th>Socio-economic characteristics of respondent</th>
<th>Beta</th>
<th>Significance</th>
<th>Odds</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td><strong>Age in 5-year groups</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19 Ref</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>-1.344</td>
<td>.002</td>
<td>.261</td>
<td>.110</td>
</tr>
<tr>
<td>25-29</td>
<td>-1.686</td>
<td>.000</td>
<td>.185</td>
<td>.078</td>
</tr>
<tr>
<td>30-34</td>
<td>-.940</td>
<td>.034</td>
<td>.391</td>
<td>.164</td>
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<tr>
<td>35-39</td>
<td>-.942</td>
<td>.052</td>
<td>.390</td>
<td>.151</td>
</tr>
<tr>
<td>40-44</td>
<td>-1.117</td>
<td>.108</td>
<td>.327</td>
<td>.084</td>
</tr>
<tr>
<td>45-49</td>
<td>1.432</td>
<td>.031</td>
<td>4.186</td>
<td>1.144</td>
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<tr>
<td><strong>place of residence</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural Ref</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>.511</td>
<td>.080</td>
<td>1.668</td>
<td>.941</td>
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<tr>
<td><strong>Highest educational level of respondent</strong></td>
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<td></td>
<td></td>
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<td>No education Ref</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>-.470</td>
<td>.356</td>
<td>.625</td>
<td>.230</td>
</tr>
<tr>
<td>Secondary</td>
<td>-.646</td>
<td>.186</td>
<td>.524</td>
<td>.201</td>
</tr>
<tr>
<td>Higher</td>
<td>.618</td>
<td>.189</td>
<td>1.856</td>
<td>.737</td>
</tr>
<tr>
<td><strong>Bank account</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>.452</td>
<td>.451</td>
<td>1.572</td>
<td>.485</td>
</tr>
<tr>
<td><strong>Husband education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education Ref</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>.039</td>
<td>.915</td>
<td>1.040</td>
<td>.508</td>
</tr>
<tr>
<td>Secondary</td>
<td>.264</td>
<td>.384</td>
<td>1.302</td>
<td>.719</td>
</tr>
<tr>
<td>Higher</td>
<td>.370</td>
<td>.303</td>
<td>1.448</td>
<td>.716</td>
</tr>
<tr>
<td><strong>Respondent currently working</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.723</td>
<td>.024</td>
<td>5.602</td>
<td>1.250</td>
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<tr>
<td><strong>BISP</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>.862</td>
<td>.013</td>
<td>2.368</td>
<td>1.198</td>
</tr>
<tr>
<td><strong>Print media</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>-.268</td>
<td>.259</td>
<td>.094</td>
<td>.002</td>
</tr>
<tr>
<td><strong>No of daughters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No daughter Ref</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One daughter</td>
<td>-.410</td>
<td>.296</td>
<td>.663</td>
<td>.307</td>
</tr>
<tr>
<td>Two daughters</td>
<td>.854</td>
<td>.020</td>
<td>2.349</td>
<td>1.142</td>
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<td>Three daughters</td>
<td>.040</td>
<td>.932</td>
<td>1.040</td>
<td>.416</td>
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<td>Four daughters</td>
<td>.033</td>
<td>.950</td>
<td>1.033</td>
<td>.370</td>
</tr>
<tr>
<td>Above four daughters</td>
<td>-2.221</td>
<td>.047</td>
<td>.108</td>
<td>.012</td>
</tr>
<tr>
<td><strong>Domestic violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>-.501</td>
<td>.051</td>
<td>.606</td>
<td>.367</td>
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<tr>
<td><strong>Fertility preference</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have another Ref</td>
<td></td>
<td></td>
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<tr>
<td>Undecided</td>
<td>-.277</td>
<td>.403</td>
<td>.758</td>
<td>.397</td>
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<td>No more</td>
<td>-.167</td>
<td>.579</td>
<td>1.182</td>
<td>.655</td>
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<tr>
<td><strong>Electronic media</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>.361</td>
<td>.227</td>
<td>1.435</td>
<td>.799</td>
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<tr>
<td><strong>Social status</strong></td>
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<td>No</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>-.077</td>
<td>.827</td>
<td>.926</td>
<td>.465</td>
</tr>
<tr>
<td><strong>Own a property</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does not own Ref</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Occupation can also offer an improvement to male counterparts concerning their capacity to control. Furthermore, working women’s have a higher chance to take a part in different decisions and hurdles. Age, place of residence, employment status, BISP, number of daughters, domestic violence, and ownership of the property has a significant impact on empowerment. But the social statuses, ownership of property, and fertility preferences have an insignificant impact on decision making. In the case of fertility preferences, the women who favor no more children are empowered.

Conclusions and Recommendations
In order to discuss the status of women in FATA, Various indicators of empowerment are investigated by using the data from Pakistan demographic and health survey (PDHS, 201718). Decision-making power of women, exposure of media, major household purchases, freedom of movement, access to education, domestic violence, BISP, Bank accounts, and fertility preferences, etc. were the main focused indicators. After data analysis, it is observed that decisions related to health care of women, freedom of movement, major household purchases, and spending on husband’s earnings influence age, education, employment status of women, place of residence, and fertility preferences.

The key Critical indicator in the process of women empowerment is decision making. In FATA, it is observed that empowerment of women has a positive relationship with the place of residence, women of old age, BISP, fertility preferences and ownership of property (Choudhry, 2019; Mustafa, 2019; Osiewalka, B. 2018; Strzelecka, 2017; Mubeen et al., 2019; Raza et al., 2021). In the decisions of health care, visit to family or relatives, major household purchases and spending on husband’s earning, Education of women is positively associated except visit to family or relatives decisions. Social status also has a positive association except spending on husband earnings. In the case of household purchase decisions, the media has a significant impact on empowerment.

Moreover it is found that unequal gender norms are still dominant in the society, Results indicated the significant relationship between a woman’s age and empowerment, i.e. Empowerment increase as age of women increase. Different studies in South Asia are in favor of the present study like (Acharya et al., 2010; Marphatia, A. A, 2021; Mallick, & Chouhan, 2021). Power relations inside the household is one of the main reasons for this relationship of age and empowerment Cornish et al., 2021).

Education of women is a strong indicator of empowerment is found in the study. It not only enhances empowerment but also increase self-confidence, skills and knowledge of the women (Laschinger, 2002; Mason, 2003; Cornwall, 2016; Klugman, 2014). At the same time it improves employment opportunities, as well as income generating activities (Shoaib, 2012; Moursheed, 2013; Fitzenberger, 2015). Employment status had a positive and significant relationship with empowerment (Allendorf, 2007; Acharya et al., 2010; Yount, 2018). Employed women were more likely to be empowered in the household decisions than unemployed women.

Employment status had a positive and significant relationship with empowerment (Allendorf, 2007; Acharya et al., 2010; Yount, 2018). Employed women were more likely to be empowered in the household decisions than unemployed women.

It is obvious from the study that employment status has significant impact on empowerment. The women who are currently doing work, they are more empowered as compare to those women who are not working somewhere. Results are supported by many studies such as (Phan, 2016; Duflø, 2012). The empowerment of working women can be a source of their freedom of movement and independence (Pakistan, U. W. 2016).
Empowerment of women is also connected with the wealth status. Empowerment increases as wealth of women increase. Present Study is also supported by previous study (Phan, 2016). To achieve the desire level of empowerment, there are many constraints. Among them social norms, family structure and lack of awareness are the main elements. FATA women are comparatively less empowered, they are not even enjoying their basic rights as other region’s women do. In spite of many efforts taken by the government, status of women is not satisfactory.

Employment and education are main tools that can uplift the status of women in the male dominated society especially in FATA. However, achievement of these ends depend more on the attitude of the people and society as well. In this regard, government should play the role through the constitutional provision. In the absence of these steps, our purpose to empower the women in FATA cannot be fulfilled.

References
Bardhan, K., & Klasen, S. (2000). On UNDP's revisions to the gender-related development index.


Mason, K. O., & Smith, H. L. (2003). Women’s empowerment and social context: Results from five Asian countries. *Gender and Development Group, World Bank, Washington, DC.*


that works. McKinsey center for government.


Key Assessment Indicators of Infrastructure for the Sustainability of Economic Development: An Empirical Investigation of Pakistan

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ARTICLE DETAILS

History
Revised format: May 2021
Available Online: Jun 2021

Keywords
Gross Domestic Product, Gross Fixed Capital Formation, Health Expenditures, Total Generation of Electricity,
Labor Force.

JEL Classification
E10, G31, H15, L94, J08, I28

ABSTRACT

Purpose: This study addresses the linkage between the gross domestic product and infrastructure in Pakistan. The time frame taken for this study is from 1977-2019. The information utilized in this study is taken from reliable sources; World Bank.

Methodology: ARDL method is utilized in this study with the assistance of E-VIEWS 10 programming. To consider the effect of infrastructure on GDP; the factors are utilized, for example, gross fixed capital formation, health expenditures, total generation age of power, life expectancy, and government expenditure on education.

Findings: The consequences of this study show that the gross fixed capital formation, wellbeing consumption, and workforce have a positive connection to GDP. Then again, the total generation of electricity and government expenditures on schooling adversely affect the economy of Pakistan. The infrastructure is one of the principals and fundamental variables for the improvement of the economy of Pakistan. The helpless state of infrastructure in Pakistan is probably the greatest deterrent in the advancement of the country. The public authority should zero in on the upgrading of the approaches in regards to the infrastructure area.

Implication: This study witnesses a positive link with the gross domestic product of Pakistan, this is the reason the government of Pakistan should work on the development of the labor force. For the development of the labor force, the government should organize training sessions, workshops, institutions for technical and vocational education, and many other projects.

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Introduction
Infrastructure is one of the main elements for sustained economic growth. Infrastructure can be characterized as the arrangement of interconnected primary basics that convey the system auxiliary a whole gathering of advancement. It tends to be utilized as a compelling apparatus to pass judgment on the economic advancement of a country because cutting-edge and upgraded infrastructural addresses the economic growth or development of a country. Developed infrastructure refers to roads, telecommunication, educational institutions, hospitals, water and sanitation, power generation, etc. Poor or less developed infrastructure is perhaps the greatest hurdle in the way of economic development especially for developing countries like Pakistan. In this paper association between gross domestic product and infrastructure is discussed, while using other variables like gross fixed capital formation, health expenditures, total generation of electricity, the labor force, and government expenditures on education. These variables are used as a proxy of infrastructure.

The gross domestic product pace of a country stands for its escalation stage. The advanced gross domestic product demonstrates that the country is performing sound and the financial circumstances of the country are steady and helpful. GDP speed illustrates variations in the case of Pakistan. Because many interior and exterior features affect this speed; such as political wavering, war and terror conditions, climatic settings, the occurrence of migrants, deflation of currency, foreign debt, unfavorable balance of payment, inappropriate policies related to trade, and many others.

Spending on the improvement of land, plant, machinery, the construction of new roads, railways, and industrial buildings is known as gross fixed capital formation. In other words, the net addition to the existing capital stock is gross fixed capital formation. Gross fixed capital formation helps to improve the infrastructure of the country through the construction of new roads, plants, and more. Installation of new plants and equipment increases the productivity of the economy. The enhanced productive process of the economy attracts new investors from other developed countries. In this study, a positive relationship is found between gross domestic product and gross fixed capital formation of Pakistan. This shows that the installation of new machinery and plants in the country will increase the gross domestic product of Pakistan.

Health expenditures are the main component of a person’s budget constraint. The spending on the health infrastructure and the improvement of the health sector by the government of a country is also known as health expenditure. The improvement of the health sector means the provision of better facilities to the public, the subsidies given to the common people in the form of cheap medicines, the construction of new hospitals, and many other benefits by the government to the public. The outcomes of the analysis of this study describe that the association between gross domestic product and health expenditures of Pakistan is direct.

Electricity is considered the lifeline of any economy and the most important tool for the working procedure of a country. For any government, the most important and as well as difficult part is to provide nonstop electricity to the industries and the public. As the population growth rate is increasing day by day as compared to the sources of electricity generation. Therefore, the electricity demand increased a lot but not the supply of electricity. The greater difference between demand and supply of electricity is the main cause of breakdowns of electricity which in turn cause a great loss to the industrial and manufacturing sector. The link between the gross domestic product and the total generation of electricity in the case of Pakistan is negative in this study.

The labor force of a country is an essential part of the economy of that country. The skilled,
developed and educated labor force of a country represents the enhanced and improved economic growth of that country. In this study, a positive relationship exists between gross domestic product and the labor force. It means the higher the level of the labor force the higher will be the growth of the gross domestic product.

Education performs an important and essential role in the formation of human capital. It also performs the character of leadership in society. The job of educational institutions is to help people to grow mentally, psychologically, socially, and spiritually. It develops the economic, social, political, and cultural life of the nation. A very close and strong link exists between education and development. In this study the association between the gross domestic product of Pakistan and government expenditures on education is negative. When the government of Pakistan spends more on education, then because of this spending the gross domestic product of Pakistan falls. The reason behind this action is poor management, corruption, political instability, lack of public interest, and low quality of statistical data.

**Literature Review**

Bougheas, Demetriades, and Morgenroth (2003) found an important positive link between infrastructure and degree of specialization. The consequences presented that economic progress showed different cycles by improving the infrastructure sector. Such as; economic progress was raised in the starting then it reached its boom period then it started to decline as the new infrastructure was planted in the economy. It had proved that a greater supply of infrastructure than demand created so many problems in the country.

Yilmaz, Haynes, and Dinc (2002) studied the significance of the telecom sector in the development of the US economy. The expansion of the telecom sector became the reason for enhanced economic growth because it increased the productive capacity of the economy. Canning and Pedroni (2004) investigated the long-run association between infrastructure and economic progress. The findings showed that the countries which improved their infrastructure with the passage of time witnessed great success, while those countries which did not consider infrastructural development as a tool of progress were facing hurdles in the way of progress.

Mahmood, Hafeez-ur-Rehman, and Rauf (2008) found out that for the comprehensive economic progress of a country, the economic policies arranged by the policymakers and economists played a vibrant role. More the precise the police or more the policies suitable for the economic environments of the state, the more the economy grows, and the results exposed the rise in gross domestic product. The economy succeeded only when the execution of the right economic policies along with the upgraded infrastructure facilities provide a sound base to the investors, both local and international. The above-mentioned condition for economic growth relied on the country’s internal law and order situation, administration, and other internal and external shocks.

Estache et al. (2009) indicated that the infrastructure installed through the help of international donations produced Dutch Disease effects, but the kind of investment described those effects; negative or positive. The impacts of economic development helped to weaken the negative effects. World Economic Forum (2010) defined the various stages of factors that determined the growth of the countries based on their detailed phases of advancement. Based on those factors Pakistan drop in the first stage of expansion. Consequently; infrastructure, education, water supply, energy, and basic health facilities were the most important factors for the expansion of Pakistan.

Dissou and Didic (2011) stated that the crowding out consequences of public infrastructure showed a delicate nature towards the techniques of sponsoring selected by the government. The outcomes described that sponsoring in the sector of infrastructure by the government encouraged the private sector to invest in infrastructure, which ultimately helped to achieve continuous economic
growth. To the crowd in private investment, the public-private partnership and sub-contracting between public and private sectors helped the government to develop the infrastructure of the country.

Afzal (2012) studied the impact of the energy crisis on the textile sector of Pakistan. Energy or electricity worked as blood for all the sectors of the economy, especially for the industrial sector. Less production of energy than its demand created a great shortage in the country. The output level of the textile sector decreased due to the supply-demand difference because of the operating time contracted in the industries due to the shortage of electricity. The low level of output by the industries increased the production costs for the factories. As the public sector failed to provide good facilities of infrastructure to the industries. As the alternative that industries produced energy by using private resources but the cost of doing that was high and cause loss to the industries.

Rao and Srinivasu (2013) found out the association between economic development, infrastructure, and poverty. The results displayed that there was a direct link between infrastructure and economic development and a direct link between infrastructure and poverty. The level of poverty in the country declined with the help of developed infrastructure and as a result, the low poverty level forced the economy to move toward advancement. Aoyagi Sawada and Shoji (2014), due to poor irrigation infrastructure reduced the 45% working labor engaged in the agricultural sector. The lack of access to agricultural infrastructure increased poverty at a lower level. The ultimate result of poor infrastructure appeared as a less developed agricultural sector, which in turn yield a low level of output.

Tanveer and Manan (2016) examined the impact of infrastructure on the economic growth of Pakistan and stated that for economic development especially for a less developed country such as Pakistan advanced infrastructure played an important role in that development. Investment in the field of infrastructure became the reason for increased job opportunities, improved production systems through advanced technology, and above all these developments that investment boosted the economic actions.

Boadi et al. (2017) stated that to fill up the gap of infrastructure in the country, the private capital worked as an influential factor for the advancement of infrastructure. The investment by the private sector in the field of infrastructure is done by directly purchasing public originalities and mutual possession contracts or in the form of Build - Own - Operate and Transfer (BOOT) plans. Those plans helped the governments to increase the funds to invest in the infrastructure sector of the country.

Samia (2018) wrote a report on the state of the health sector in Pakistan and described the reputation of the condition of health infrastructure concerning the continuous mounting population. The delivery of medical facilities is based on the state and accessibility of elementary health infrastructure or the combination of health institutions and health staff. The number of sickrooms, basic health units (BHU), the number of beds in hospitals, dispensaries, health personnel, etc represented the many indicators of health infrastructure.

Rygzynov and Tsydypov (2019) examined the consequences of the delivery of infrastructure for the long run on the per capita for a panel data of countries. The statistics showed that the infrastructure put mostly long-run effects on the economic performance of the country. However, infrastructure put different impacts in different countries.

Model Specification, Data, and Methodology

Model Specification
In this mold, the association between GDP and other variables like GFCF, HE, TGE, LF, and GEE will be predicted. The variables which are used in this manuscript are selected very consciously from the studies of other researchers. Under this caption, the dependent and independent variables of this manuscript are described. The dependent variable of this article is Gross Domestic Product while the independent variables are Gross Fixed Capital Formation, Health Expenditure, Total Generation of Electricity, Labor Force, and Government Expenditures on Education.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Expected Sign</th>
<th>Measuring Units</th>
<th>Sources</th>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td></td>
<td>Percentage</td>
<td>WDI</td>
</tr>
<tr>
<td>GFCF</td>
<td>Gross Fixed Capital Formation</td>
<td>+ive</td>
<td>Percentage</td>
<td>WDI</td>
</tr>
<tr>
<td>HE</td>
<td>Health Expenditures</td>
<td>+ive</td>
<td>Percentage</td>
<td>WDI</td>
</tr>
<tr>
<td>TGE</td>
<td>Total Generation of Electricity</td>
<td>-ive</td>
<td>Percentage</td>
<td>WDI</td>
</tr>
<tr>
<td>LF</td>
<td>Labor Force</td>
<td>+ive</td>
<td>Percentage</td>
<td>WDI</td>
</tr>
<tr>
<td>GEE</td>
<td>Government Expenditures on Education</td>
<td>-ive</td>
<td>Percentage</td>
<td>WDI</td>
</tr>
</tbody>
</table>

Source: The data is taken from World Development Indicator

The above table represents the capricious chosen for this paper. Further, the measuring components for these capricious are also exposed and the foundation from which the records of these variables are composed is also mentioned. While the column of Expected Sign represents the relationship between the dependent variable and the independent variables. The detailed definition of the above-mentioned variables is written below:

**Gross Domestic Product**

GDP is the acronym of gross domestic product. Gross domestic product is defined as the increase in the per capita income of a country over a period. The per capita income of a country is obtained by dividing its total population by its total national income. This increase in per capita income represents that the living standard of the people of the country is improving and the economy is developing. Different countries have different gross domestic product rates, which describes their rate or level of growth and development.

**Gross Fixed Capital Formation**

Gross fixed capital formation states to net accumulation in the existing assets stock of the economy. For example, installation of new equipment, construction of new roads, etc.

**Health Expenditures**

Overall spending on health care calculates the absolute utilization of health merchandise and services in addition to capital investment in health care infrastructure. Health expenditures are generally described as actions executed either by organizations or persons through the appliance of the health check, paramedical or nursing comprehension, and expertise, the chief principle of which is to encourage, restore or sustain health.

**Total Generation of Energy**

Electricity generation is the process of generating electric power from sources of primary energy.
For electric utilities in the electric power industry, it is the first stage in the delivery of electricity to end-users, the other stages being transmission, distribution, energy storage, and recovery, using pumped-storage methods.

**Labor Force**
The labor force, also called the workforce, is the population of able-bodied, willing people who are currently employed or looking for work. In other words, it’s a representation of the labor pool of a certain country or segment of the economy.

**Government Expenditures on Education**
Government expenditure on education includes expenditure funded by transfers from international sources to the government. The general government usually refers to local, regional, and central governments.

**Results and Discussions**
The results of the study are measured by using the ARDL method with the assistance of E-VIEWS 10 programming Descriptive Statistics, Correlation, and Analysis. The results of Descriptive Statistics are given in table 4.

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>GFCF</th>
<th>HE</th>
<th>TGE</th>
<th>LF</th>
<th>GEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.9137</td>
<td>16.2019</td>
<td>0.7034</td>
<td>57.1016</td>
<td>550940668</td>
<td>2.4329</td>
</tr>
<tr>
<td>Medium</td>
<td>4.8463</td>
<td>16.8371</td>
<td>0.7300</td>
<td>62.6726</td>
<td>53655064</td>
<td>2.4918</td>
</tr>
<tr>
<td>Maximum</td>
<td>10.2157</td>
<td>19.2354</td>
<td>1.2500</td>
<td>71.8260</td>
<td>69957925</td>
<td>3.0223</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.0143</td>
<td>12.5206</td>
<td>0.2300</td>
<td>37.9959</td>
<td>31130954</td>
<td>1.8378</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>2.0448</td>
<td>1.6622</td>
<td>0.2141</td>
<td>10.4251</td>
<td>11801104</td>
<td>0.3036</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.2503</td>
<td>-0.4922</td>
<td>0.0230</td>
<td>-0.4368</td>
<td>-0.1966</td>
<td>-0.0518</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.7581</td>
<td>2.2946</td>
<td>3.4432</td>
<td>1.6888</td>
<td>1.8873</td>
<td>2.1715</td>
</tr>
<tr>
<td>Jarque – Bera</td>
<td>0.5538</td>
<td>2.6276</td>
<td>0.3558</td>
<td>4.4472</td>
<td>2.4952</td>
<td>1.2488</td>
</tr>
<tr>
<td>Probability</td>
<td>0.7581</td>
<td>0.2687</td>
<td>0.8370</td>
<td>0.1082</td>
<td>0.4952</td>
<td>0.5355</td>
</tr>
<tr>
<td>Sum</td>
<td>211.2898</td>
<td>696.6824</td>
<td>30.2500</td>
<td>2455.372</td>
<td>2.1900</td>
<td>104.6167</td>
</tr>
<tr>
<td>Sum Sq. Dev</td>
<td>175.6249</td>
<td>116.0553</td>
<td>1.9263</td>
<td>4564.694</td>
<td>5.8500</td>
<td>3.8715</td>
</tr>
</tbody>
</table>

Source: Software E-VIEWS 10 helps to calculate these figures.

Mean is mostly used as a tool to measure the average. From the above table, the mean value of GFCF has been 16.2091 for the last 43 years, it shows that the flow of capital formation is sensible in Pakistan as this value shows the gross fixed capital formation is high in Pakistan for the last 43 years. The Standard Deviation method is used to measure variations in the data. This study represents the Standard Deviation value of GFCF as 1.6622, which shows a moderate level of fluctuations in GFCF over a period. Now, the mean value of HE is 0.7034, which means the level
of health expenditure in Pakistan is quite high. While the health expenditures of Pakistan have a Standard Deviation value of 0.2141, it depicts that health expenditures show a little bit of variation from their average value. The average value of TGE is 57.1016, which means the level of generation of electricity is a bit high in Pakistan. While the value of the Standard Deviation of the total generation of electricity is 10.4251, it describes that the total generation of electricity in Pakistan shows a high level of divergence from its average value. The average value of LF in Pakistan shows the average value is 50940668, it depicts a high level of LF in Pakistan. The Standard Deviation value of the labor force is 11801104, which presents that the labor force shows a quite high level of variation from its mean value. The mean value for GEE is 2.4329 as this value shows the government expenditures on education is low in Pakistan for the last 43 years. The value of the Standard Deviation of GEE is 0.3036 and it represents that GEE has a significant variation from its mean value.

In the statistics, the central value of the observations or the middling value of two central observations is known as the median. In the above explain table the values of the median of GDP, GFCF, HE, TGE, LF, and GEE are 4.846, 16.8371, 0.7300, 62.6726, 53655064 are 2.4918 respectively. The highest value in the set of observations is called maximum. GDP, GFCF, HE, TGE, LF, and GEE have maximum values as 10.2157, 19.2354, 1.2500, 71.8260, 69957925, and 3.0223 respectively. The minimum is known as the lowest value in the set of observations. Minimum values of GDP, GFCF, HE, TGE, LF, and GEE are 1.0143, 12.5206, 0.2300, 37.9959, 31130954 and 1.8378 respectively.

Distribution can be distributed into two categories such as skewed or asymmetric distribution and symmetric distribution. If the value of skewness is superior to zero, then the worth of distribution is positively skewed and it has a long right tail. The value of the distribution will be negative if the value of skewness is less than zero and it has a long left tail. If the value of skewness is precisely equal to zero, then the distribution will be symmetric and has long equal tails. In this paper the values of skewness of variables GFCF, TGE, LF, and GEE are less than zero, therefore these variables are negatively skewed. GDP and HE have values of skewness greater than zero; therefore, these variables are positively skewed. To measure the degree of flatness of a unimodal frequency curve a statistical tool is used which is known as Kurtosis. If \( \gamma^2 > 3 \) → the curve is highly peaked, and it is leptokurtic. If \( \gamma^2 < 3 \) → the curve is flat-topped, and it is platykurtic. If \( \gamma^2 = 3 \) → the curve is normally peaked, and it is mesokurtic.

In this study, the value of Kurtosis of HE is 3.4432, which means health expenditures are leptokurtic. While the values of Kurtosis of GDP, GFCF, TGE, LF, and GEE are 2.7581, 2.2946, 1.8873, and 2.1715 it means they are platykurtic. J.B Test indicates that whether the variables are normally distributed or not. From the table, all the variables are normally distributed by looking at the values of their probabilities. The following table is prepared to check the stationary of data with the help of software.

<table>
<thead>
<tr>
<th>Table 2: Approximations of ADF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>GDP</td>
</tr>
<tr>
<td>GFCF</td>
</tr>
</tbody>
</table>
This table is prepared with the help of E-Views Software 10 to check whether the variables, choose for this paper are stationary or not. The stationarity of the data means that for a period, there are no changes in mean, variance, and covariance of the time series data use in the study. To check the stationary level ADF (Augmented Dickey-Fuller) test is applied. The stationery levels of variables are checked to avoid weakening the regression of the time series data used in this paper. It can be observed from the above table that GDP is stationary at level, i.e. I (0), and GDP has zero sorts of integration. GFCF is stationary at 1st difference, i.e. I (1), and it has the order of integration 1.

Table 3: Results of Bound Test for Cointegration

<table>
<thead>
<tr>
<th>Equation</th>
<th>F-Statistics</th>
<th>Upper Bound</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP/GFCF, HE,</td>
<td>5.1020</td>
<td>3.28</td>
<td>Co-integration subsist</td>
</tr>
<tr>
<td>TGE, LF, GEE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s Calculation (E-VIEWS 10)

In the above table, the Bound Test is applied. As can be seen in above table 4, the calculated value of the F - statistic is 5.1020 which is greater than the Upper Bound value or critical value which is 3.28. The superiority of the F - statistic value illustrates that there exists a long-run cointegration in this approach. The software E-views 10 is used to form this table. The correlation coefficient describes the level of association between two variables. A correlation mold illustrates each probable correlation coefficient with a set of variables. The correlation matrix of the variables of the sculpt is given as:

Table 5: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>GFCF</th>
<th>HE</th>
<th>TGE</th>
<th>LF</th>
<th>GEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GFCF</td>
<td>0.27</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HE</td>
<td>0.28</td>
<td>0.51</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TGE</td>
<td>-0.53</td>
<td>-0.45</td>
<td>-0.56</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LF</td>
<td>0.29</td>
<td>-0.36</td>
<td>-0.14</td>
<td>-0.22</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>GEE</td>
<td>-0.29</td>
<td>0.04</td>
<td>0.25</td>
<td>0.34</td>
<td>-0.11</td>
<td>1.00</td>
</tr>
</tbody>
</table>
The above table represents that GDP has a direct or positive association with GFCF, HE, and LF of order 0.27, 0.28, and 0.29 respectively. While GDP has an indirect or inverse association with TGE and GEE of order -0.53 and -0.29 respectively. Similarly, GFCF has a positive link with HE and LF while it has a negative link with TGE and GEE.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>St. Error</th>
<th>t-statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>D (GDP (-1))</td>
<td>-0.2797</td>
<td>0.1778</td>
<td>-5.4696</td>
<td>0.0000</td>
</tr>
<tr>
<td>D (GFCF (-1))</td>
<td>0.1348</td>
<td>0.2870</td>
<td>0.4698</td>
<td>0.6414</td>
</tr>
<tr>
<td>D (HE)</td>
<td>1.8639</td>
<td>2.1638</td>
<td>0.8614</td>
<td>0.3950</td>
</tr>
<tr>
<td>D (TGE))</td>
<td>-0.0424</td>
<td>0.0511</td>
<td>-0.8302</td>
<td>0.4122</td>
</tr>
<tr>
<td>D (LF))</td>
<td>0.4908</td>
<td>0.3338</td>
<td>1.4730</td>
<td>0.1499</td>
</tr>
<tr>
<td>D (GEE))</td>
<td>-1.5496</td>
<td>1.3833</td>
<td>-1.1201</td>
<td>0.2705</td>
</tr>
<tr>
<td>CointEq (-1)</td>
<td>-0.3862</td>
<td>0.1495</td>
<td>-0.0738</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Cointeq=GDP-(-0.1386*GFCF+1.9161*HE-0.0437*TGE+0.0000*LF-1.5929*GEE+5.1602)

The above table shows the short-run estimation of variables with the counter equation. The computed values of R-Squared and Adjusted R-Squared are 0.40 and 0.28 respectively. This means there is a 40% and 28% variation in GDP through independent variables like GFCF, HE, TGE, LF, and GEE. The value of the Durbin-Watson Test is 1.99 which means there is no autocorrelation between dependent and independent variables. Divergence of the estimated value from the original value is known as the Cointeq value. The counter has the value -0.3862 which is quite significant as it can be seen from the value of its probability of 0.0000. Mutual boundaries of negative signs and significance have been fulfilled here. Amendments to restore the velocity of long-run equilibrium are known as Counter. The steady long-run link between variables can be established by looking at the extremely momentous value of Cointeq. The results of the table show that the disequilibria have been converted into equilibrium as the value of the velocity of the amendment is very high.
Table 7: Long Run Estimates of Model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>St. Error</th>
<th>t-statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFCF</td>
<td>0.1386</td>
<td>0.2849</td>
<td>0.4865</td>
<td>0.6297</td>
</tr>
<tr>
<td>HE</td>
<td>1.9161</td>
<td>2.1984</td>
<td>0.8715</td>
<td>0.3895</td>
</tr>
<tr>
<td>TGE</td>
<td>-0.0436</td>
<td>0.0537</td>
<td>-0.8128</td>
<td>0.4219</td>
</tr>
<tr>
<td>LF</td>
<td>0.5048</td>
<td>0.3198</td>
<td>1.5808</td>
<td>0.1232</td>
</tr>
<tr>
<td>GEE</td>
<td>-1.5929</td>
<td>1.3872</td>
<td>-1.1842</td>
<td>0.2589</td>
</tr>
<tr>
<td>C</td>
<td>5.1602</td>
<td>7.3286</td>
<td>0.7041</td>
<td>0.4862</td>
</tr>
</tbody>
</table>

Source: Author’s Calculation (E-VIEWS 10)

This table describes the long-run estimation of the model. In the table, the value of the coefficient of GFCF is 0.1386 and it is positive. The value of GFCF describes that the 1% rise in GFCF will increase the GDP by 13%. The direct relationship between GDP and GFCF shows that the Government should invest more in the field of gross fixed capital formation by installing new and developed machinery and by developing the production system. Similarly, the independent variables like HE and LF have a positive or direct relationship with the dependent variable GDP. It means a 1% increase in HE will bring a rise of 191% in the GDP and the 1% rise in LF will increase the GDP by 50%. Therefore, the government of Pakistan should focus on the above-mentioned sectors for the economic growth of Pakistan. These positively related variables are statistically significant.

On the other hand, the described variables of this study like TGE and GEE have a negative or indirect relationship with the GDP. The negative results show that a 1% increase in TGE will decrease the GDP by 40%. For the generation of electricity, the government needs to be developed and costly machinery, equipment, and fuels for which the government must spend a huge amount of money, which in turn will put a great burden on the budget of the country. Similarly, government expenditures on education have an inverse connection with the GDP in this study, it describes that despite investing more in the new educational projects the government must try to develop the existing education system. These negatively related variables are statistically insignificant.

Table 8: Diagnostic Test for Model

<table>
<thead>
<tr>
<th>Name of Test</th>
<th>F-statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Godfrey Co-relation LM Test</td>
<td>0.1184</td>
<td>0.7335</td>
</tr>
<tr>
<td>Heteroskedasticity Test</td>
<td>0.5124</td>
<td>0.8383</td>
</tr>
</tbody>
</table>

Source: E-Views 10.

Many techniques are used to measure correlation, heteroscedasticity, and misspecification in any approach. The above table explains that the correlation and heteroscedasticity are not present in this approach and the model is correctly specified because their probability values are greater than 0.05.

The following graph depicts that this sculpt is significant at the level of 5%. The red lines in the graph demonstrate the upper and lower boundaries. The cumulative sum of recursive residuals (CUSUM) is plotted below in the graph, which shows a 5 percent significance level. In the test, upper and lower critical boundaries exist, such as the straight lines in the figure.
The Cumulative Sum of Recursive Residual of Squares (CUSUM) is plotted in the following graph, with a 5% level of significance.

Figure 1: Plot of Cumulative Sum of Recursive Residual

Figure 2: Plot of Cumulative Sum of Square Recursive Residual Test
Conclusion and Recommendations

The outcomes of this study show that these variables represented as the infrastructure of Pakistan put mixed impacts on the GDP of Pakistan. A positive association is witnessed between gross domestic product and gross fixed capital formation, health expenditure, and labor force of Pakistan. It means an increase in GFCF, HE, and LF of the country will automatically enhance the economic growth of Pakistan. This is the reason the government should plant the new machinery for a production system, make more investment in the health sector, and improving labor skills. Similarly, GDP shows an inverse relation with TGE and GEE in the analysis of this study. It describes that a minor increase in TGE and GEE will reduce the growth of the economy of Pakistan. These two factors are important for any economy, but in the case of Pakistan; the investment in these two sectors TGE and GEE will affect the economy of Pakistan negatively.

Any economy desires to gain a higher level of economic growth. Generally, the high rate of GDP represents the flourished economy. To increase the economic growth of Pakistan through the development of the pharmaceutical industry of Pakistan, the following actions are recommended:

i. Health is one of the important factors of Human Capital. To increase the productivity of labor, better health is necessary. But, unfortunately, the government of Pakistan is focusing less on the improvement of the health sector of Pakistan or the provision of better and basic health facilities to the public. The government of Pakistan should spend to construct new hospitals and clinics; subsidies should be given to the drug-producing companies.

ii. Labor is an effective and efficient part of any economy because it is one of the factors of production. This study witnesses a positive link with the gross domestic product of Pakistan, this is the reason the government of Pakistan should work on the development of the labor force. For the development of the labor force, the government should organize training sessions, workshops, institutions for technical and vocational education, and many other projects.

References


between leader emotional intelligence, team culture and team performance of healthcare institutions in Pakistan/Samia Jamshed (Doctoral dissertation, University of Malaya).


Rygzynov, T. S., & Tsydypov, V. E. (2019, August). The role of international infrastructure projects in the sustainable social and economic development of the border areas (the case of Russia and Mongolia).


Impact of CEO, Director and Executive Compensation on the Firm Performance with Moderating Effect of Research & Development

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ARTICLE DETAILS

ABSTRACT

Purpose: The aim of this article is to investigate the relationship between the CEO, Director and executives' compensation on firm performance. Moreover research and development as moderator check the relation of R&D over firm performance and CEO, directors, executives’ compensation in an emerging Pakistan market.

Design/Methodology/Approach: This research uses the GSEM approach for the problem of abnormality and homoscedastic arise the sample data collected from PSE 100 index non-financial list over the era of 2014-2019. The data collection sample from 75 non-financial firm and final sample consisted on 69 firm 6 organization exclude due to unavailability of data.

Findings: This study provide the evidence that CEOs, Director, executives’ compensation have a significant relation with firm performance while, R&D show that insignificant relation with CEO/directors and Executives compensation perhaps R&D show significant relation with firm performance.

Implications/Originality/Value: This research contributed to the firm with their better remuneration to the executive; CEO and director have better financial performance. Meanwhile research and development also play pivotal role toward firm performance due to their innovative idea and technique. In future other Asian countries included in the sample set like India and also some variable like CSR, Firm age, top executive education and tenure for showing the better significant results.

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**Introduction**

From the few years span director’s remuneration and role of cooperate governance were hot topic to discuss. The crisis were occurred in 1997-98 it hit the cooperate world surprisingly the developed countries like USA Uk they adopted such policies to make better cooperate governance to overcome the issue in 2007-08 sub-prime crisis happen it will greatly affect the emerging countries or undeveloped countries because of weaker policies and poor cooperate governance but it had less effect on developed countries due to adoption impressive policies in sense of director remuneration, gender diversity, pay dispersion and executive member education (Javid & Iqbal, 2010)(Chen et al., 2011). In Pakistan they adopted those policies to hire female director to minimize the risk of male dominance and also include independent director to board to make better governance and strong policies for firm.

(Ab Razak, 2014) stated that director remuneration is the payment received on the service of director of the firm, board or cooperation. It may be compensated salary, fee use of company property as an agreement between firm and them. Board of Director categorized into two different segment executive and non-executive director. Executive Directors is member of the board executive director responsible for specifying operating role and strategic planning also participate in day to day work while non-executive director is also consider as independent director which is part of board member they are not involved in the operating function but they participate in policy making (Talha et al., 2009).Remuneration is use as motivation to director which effect the decision and strategies which being planned and adopted by director which make great impact on company performance and profitability. It also considers as reward for director it’s motivating them toward their duties and it may useful to achieve the organizational goal.

Previous studies discuss that CEO compensation and director’s remuneration the relationship between the performances is mixed bag. Some studies show that there is a significant linked regarding the director remuneration and firm performance. For instance, (Aslam et al., 2019) originate that there is a significant relation between the firm performance and CEO/Director compensation strongly support the agency theory while it had not significant relationship with steward theory.

The previous literature was on firm executive remuneration and director compensation is dominated by CEO compensation because it assumes that CEO is key character for performance and their success. Therefore, grater area of existing works on directors and executives compensation focused the relationship between organization performance and CEOs. (Raithatha & Komera, 2016)(Sheikh & Kareem, 2015) found that CEO of firms is well knowledgeable and experienced person who utilize their abilities and skill to achieve the organization target and secure the shareholder wealth.

Regarding the Pakistan studies mostly research taken out Pay performance framework and CEOs mostly CEOs work as duality role and it greatly impact on firm performance and also there is political instability also lack of cooperate governance creditability (Javid & Iqbal, 2010). Other studies found that Pakistan as mirrors the qualities of rising business sector the impact of financial advancement and continuously changing cooperate governance policies in member of board CEOs, Directors-independent directors and executives it also make essential include female member in that fallowing post(Ur Rehman & Mangla, 2010).

The aim of this study to explain that CEOs, Directors-independent as well and executive compensation is significantly influenced the firm performance and also accounting measure
return on asset, equity, sale and market value of firm by tobin q. Firstly we examine that the impact of board member compensation it includes cash base incentives and non-cash base incentives on firm financial performance over the duration of 2014-2019 this time period is selected since of the disaster occurred in 2007-08 and 2012. SECP (security commission of Pakistan) modified the criteria and come with new polices of organization to disclose the board member executive, directors and CEO compensation mentioned in detailed. Moreover current study considers compensation data of the organization for last 6 years the data taken from the PSE (Pakistan stock Exchange) Pakistan non-financial sector listed in PSE 100 index. Secondly our study focus on emerging market and Pakistan is still in growing era. Large firm in Pakistan are controlled by families ownership are more common for instance in Korea and Japan and USA it different from Anglo-Saxon economies and it also create the agency problem as well(Van Essen et al., 2012). In that scenario it gives better view on remuneration and firm performance on non-financial sector in Pakistan.

Thirdly, our study consider the research and development expenses as moderator how much firm invest on R&D expenses to improves the firm performance and how research and development interlinked to CEOs, Director and executives’ compensation it also relates to tobin q, ROA, ROE, ROS whether the companies improves their position or firm performance after Research and development expenses where occurred. On other hand mostly developed countries have better performance after R&D and strongly impact on firm financial performance (Ghaffar & Khan, 2014). Perhaps the current study refer investigate that impact of board member remuneration and also taking control variable firm size, independent director and female director which show how gender diversity affect the firm performance it also include research and development as moderator and how it will affect firm financial performance. The approach is use is GSEM generalized structural equation model square spontaneously title for the problem of data found abnormal, homoscedastic found to rectify these issue we find correlation and regression among the sample organization. The finest of our assumption and awareness, this current research be only comprehensive study or investigation done so far discuss specially the board member and female also including R&D among Pakistani companies by using the recent data set of firms.

Previous research(Aslam et al., 2019) were not discussed these variable research and development as moderator and other control variable female ratio, Independent director. In this desired article that Research and development taking as moderator never research before with ceo, director and executive compensation furthermore some new variable also research in this research female ratio and independent director.

The whole paper builds into several parts. Section 2 overcomes the literature review and hypothesis. Section 3 describes the research and variable. Section 4 explains research methodology. Section 5 illustrate the result and discussion section 6 present the conclusion and section 7 is finding and implication.

**Literature Review**

**CEO Compensation and Organization Performance**

Remuneration is an agreement, which is tie up with Performance of firm and employees (Shao et al., 2012) establish that remuneration contract is productively gear the firm subject among the director and investor. Another study found that that pay performance frame work relates the agency theory Perhaps CEO is compensate their performance and its positively affect the company’s performance (Aslam et al., 2019). In agency theory assume the power to look after organization, it involve transaction with CEOs and give compensation plan which provide chief executive with more rewards to maximize the shareholder wealth, and minimize the moral hazard issue which arise from separation of control from ownership (Bebchuk & Fried, 2012). This assumes that positive relation between firm performance and CEOs compensation. In South
Africa before the implication of King III the cooperate governance and their performance not such useful or improve and also director and CEO remuneration had positive effect on the organization performance but after the implication of King III cooperate governance has been improved and also CEO and board of director there compensation have a positive impact on companies performance (Padia & Callaghan, 2020). A series of studies found that there is a positive relation with firm performance and CEOs remuneration (Raithatha & Komera, 2016; Sheikh & Kareem, 2015).

In Pakistan CEOs have more powerful than the rest of board member because mostly chief executive have strong relationship with shareholders or either head of controlling families business (Kashif & Mustafa, 2013)(Javid & Iqbal, 2010). Other study found that there is a slightly significant relationship CEOs and organization performance (Perry & Zenner, 2001)

H1: Significant level of organization performance is positively related to future CEO compensation.

**Director Remuneration and Firm Performance**

According to contracting theory the most productive BOD remuneration and compensation contract would results the most peak their performance. Moreover, the organizations give the greater packages or remuneration will enhances their performance while, compare them other firm which gives the lower compensation to board of director their performance is shown decline. Instead that the directors reward generally lies of different separate payments depending on several task in the different separate department inside the companies (Ab Razak, 2014). (Ghosh & Ayan, 2015) found that in accounting point of higher director remuneration pays a better performance towards the firm performance but from investor point of view their will be a weak relationship between them high compensation not much effect on companies performance. (Padia & Callaghan, 2020) found that there is a positive relation between board of director remuneration and company’s financial performance in Africa. Moreover, other study (Niap & Taylor, 2012) find that there is significant relationship between firm performance and BOD remuneration in Australia. Furthermore a study found there is a significant relationship between director remuneration and firm performance in Malaysian those organization pays more remuneration to their director have better company’s performance and those how paid less compensation have shown that insignificant relation between them (Ab Razak, 2014).

(Shao et al., 2012) found that there is positive relation related board of director remuneration to Tobin Q, ROA and EPS in china while there is negatively relate to ROE. Furthermore (Fernandes, 2008) find that in Portuguese the director remuneration have an insignificant between firm performance while, this research also initiate that independent directors have positively linked within the company’s performance and it also occur fewer agency problem. (Scholtz & Smit, 2012) study found that director remuneration with performance sensitivity is better for equity base except than cash based compensation. It’s also found the performance energy in organization is small range from .025 for money pay of all executive corporations in South Africa. In addition several studies investigate that there is strong linked between director and firm performance and profitability as well.

H2: Director Remuneration is positively related to firm financial performance.

**Executives’ Compensation and Firm Performance**

According to the (Pillay, 2013) Green bury report stated that there are certain element include in Executive remuneration packages given by firm these are as follow

1. Size of basic salary is increases
2. Compensation pays to executive including incentives
(Bebchuk & Fried, 2012) examined the relationship between executive compensation and firm performance and found that executive compensation positively relates to firm performance. Other study (Bruce et al., 2005) found that relationship between the executives’ compensation and firm performance is significant relation between them it examined in UK. A study examine in India by (Raithatha & Komera, 2016) found that firm performance is significantly affect the executive pay compensation. Executives of organization are playing significant role toward company’s performance those companies paying the higher reward and pay compensation to executive it’s positively impact the firms performance (Van Essen et al., 2012).

According to (Lee et al., 2008) found that firm performance measured by Tobin Q either ROA shown the positive relation with the executive compensation. It’s further stated that the executive member with the high remuneration package is significant relation with organization performance rather those have low compensation.

H3: Executive Compensation is significant relationship with firm financial performance.

Research and Development and Firm Performance

(Wang, 2011) explained that research and development is the technical innovation and improvement it provide the competitive advantage to the business toward their competitors. Furthermore it’s also stated that Millions of dollars were investing on R&D towards the advancement and improvement of product by the organization its enhancement in the firm performance. In order to succeed more profit and also compete to other firm on technical ground companies spent more on R&D expense.

According to (Ghaffar & Khan, 2014) found that R&D plays a positive role to gain advantage over the current and potential competitor of companies. While, in order to take a competitive edge firms should spend more cost on research and development activities. (Akcali & Sismanoglu, 2015) stated that those firm spending higher expenditure on research and development and developing new ideas and innovate their product its play a significant role towards firm performance.

H4: Research and Development is significant relationship with compensation of CEO, Director and Executives.

On the other hand done (Donelson & Resutek, 2012) have an apposite side of view that research and development have a no significant relationship with profit while, it have a positive relation with the future earnings. Other research by (Leung et al., 2015) found that R&D have a significant with relationship with firm earning in accounting point of view but in finance there is no relation research and development between firm performance and CEOs or executive compensation.

H5: Research and Development is significant relationship with firm financial performance.
Theoretical Framework

Data and Variable
Data Source
For this type of study, the data is collected from 100 index listed in Pakistan stock exchange (PSE) over the years of 2014-2019. The PSE 100 index is selected due to ordinary performance during the selective tenure in Asian market, is recognized as Asian tiger. The PSE 100 index lists the top hundred performing organization in Pakistan stock exchange (PSE).

Out of these 100 companies only non-financial sector included and 24 financial listed firms excluded (i.e. Insurance, Banking sector, leasing companies, Mudarabah and Investment companies) because they different governance structure and these organizations follow the role regulation under the state bank of Pakistan. Furthermore, to make a better assessment this research contains a fair sample and excludes those organizations with unfinished annual statement during that tenure of research. Thus, the concluding data consist of 69 organizations with complete information about selective variable such as CEO compensation, Director Compensation, Executive compensation, Independent director, Female director, and research and development. All the sample data collected from company’s annual statement physically from firm websites.

Variable Selections
Table 1 discuss the investigate variable beneath examine of entire compensation of CEOs, Directors and executive. Compensation comprised in cash base and non-cash base remuneration including all the packages that influence the organization performance (Shao et al., 2012; Sheikh & Kareem, 2015). While, the keys research variable to examine firm performance those firm performance indicator are Tobin Q, ROA, ROE and ROS it examine the firm performance and also corporate governance variable minimize the relation regarding transparency, disclosure & accountability (Aslam et al., 2019).

Other variable research and development as moderator significantly relate to firm performance and indicate no relation with compensation of board member. Moreover the higher the R&D have significantly enhance the firm performance (Donelson & Resutek, 2012).
Research Methodology
In order check these hypotheses, the Generalized structural equation model GSEM use to investigate the relationship between the firm performance and CEO, BOD, Executives’ compensation also TQ, ROA, ROE, ROS. GSEM approach control the problem of abnormality in the data and homoscedasticity. There is two main model of existing study firm performance without moderator and firm performance relates with moderator R&D. In first Model independent variable CEO, BOD,

Table 1. Variables and Definitions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobin’s Q</td>
<td>The TQ ratio is a measure organization asset in relation to company’s market value. (Aslam et al., 2019)</td>
<td>The data taken from financial statement it measure by total market capitalization + Total debt divide total asset Non-accounting measure (Ab Razak, 2014)</td>
</tr>
<tr>
<td>Return on Asset</td>
<td>Return on assets (ROA) its means how profitable a company is relative to the total assets. ROA gives investor, manager, or analyst awareness as to how efficient a firm’s management is at using its assets to generate earnings. ROA is displayed as a percentage. (Ibrahim et al., 2019)</td>
<td>ROA is measured as operating profit after depreciation divided by average total assets. (Lee et al., 2008); (Aslam et al., 2019); (Ab Razak, 2014)</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>ROE is considered a measure of the profitability of a corporation in relation to stockholders’ equity.</td>
<td>It will measure by net income divided by shareholder equity. (Aslam et al., 2019)</td>
</tr>
<tr>
<td>Return on Sale</td>
<td>Return on sale determines the firm’s operational efficiency. ROS. The increasing return on sale indicates the organization efficiency and decreasing ROS indicate that firm in in trouble.</td>
<td>It will be measure by operating income/ revenue</td>
</tr>
<tr>
<td>CEO Compensation</td>
<td>Remuneration includes the salary of, CEO, Director, Executives which includes cash based salary and non-cash base reward. (Javid &amp; Iqbal, 2010)</td>
<td>It will be measure by taking natural log on compensation of CEO, BOD and Executives data has been taken from annual report non-financial institution (Aslam et al., 2019)</td>
</tr>
<tr>
<td>Director Compensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive Compensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>The costs of production in these firms of different sizes vary. The size of firm occurred by it total asset or sale of companies. (Aslam et al., 2019); (Lee et al., 2008)</td>
<td>It will be measure by taking natural log of annual sale (Dalton et al., 1999); (Aslam et al., 2019)</td>
</tr>
<tr>
<td>Independent Director</td>
<td>Independent director are those how don’t have any relationship with firm or neither a part of executive team and not involved in companies day to day performance.</td>
<td>It will be measured by taking $0,1=0$ and value more than $1$ is $=1$ (Mishra &amp; Supriti, 2020)</td>
</tr>
<tr>
<td>Female Director</td>
<td>Female director are those females which are working for firm at director level also known gender diversity. How many female board member in the firm</td>
<td>If the female member is more than one we will consider one otherwise zero (Brahma et al., 2020)</td>
</tr>
<tr>
<td>Research and Development</td>
<td>R&amp;D is the process to creating new idea improvement in technology to innovate their product</td>
<td>It will be measure by R&amp;D expenses divided by EBIT (Donelson &amp; Resutek, 2012)</td>
</tr>
</tbody>
</table>
Executive compensation is estimated with control variable and firm performance indicator. 

\[ FP_{it+1} = \beta_0 + B_1ceocrit + B_2direcrit + B_3execrit + B_4Inddit + B_5Fsizeit + B_6fdit + B_6rdit + \epsilon_{it} \]  

(1)

The second equation is the research and development relation with the firm performance and the compensation of ceos, bod and executives whether the companies enhances their performance or not.

\[ FP_{it+1} = \beta_0 + B_1ceocrit + B_2direcrit + B_3execrit + B_4Inddit + B_5Fsizeit + B_6fdit + B_6rdit + B_6rd*ceocr + B_6rd*direcr + B_6rd*execr + \epsilon_{it} \]  

(2)

In the above two model FP represent the firm performance variable (TQ, ROA, ROE, ROS) while, \( i \) denote a organization, \( t \) represented a years. Perhaps ceocr, direcr, execr all are independent variable denotes the compensation packages of CEOs, board of directors, and executives. Meanwhile, set of control variable are fsize, Indd, fd (firm size, independent director, female director). Furthermore, rd including as moderator denotes research and development expenditure of firm, \( \epsilon \) mention as the error term.

Results and Discussion

Table 3 discuss the relationship of independent variable on firm performance TQ, ROA, ROE, ROS and control variable the result shows that there is a significant relation between ceo compensation and firm performance indicator. The table shown below.

Table 2. SEM - Compensation of CEO/BOD & EXECUTIVE and also TOBIN Q, ROA, ROE, ROS as a function of firm performance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tobin Q</th>
<th>ROA</th>
<th>ROE</th>
<th>ROS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td>0.057**</td>
<td>0.0103425**</td>
<td>0.095***</td>
<td>0.19*</td>
</tr>
<tr>
<td>DIRCR</td>
<td>0.17**</td>
<td>-0.0040*</td>
<td>0.0442**</td>
<td>0.0188**</td>
</tr>
<tr>
<td>EXEC</td>
<td>0.076**</td>
<td>0.0050**</td>
<td>0.0240</td>
<td>0.0203*</td>
</tr>
<tr>
<td>INDD</td>
<td>-0.1454</td>
<td>0.057**</td>
<td>0.6783**</td>
<td>0.00626**</td>
</tr>
<tr>
<td>FD</td>
<td>-0.0704***</td>
<td>-0.0319*</td>
<td>-0.06964**</td>
<td>0.0097**</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-0.1456*</td>
<td>-0.063*</td>
<td>-0.0076</td>
<td>-0.0182**</td>
</tr>
</tbody>
</table>

Note: */**/***, indicate statistical significance at 1%, 5% and 10% respectively.

According to the results, the relationship between CEO compensation and firm performance indicators Tobin Q, ROA, ROE, and ROS was examined. The impact of the CEO compensation on Tobin Q, ROA, ROE and ROS respectively are (\( \beta=0.057, p<0.05 \)), (\( \beta=0.10, p<0.05 \)), (\( \beta=0.09, p<0.10 \)), (\( \beta=0.19, p<0.01 \)), thus, the relationship between CEO compensation and firm performance indicators were significant, so Hypothesis 1 was supported. The control variable independent director, Female director and firm size shows that there is a negative relation with the Tobin Q but it shows that there is a positive relation with ROA and ROS respectively also FD have a negative relation with director compensation.

Moreover, the combination between Board of Directors and firm performance indicators Tobin Q, ROA, ROE, and ROS was tested. The influence of the Board of Directors on Tobin Q, ROA, ROE and ROS respectively are (\( \beta=0.17, p>0.05 \)), (\( \beta=-0.004, p=0.01 \)), (\( \beta=0.042, p<0.05 \)), (\( \beta=0.020, p<0.05 \)), so the connection between Board of Directors and firm performance indicators were insignificant, thus, hypothesis 2 was rejected.

Furthermore, the combination between executive compensation and firm performance indicators Tobin Q, ROA, ROE, and ROS was examined. The impact of executive compensation on firm performance indicators Tobin Q, ROA, ROE and ROS respectively are (\( \beta=0.076, p<0.05 \));
(β=0.005, p<0.05); (β=0.023, P<0.05); (β=0.002, p<0.05), so, Hypothesis 3 was supported. There is a significant relation between firm performance and executive compensation.

These result shows that firm director enhance their effort to overcome the organization target and achieved more profit when it given better compensation (Aslam et al., 2019).

Table 4 elaborates the role of moderator Research and Development on CEOs compensation, BOD and executive compensation and also on firm performance indicator TQ, ROA, ROE & ROS. Table 4 shown below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tobin Q</th>
<th>ROA</th>
<th>ROE</th>
<th>ROS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td>.541**</td>
<td>.06457**</td>
<td>.349083**</td>
<td>.0932981**</td>
</tr>
<tr>
<td>DCR</td>
<td>.0574425**</td>
<td>.010989*</td>
<td>.0993063*</td>
<td>.0193949**</td>
</tr>
<tr>
<td>EXEC</td>
<td>.0764488*</td>
<td>-.0038104</td>
<td>.0429729**</td>
<td>.0204156*</td>
</tr>
<tr>
<td>INDD</td>
<td>-.1613079</td>
<td>.0043878</td>
<td>.6865489</td>
<td>.0101146</td>
</tr>
<tr>
<td>FD</td>
<td>-.068870</td>
<td>-.0318332**</td>
<td>-.6972721</td>
<td>.0101146</td>
</tr>
<tr>
<td>FSIZE</td>
<td>-.1450891*</td>
<td>-.0062747****</td>
<td>-.0079535***</td>
<td>-.0180464**</td>
</tr>
<tr>
<td>RD</td>
<td>15.99133**</td>
<td>1.417724**</td>
<td>-8.252453**</td>
<td>3.885697***</td>
</tr>
<tr>
<td>EXECRD</td>
<td>1.347858</td>
<td>-19.23106</td>
<td>-19.23106</td>
<td>1.347858**</td>
</tr>
<tr>
<td>DIRCRR</td>
<td>2.80193*</td>
<td>-20.80193**</td>
<td>-20.80193</td>
<td>2.641689**</td>
</tr>
<tr>
<td>EXECRRD</td>
<td>3.188904**</td>
<td>-4.271824*</td>
<td>-.271824</td>
<td>3.188904**</td>
</tr>
</tbody>
</table>

Note: */**/***, indicate statistical significance at 1%, 5% and 10% respectively.

The result shows that, research & development played an insignificant moderator role between compensation of ceo, bod & executives and firm performance indicators Tobin Q, ROA, ROE, and ROS and results are given respectively (β=15.99, P>0.05); (β=1.41, p>0.05); (β=-8.25, P>0.05); (β=-3.88, P>0.10), so H4 was not supported because the probability level is greater than suggested value. Moreover, research & development showed relationship with Tobin Q, ROA, ROE and ROS respectively (β=0.54, P<0.05); (β=-0.06, p<0.05); (β=0.34, p<0.05); (β=-0.09, p<0.05), thus, Hypothesis 5 was supported. Furthermore R&D plays a positive relation toward TQ, ROA and ROS but it showed they have negative relation with return on equity as well. Research and development have a positive relation with firm performance indicator it almost enhance the organization performance but they have a negative relationship with independent variable as well (Ghaffar & Khan, 2014).

Conclusion

The research identify the relationship between the CEO, Director, Executives’ compensation (including all the cash and non-cash based packages) and firm performance also and also check the effect of moderator R&D on firm performance and ceo, bod, exec compensation. There are several proxies used market and accounting based to find relationship with organization performance. The firm performance indicator is (TQ, ROA, ROE, and ROS). The data collected from PSE100 index listed in non-financial sector over the period of 2014-2019.

The GSEM model show that there is a significant relation between compensation of ceo, directors & executives with organization performance and control variables found the positive relation between FP and independent variables as well. Several studies also strongly supported that finding the CEO, board of director and have a encouraging and significant connection with
companies performance (Aslam et al., 2019; Javid & Iqbal, 2010; Sheikh & Kareem, 2015).

Perhaps the moderator shows the insignificant relationship with CEOs, BOD and executives’ compensation it’s also show negative relation on CEO compensation as well. While, research and development have a positive and significant relationship with companies performance (TQ, ROA, ROS) likewise, finding of (Ghaffar & Khan, 2014) there is a significant relation with firm and R&D.

The current research has including number of new contributor such as (Executive compensation, Female director, independent director and also research and development) existing literature and theoretical work as well. The previous studies include the interrelationship of pay performance frame work (Aslam et al., 2019) but current studies includes the executives’ compensation and relation with firm performance and also other studies has not including these variables and never research before. Mostly studies not include cooperate governance variable(Chen et al., 2011; Sheikh & Kareem, 2015) but ignoring the effect of Research and development.

Findings
The results of current research are very helpful for the regulatory authorities, policymaker and practitioner particularly for the emerging nations and corporate governance structure. The important implication of this research is the better the compensation of board and better cooperate governance policy is significantly relation with firm performance. Moreover director and CEO is the strength of firm better the compensation package it indicate the significant relation with the firm performance. For instance, in order to obtain utmost output of employees firm should take care of their board member and reform new policy to get maximum profit.

Although the current study have limited in some aspect due to shortage of time. That the studies missed some important variable CSR as moderator and also the observation is limited the sample should as collected from other Asian countries as well specially India and China it will give better and more significant result for researchers.

Acknowledgement
The author is very grateful to the supervisor intended for their very helpful suggestion to get better the excellence of research.

References
16. https://doi.org/10.1002/ijfe.2089


Improving Customers Satisfaction through Significance of Technical Attribute in QFD Studies

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ARTICLE DETAILS

ABSTRACT

Purpose: Quality Function Deployment, (QFD) is a methodology which helps to satisfy customer requirements through the selection of appropriate Technical Attributes (TAs). The rationale of this article is to provide a method lending statistical support to the selection of TAs. The purpose is to determine the statistical significance of TAs through the derivation of associated significance (P) values.

Design/Methodology/Approach: We demonstrate our methodology with reference to an original QFD case study aimed at improving the educational system in high schools in Pakistan; and then with five further published case studies obtained from literature. Mean weights of TAs are determined. Considering each TA mean weight to be a Test Statistic, a weighted matrix is generated from the VOCs’ importance ratings, and ratings in the relationship matrix. Finally using R, P-values for the means of original TAs are determined from the hypothetical population of means of TAs.

Findings: Each TA’s P-value evaluates its significance/insignificance in terms of distance from the grand mean. P-values indirectly set the prioritization of TAs.

Implications/Originality/Value: The novel aspect of this study is extension of mean weights of TAs, to also provide P-values for TAs. TAs with significant importance can be resolved on priority basis, while other can be fixed with appropriateness.

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Introduction

Quality Function Deployment (QFD) was established by Japanese engineers and facilitated Japanese companies to improve their quality in the overseas markets successfully (Walker, 2002). It is a systematic approach towards the improvement of structures, features, requirements, qualities or utilities that give a product or service good or enhanced quality (Ahmad, 2006). QFD is a methodology for translating the Voice of the Customer (VOC) into suitable technical quality features that meet customer needs, wants and expectations. It also provides a source for product or service development and improvement (Aytac and Deniz, 2005). QFD is not only a methodological instrument but also a general approach that presents the resources for converting customer requirements in every phase of product/service improvement. QFD builds quality into a product by making certain that customer requirements are included into every phase of the improvement life cycle. Tortorella, et al. (2018) worked on to measure variation (variance of senior managers) and integrating variability into the policy deployment process.

Although QFD is well tried, tested and proven methodology, it has areas for potential improvement. Continuous improvement is a cornerstone principle of Quality Management, and therefore we should always seek new ways to improve such tools where possible. One area of potential weakness (and, therefore, of improvement) is in its lack of statistical significance testing in the prioritisation of Technical Attributes (TAs). Whilst calculated weightings are produced in order to rank and prioritise TAs, there are no associated P-values to enable practitioners to determine whether any TA’s are significantly different from others, or whether observed variations between TAs are merely manifestations of random error (analogous to common cause variation). The separation of common cause from special cause variation, for the purpose of improved decision making, is a further cornerstone principle of quality management. Previous research by the present authors, Iqbal, et al. (2014) addressed this shortcoming through the introduction of a bootstrap re-sampling method to produce a theoretical distribution, and thereby obtain significance levels for the differences between pairs of TAs.

P-values are important in statistics as they represents the probability that a null hypothesis is incorrectly rejected (a Type I error is made). In the context of this paper, it is therefore a measure of risk of making an incorrect decision when selecting a TA as being more or less important than others. This equates to the risk that a QFD practitioner makes a false conclusion that a given TA is significantly different from the grand mean of all TA values, and then acts inappropriately on this conclusion. While in many cases this possible error will not be of practical importance, in certain critical or high value systems, correct prioritisation of TAs can be quite crucial.

The aim of this research article is, therefore, to improve the QFD methodology, by developing a methodology to determine P-values associated with the mean weights of TAs. The reason for selecting TA means (rather than other measures of central tendency) is because the ratings of the Relationship Matrix and VOC’s, which play a vital role to compute P-values, are based on Likert scales with limited value ranges, and will not exhibit extreme values. Also no substantial skewness is normally observed. Further details about the rating systems are given in the literature review section.

The developed methodology will make the TA selection statistically more reliable. Assigning P-values to TAs in any QFD application will provide practitioners, engineers, researchers, product developers, scientist etc., with a new way of setting priority rating of TAs for more critical applications. In the next section, a literature review is provided, starting with a brief introduction of QFD, then a review of various qualitative rating scales and methods that have been used to improve QFD methodology. This is followed by the methodology to determine TA P-values, and finally application of developed methodology to an empirical case study conducted by us and published (Iqbal, et al., 2020) in the field of education, and also on data from five published case
studies.

**Literature Review**

**QFD, House of Quality Framework**

Figure 1 shows various matrices of the House of Quality (HOQ) used in QFD methodology. The QFD-HOQ always start with the VOCs. It integrates VOCs with some other matrices (TAs correlations, competitors’ ratings, relationship matrix etc) and finally assimilates at the determination of TAs’ weights. A brief detail of the matrices used in this process is given below.

**Figure 1: QFD, House of Quality**

- Voice of Customers (VOCs): VOCs determination is the initial step in HOQ, and consists of determining, clarifying, and specifying the customer’s needs, in their own voice.
- Technical Attributes (TAs): Technical Attributes are technical/engineering requirements required to satisfy VOCs. This step to identifying explicit product characteristics, features or attributes and presented how they will satisfy customer wants and needs.
- Interrelationship Matrix (also called Relationship Matrix): The main purpose of interrelationship matrix is to express the relationships between the customer’s various, sometime conflicting, product requirements.
- Technical Correlation Matrix: This is frequently referred to as the ‘Roof’. This matrix is used to express strength of relationships between the TAs. It shows how strong or weak correlations are between one TA and the remaining ones.
- Determination of Mean Weight of TAs: In order to compute mean weight of TAs, the first most common way is the determination of the final weights of TAs, which is the sum of the product of VOCs with each of the TA, (Iqbal, et al. 2014, Franceschini and Rossetto, 2002; Thakkar et al., 2006; Tan et al., 1998)

\[
Fw_j = \sum_{i=1}^{r} R_{ij} \times I_i \quad i = 1, \ldots, r \quad j = i, \ldots, c
\]  

(1)

Where,
In the present article, a new matrix is generated by multiplying each VOC rating with relationship matrix ratings, and this is called the Weighted Matrix, \( W_{ij} \) i.e. \( W_{ij} = R_{ij} \times I_i \). Here, \( W_{ij} \) is the weighted strength of \( j \)th TA with \( i \)th VOC. Now, the mean weight of the weighted matrix is determined by using equation 2.

\[
\bar{X} = \frac{\sum_{j=1}^{c} \sum_{i=1}^{r} R_{ij} \times I_i}{r \times c}
\]  

(2)

The mean weight will be used to simulate new weighted matrices and each new weighted matrix mean will be used to determine a hypothetical population of means.

Technical attributes Priority Ratings: The final output of the HOQ is a set of final weights of TAs. The final weights are determined by using equation (1). The order of these TAs weights set the priority ratings, whereby TAs with higher weight have higher priority to resolve, and TAs with lower weight have lower priority to resolve. In order to explore new ways of interpreting the ranking of TAs, there is a need explore the factors to find all possible rankings and probability of the actual ranking among all possible rankings.

QFD practitioners have applied the QFD method in almost every field of business. For example, (Trappey et al., 1996) developed a formal QFD methodology for the retail industry and to build a computerized retail QFD system. (Lam and Zhao, 1998) expended an application of quality function deployment to improve the quality of teaching. Similarly, a hybrid methodology is introduced by (Wu and Lin, 2012) to develop an analytical model for enhancing the service quality of e-learning. Raharjo et al. (2007) applied the QFD and Analytic Hierarchy Process to Improve Higher Education Quality. Chin et al. (2001) elaborated a six-stage QFD approach based on an empirical study of the provision of the library and information services (LIS) in a technical organization in Hong Kong. Herrmann et al. (2006) conducted an empirical study on company performance by using quality function deployment. Vinodh and Chintha (2011) conducted a research study for enabling leanness in a manufacturing organization by using fuzzy Haber and Fargnoli, (2019) used QFD for prioritizing the health sector customer needs in the competitor matrix. Iqbal and Grigg (2020) focused on the enhancement of QFD based voice of customer’s ratings by integrating the competitor matrix. Using competitors ratings they improved VOC’s ratings.

QFD has also been applied to: e-Business planning which links both in strategic and operations management by (Tan et al., 2004); the software development process (Barnett and Raja, 1995); pultrusion machine design planning (Rahim and Baksh, 2003); enhancement of nursing home service quality by (Chang, 2006); the Design of a Lithium Battery by (Halbleib, 1993); application in the Hospitality Industry by (Paryani et al., 2010); service industry application by (Mazur, 1993); to rehabilitee services (Einspruch et al., 1996); improving soccer (Partovi and Corredoira, 2002) and the confectionery industry (Viaene and Januszewska, 1999). Esteban-Ferrer and Tricas (2012) recommended a practical framework for strategic quality management in law firms by applying the quality function deployment (QFD) principles to integrate the voice of the client into the law firms’ resource enhancement process. Laosirihongthong et al., (2018) implemented Analytical Hierarchy Process, (AHP) with fuzzy logic to prioritise various
performances combined with model of linear programming while Tusnial, et al. (2020) developed a decision-making model for supplier selection by integrating QFD and AHP.

Some researchers have worked on QFD methodology, in order to obtain more reliable and consistent results. Some improved the ordinal ratings used in its various matrices; some integrated other factors which may affect QFD results and while some joint other methodologies with QFD for better achievements of results. In the VOC matrix, although ordinal ratings, 1 to 3, 1 to 9, 1 to 10 has been employed, most commonly used ratings are 1 to 5 (Olewnik and Lewis, 2008, Masui et al. 2003).

In the relationship matrix, the commonly used ratings for the strength of relationship between VOCs and TAs are 3-point, 5-point with different strength. For example, for 3-point, weak, medium and strong relationship, (Tan et al., 1998) used 1, 3, 5, respectively; for weak, medium and strong relationship, (Jeong and Oh, 1998) used 1, 3, 10; while some used 1,3,9. Five-point ratings e.g 1,3,5,7,9 and 1,2,3,4,5 are also used to express, very weak, weak, medium, strong and very strong, relationship.

Finally we focus the main application of our research. The review further revealed that in the case of QFD for the improvements of the quality of products/services researchers, practitioners or engineers have mainly focused on the traditional method of finding final weights of TAs and then achieving these TAs according to their priority ratings. For example, Tan et al., (1998) used QFD in designing IT and focused on final rating of TAs. Stehn and Bergström (2002) integrated customer oriented design into ordered functional requirements (TAs) for the multi-story timber frame houses. Tan et. al., (2004) used QFD for e-Business planning, and comprehend e-Potentials and transform them into priorities e-Implementation. Maritan and Panizzolo (2009) identify business priorities through ranking of TAs. Andronikidiset al., (2009) explored various studies and acknowledge that the QFD method is an good methodology to recognise and evaluate the customers’ expectations and requirements and , transform them into TAs whether it product, or a service or both.

Dror (2017) applied QFD method as a tool for ordered operation scheme of an individual organisation to achieve its business goals. Bulut et. al., (2018) used the multilayer QFD model for the service quality assessment of Kansai International Airport, Japan, which is capable of analysing the needs of all agents in order to find appropriate solutions. Sing and Rawani, (2018) prioritised the quality parameters of National Board of Accreditation, in order to improve the quality of higher education. Dror, (2019) wrote an article, entitled “Linking operation plans to business objectives using QFD”. He suggested competitive priorities to meet business objective for a furniture firm. Iqbal, et. al. (2014) made statistical comparison of final weights of QFD and suggested some TAs are equal in priority. It has been applied in the health industry as an an effective and appropriate service strategy, (Gambarovet al., 2017).

The literature review revealed no further methodological development for the selection of TAs. In the next section, we describe, how the TA weights can be determined statistically.

Methodology: Testing the Significance of $\bar{X}_j$

This paper provides an extension to a previous development by the authors, Iqbal, et al. (2014). We previously argued that an inferential statistical basis can be introduced via bootstrap sampling, and comparing each pair of TAs for significant difference. In this paper, we provide a variation on this theme, which is to test each TA average against the ‘grand mean’ of the TAs, and thereby establish whether any TA is significantly different from that mean. This encompasses the concept of statistical thinking, a core principle within quality engineering (e.g.
Snee, 1990) which urges quality practitioners to make decisions based on statistical evidence. Our proposed method proceeds as follows.

The two compulsory matrices ratings of the QFD methodology are VOCs’ Importance Ratings and relationship matrix Strength Ratings, (Iqbal, et al. 2014). Commonly QFD practitioners integrate these two matrices and create another matrix by using the $R_{ij} \times P_i$ component of equation (1). This new matrix is named the Weighted Matrix, (WM, figure 1). Finally, WM is transformed into final weights of TAs by taking sum of each column of WM. Then the means $\bar{X}_r$ of these final TA weights are computed by dividing each final weight by the total number of VOCs ($n^r$). Now considering mean of each TA as a test-statistic, under the null hypothesis that all the mean weights are same as population mean $\mu$. In order to test each of the means, because of ordinal rating used in all matrices of QFD, no assumptions about the population can be made, so there is a need to generate a hypothetical population. Then P-Values for each $\bar{X}_r$ can be generated. In order to generate hypothetical population, we assume the mean of $\bar{X}_r$ is equal to population mean $\mu$, and applied a parametric approach of generating samples, (Iqbal, et al. 2014) and generated a very large number of relationship matrix with mean $\mu$, for example, rpois( $\mu$, $r \times c$ ). For each re-sampled relationship matrix, we generate WM, then final weights and a hypothetical population of mean weights, $\mu_j$ of each TAs are generated. Then we determine the P-value, (probability value) $i.e. P(\bar{X} > \bar{X}_j|H_0$ is true) related with all Test-Statistics $\bar{X}_r$ of mean weights of TAs,. In this process, if the probability of our observed test-statistic is less than level of significance, traditionally called $\alpha$ on the hypothetical sampling distribution, then the $\bar{X}_r$ can be considered significant, representing that practitioners can priorities their action for more reliable achievement.

Case Study: Application of the Develop Methodology
A case study was conducted by the present researchers to improve education system in high schools, (Iqbal, et al., 2020). Details of Voice of Students, Selection of Technical Attributes, and all other steps until the determine of P-values are described in next section.

Voice of Students
As a first step of QFD framework, the following ‘voices of students’ were finalized with their importance ratings. These are translated verbatim from students responses in Urdu.

Table 1: List of Voice of Customers (VOCs) Criteria to Improve Quality of Education, (Iqbal, et al., 2020)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Voice of Students</th>
<th>Importance Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Qualification and skills of teachers</td>
<td>4.73</td>
</tr>
<tr>
<td>2</td>
<td>Limited students’ strength in class</td>
<td>3.96</td>
</tr>
<tr>
<td>3</td>
<td>Excursion trips/picnics</td>
<td>3.55</td>
</tr>
<tr>
<td>4</td>
<td>Motivations</td>
<td>4.54</td>
</tr>
<tr>
<td>5</td>
<td>Punctuality of teachers</td>
<td>4.69</td>
</tr>
<tr>
<td>6</td>
<td>Special Place for studies</td>
<td>4.18</td>
</tr>
<tr>
<td>7</td>
<td>Extra-Curricular Activities</td>
<td>3.71</td>
</tr>
<tr>
<td>8</td>
<td>Teachers’ role in academic performance</td>
<td>4.54</td>
</tr>
<tr>
<td>9</td>
<td>Fix timing for studies</td>
<td>4.65</td>
</tr>
<tr>
<td>10</td>
<td>All students treated equally by teachers</td>
<td>4.73</td>
</tr>
<tr>
<td>11</td>
<td>Practical implementation by Models</td>
<td>4.07</td>
</tr>
<tr>
<td>12</td>
<td>Monthly parents teacher meeting</td>
<td>4.08</td>
</tr>
</tbody>
</table>
Technical Attributes
After finalising the VoSs, practiced teachers, principals of schools, carrier and education consultants helped to finalized the Technical Attributes (TAs), Table 2, that can best resolve the VoSs. Following is the list of TAs that were finalized.

<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Followed Proper time table by teachers</td>
<td></td>
</tr>
<tr>
<td>Teachers’ inspiration</td>
<td></td>
</tr>
<tr>
<td>Arranged tours/picnics by Institutes</td>
<td></td>
</tr>
<tr>
<td>Library/Computer labs</td>
<td></td>
</tr>
<tr>
<td>Teachers arranged extra-curricular activities</td>
<td></td>
</tr>
<tr>
<td>Students more than 20 then make section</td>
<td></td>
</tr>
<tr>
<td>Checked through Technical devices,</td>
<td></td>
</tr>
<tr>
<td>Hired qualified teachers</td>
<td></td>
</tr>
<tr>
<td>Conducted trainings for teachers by institute</td>
<td></td>
</tr>
<tr>
<td>Teacher equally treat all students</td>
<td></td>
</tr>
<tr>
<td>Teacher behavior</td>
<td></td>
</tr>
<tr>
<td>Conducted weekly or monthly test</td>
<td></td>
</tr>
<tr>
<td>Conducted practical practice of subjects</td>
<td></td>
</tr>
<tr>
<td>Meeting hours provided to parents</td>
<td></td>
</tr>
</tbody>
</table>

House of Quality for Students Requirements
Finally, House of Quality was developed, Table 3, which shows VoSs, TAs, Relationship Matrix, Final and Mean Weights, using equation 1 and 2 simultaneously.

<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th>Importance Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualification and skills of teachers</td>
<td>4.73</td>
</tr>
<tr>
<td>Limited students strength in class</td>
<td>3.96</td>
</tr>
<tr>
<td>Excursion tour/picnic</td>
<td>3.55</td>
</tr>
<tr>
<td>Motivations</td>
<td>4.54</td>
</tr>
<tr>
<td>Punctuality of teachers</td>
<td>4.69</td>
</tr>
<tr>
<td>Special Place for studies</td>
<td>4.18</td>
</tr>
<tr>
<td>Extra-Curricular Activities</td>
<td>3.71</td>
</tr>
<tr>
<td>Teachers’ role in academic</td>
<td>4.54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(TAs)</th>
<th>Technical Attributes</th>
<th>Importance Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice of Students (VoSs)</td>
<td>Followed Proper time table by teachers</td>
<td>4.73</td>
</tr>
<tr>
<td></td>
<td>Teachers’ inspiration</td>
<td>3.96</td>
</tr>
<tr>
<td></td>
<td>Arranged tours/picnics by Institutes</td>
<td>3.55</td>
</tr>
<tr>
<td></td>
<td>Library/Computer labs</td>
<td>4.54</td>
</tr>
<tr>
<td></td>
<td>Teachers arranged extra-curricular activities</td>
<td>4.69</td>
</tr>
<tr>
<td></td>
<td>Students more than 20 then make section</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>Checked through Technical devices</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>Hired qualified teachers</td>
<td>4.54</td>
</tr>
<tr>
<td></td>
<td>Conducted trainings for teachers by institute</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>Teacher equally treat all students</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>Teacher behavior</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Conducted weekly or monthly test</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>Conducted practical practice of subjects</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>Meeting hours provided to parents</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Using the methodology described above, we determine P-values. Table 5 and figure 2 express the P-values.

Table 4: Table of Technical Attributes, with Final Weight and Mean, (Iqbal, et al., 2020)

<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th>Followed Proper time table by teachers</th>
<th>Teachers inspiration</th>
<th>Arranged tours/picnics by institutes</th>
<th>Library/Computer labs</th>
<th>Teachers arranged extra-curricular activities</th>
<th>Students more than 20 then make section</th>
<th>Checked through Technical devices</th>
<th>Hired qualified teachers</th>
<th>Conduct trainings for teachers by institute</th>
<th>Teacher equally treat all students</th>
<th>Teachers behavior</th>
<th>Conducted weekly or monthly test</th>
<th>Conducted practical practice of subjects</th>
<th>Meeting hours provided to parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Weights</td>
<td>56.08</td>
<td>22.70</td>
<td>21.30</td>
<td>25.08</td>
<td>40.01</td>
<td>56.04</td>
<td>33.11</td>
<td>39.03</td>
<td>28.38</td>
<td>73.59</td>
<td>27.24</td>
<td>35.07</td>
<td>20.40</td>
<td>1.70</td>
</tr>
<tr>
<td>Mean of Final Weights</td>
<td>4.67</td>
<td>1.89</td>
<td>1.77</td>
<td>2.09</td>
<td>3.33</td>
<td>1.65</td>
<td>4.67</td>
<td>2.67</td>
<td>3.25</td>
<td>2.36</td>
<td>6.13</td>
<td>2.27</td>
<td>2.92</td>
<td>1.70</td>
</tr>
</tbody>
</table>

Table 5: Table Showing, Final Weights of TAs, Means and P-values of the Case Study
Table 1: Technical Attributes of Selected Schools

<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th>Final Weights</th>
<th>Mean of Final Weights</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Followed Proper time table by teachers</td>
<td>50.08</td>
<td>4.67</td>
<td>0.000044**</td>
</tr>
<tr>
<td>Teachers inspiration</td>
<td>22.70</td>
<td>1.89</td>
<td>0.98952</td>
</tr>
<tr>
<td>Arranged tours/picnics by institute</td>
<td>21.30</td>
<td>1.77</td>
<td>0.99595</td>
</tr>
<tr>
<td>Library/Computer Labs</td>
<td>25.08</td>
<td>2.09</td>
<td>0.95985</td>
</tr>
<tr>
<td>Teachers arranged extracurricular activities</td>
<td>40.01</td>
<td>3.33</td>
<td>0.20907</td>
</tr>
<tr>
<td>Students more than 20 then make section</td>
<td>19.80</td>
<td>1.65</td>
<td>0.99807</td>
</tr>
<tr>
<td>Checked through Technical devices</td>
<td>56.04</td>
<td>4.67</td>
<td>0.000044**</td>
</tr>
<tr>
<td>Hired qualified teachers</td>
<td>20.70</td>
<td>2.67</td>
<td>0.62559</td>
</tr>
<tr>
<td>Conduct training for teachers by institute</td>
<td>28.38</td>
<td>3.25</td>
<td>0.24962</td>
</tr>
<tr>
<td>Teacher equally treat all students</td>
<td>73.59</td>
<td>6.13</td>
<td>0.88388</td>
</tr>
<tr>
<td>Conducted practical practice of subjects</td>
<td>27.24</td>
<td>2.77</td>
<td>0.901624</td>
</tr>
<tr>
<td>Conducted weekly or monthly test</td>
<td>35.07</td>
<td>2.92</td>
<td>0.49078</td>
</tr>
<tr>
<td>Meeting hours provided to parents</td>
<td>20.40</td>
<td>1.70</td>
<td>0.99894</td>
</tr>
</tbody>
</table>

Figure 2: Density Plot Showing Significant TAs of Case Study

Figure 2 shows our developed methodology, and concludes that in the case study there are three TAs which are found statistically significant. These are Teachers behavior, Followed Proper time table by teachers and Checked through Technical devices. These three TAs are statistically
highly important with P-values, 0.0000, 0.0004 and 0.0004 respectively. As we see there are a total of twelve VOCs and fourteen TAs. The traditional QFD ranking method would have determined that Teachers behavior is the most important, and Followed Proper time table by teachers is the second most important. On the other end, Students more than 20 then make section is most least important and Meeting hours provided to parents is the second most least important. Over all, it is observed that out of fourteen TAs three have statistically significant importance from the remaining eleven. We may say that roughly 20% are statistically significant, while 80% are non-significant. Describing differently, we may say that about 20% which statistically significant TAs, may resolve 80% of VOCs, while other 80% can only resolve 20% of VOCs. This situation in our case study shows an application of Pareto’s 80/20 principle.

Now for further application of the developed methodology in other QFD case studies, we have selected five QFD case studies from articles published in international journals.

The first case study is taken from an article entitled “Using quality function deployment in manufacturing strategic planning (Crowe and Cheng, 1996). In this article the authors developed a new methodology for (manufacturing) strategic planning. In order to satisfy customer needs and demands, they selected fifteen TAs (Table 6) to improve manufacturing strategic planning. The current traditional way of QFD only provide the final weights of TAs, no further interpretation about the TAs is provided. Our developed methodology concluded that there are six TAs which are statistically significant, shown in red colour in table 6 and figure 3, while nine of them are statistically insignificant. Out of these six, four TAs i.e. A plant within a plant, Sell the Quality/Service, Buy substitute products and resell, Instill Customer first attitude, are determined to be statistically highly significant, with P-values, 0.0022, 0.0016, 0.0010, 0.0000 respectively. While two i.e. Adopt Cellular Approach and Focus on small order are proved as significant, i.e., with P-values, 0.0213, 0.0213 respectively. Figure 3 red lines represents the significance of TAs, while black lines express insignificance of TAs.

<table>
<thead>
<tr>
<th>Technical Attributes (TAs)</th>
<th>Final Weights</th>
<th>Mean of Final Weights</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>A plant within a plant</td>
<td>15.63</td>
<td>15.83</td>
<td>0.0022**</td>
</tr>
<tr>
<td>Adopt Cellular Approach</td>
<td>13.33</td>
<td>13.33</td>
<td>0.0213*</td>
</tr>
<tr>
<td>Reduce Labor Content</td>
<td>5.333</td>
<td>5.333</td>
<td>1.9999</td>
</tr>
<tr>
<td>Increase Capacity</td>
<td>6</td>
<td>6</td>
<td>0.9221</td>
</tr>
<tr>
<td>Modernized Equipment’s Processes</td>
<td>8.7</td>
<td>8.7</td>
<td>0.0006**</td>
</tr>
<tr>
<td>Sell the Quality/Service</td>
<td>15</td>
<td>15</td>
<td>0.0012*</td>
</tr>
<tr>
<td>Focus on small order</td>
<td>13</td>
<td>13</td>
<td>0.8000</td>
</tr>
<tr>
<td>Ignore &quot;new&quot; small customers</td>
<td>9.3</td>
<td>9.3</td>
<td>1.0000</td>
</tr>
<tr>
<td>Buy substitute products and resell</td>
<td>14.83</td>
<td>14.83</td>
<td>0.0010**</td>
</tr>
<tr>
<td>Enhance Processes to signify lower cost</td>
<td>10.83</td>
<td>10.83</td>
<td>0.4070</td>
</tr>
<tr>
<td>Develop new substitute product</td>
<td>10</td>
<td>10</td>
<td>0.5509</td>
</tr>
<tr>
<td>Capital for vertical integration</td>
<td>6.5</td>
<td>6.5</td>
<td>0.9993</td>
</tr>
<tr>
<td>Instill Customer-first attitude</td>
<td>16</td>
<td>16</td>
<td>0.0000</td>
</tr>
<tr>
<td>Haire Lower wages: Skill</td>
<td>3.3</td>
<td>3.3</td>
<td>1.0000</td>
</tr>
<tr>
<td>Train in TQM</td>
<td>13</td>
<td>13</td>
<td>0.0013</td>
</tr>
</tbody>
</table>
The second case study is taken from published article entitled “Integrated design and production of multi-story timber frame houses – production effects caused by customer-oriented design” (Stehn and Bergström, 2002). In this, there are a total of six TAs suggested for multi-storey timber frame houses. The final weights of these six TAs suggest nothing except the ranking on the basis of FWs. Our developed methodology determined that out of these six TAs, three, i.e., Material choice, and Integrated design production proved highly significant with P-values 0.0000 and 0.0000 respectively, while Visible Technical Installation is demonstrated of significant importance with P-value 0.0333. Table 7 and figure 4 shows the P-values in red text and red line.

Table 7: Final Weights of TAs, Means and P-values of the Case Study, (Stehn and Bergström, 2002)

<table>
<thead>
<tr>
<th>Technical Attributes, (TAs)</th>
<th>Material choice</th>
<th>Integrated design production</th>
<th>Visible technical installation</th>
<th>Complete building system</th>
<th>Short Construction time</th>
<th>Climate sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Weights</td>
<td>213</td>
<td>235</td>
<td>172</td>
<td>118</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>Mean of Final Weights</td>
<td>23.70</td>
<td>26.00</td>
<td>19.10</td>
<td>13.10</td>
<td>10.00</td>
<td>7.80</td>
</tr>
<tr>
<td>P-Values</td>
<td>0.0000*</td>
<td>0.0000*</td>
<td>0.0333*</td>
<td>0.9958</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>
Figure 4: Density Plot Showing Significance of TAs, (Stehn and Bergström, 2002)

The third case study is taken from the article, entitled “Product attribute function deployment (PAFD) for decision-based conceptual design” (Hoyle and Chen, 2009). Current final results of case study express final weights along with their ranking. Our developed methodology determined that out of six two TAs are of highly significant importance. Table 8 and figure 5 shows the P-values in red text and red line.

Table 8: Final Weights of TAs, Means and P-values of the Case Study, (Hoyle and Chen, 2009)

<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th>Sense Element Accuracy</th>
<th>Pressure Span</th>
<th>Temperature Range</th>
<th>Housing footprint</th>
<th>Natural frequency housing</th>
<th>Connector mating Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Weights</td>
<td>72</td>
<td>82</td>
<td>58</td>
<td>48</td>
<td>36</td>
<td>26</td>
</tr>
<tr>
<td>Mean of Final Weights</td>
<td>12.00</td>
<td>13.67</td>
<td>9.67</td>
<td>8.00</td>
<td>6.00</td>
<td>4.30</td>
</tr>
<tr>
<td>P-Values</td>
<td>0.00716*</td>
<td>0.00015*</td>
<td>0.25125</td>
<td>0.75529</td>
<td>0.99298</td>
<td>0.99999</td>
</tr>
</tbody>
</table>
Figure 5: Density plot Showing Significance of TAs, (Hoyle and Chen, 2009)

Case studies 4 and 5 shown in appendices I and II, respectively.
In Case study 4 (Appendix I), QFD is used to prioritize National Board of Accreditation (NBA) quality parameters in engineering education in order to satisfy student’s needs and demands, (Sing and Rawani, 2019). Current final results of case study express final weights of TAs and ranks of TAs. The P-values determined (Table AI, Figure AI) express three prominent TAs are, Student Performance, Facilities & Technical Support and Improvement attainment outcomes with P-values, 0.00, 0.03 and 0.00. It shows the maximum student’s satisfaction can be achieved through the three TAs.

In Case study 5 (Appendix II), taken from the article, entitled “Linking operation plans to business objectives using QFD” (Dror, 2019) the author utilises QFD method for ranking the operation plans of an individual organisation to achieve business objectives. Our developed methodology shows that Stable Product Quality is the only significant TA, having P-value 0.0114, (Table AII, Figure AII).

Discussion
Regarding to the main objective of this research, we have argued that current QFD practice only determines final weights of TAs and sets a priority order for resolution. Our developed methodology supports our proposition that the final weights may be categorized into significant and insignificant final weights. We have developed a new methodology to show that how the significance of the mean weights of TAs can be determined. We employed the developed methodology on our conducted case study, as a real-life example and also we employed the methodology on some published case studies taken from the international research articles. The P-values derived as last important step from the actual mean weights of TAs, demonstrate that not all of the mean weights are statistically equally important.

The finding from the above results express that TAs statistically may be divided into two groups, i.e. group of insignificant TAs and group of significant TAs. These groups have homogeneity (internal consistency) within the groups but heterogeneity between the groups. The Pareto principle (the 80/20 rule) in general supports our contention that significant TAs are those which contribute the maximum to customer satisfaction, and should be resolved on a priority basis. In
the case of selected case studies, we observe not all the TAs significant or insignificant, but some case study, it might happen that all of the TAs determined to be insignificant or vice versa. The developed methodology provide a statistical way for better determination of TAs, although, practitioners/engineers may choose those TAs which are necessary to maximise customer satisfaction in the development of a QFD analysis. The literature review shows that there is lot of variability in the ordinal rating in form of length, strength from matrix to matrix. So, for the selection of measure of central tendency, practitioners should be careful. A good selection of central value helps to simulate a better hypothetical population. Practitioner/researchers should also be careful in the use of level of significance. The most commonly used QFD implementation ignores the integration of factors such as cost, the length of the project to complete, life cycle, and available resources.

Conclusion
Core principles of quality management include
- Decision making based on facts, data or evidence
- Understanding variation, and separating common from special cause variation, and
- Continuous improvement of systems and methods.

In this paper, we identify a potential weakness of the QFD methodology, effective and popular though it is. We apply the general principle of separating common from special cause variation to introduce a more statistically reliable (significance-based) method of determining which TAs should be prioritized for incorporation into the product or process design. In doing so, we introduce a more fact-based decision-making basis, and improve the tested methodology of QFD.

A practically applied consequence of this methodology is that institutions/organisations may occupy in costly and time taking activities as a resulting from the high preference of statistical significant TAs, on the other hand an attribute requiring less effort or cost may be an equal order as insignificant TAs. However, in some cases a small difference in P-values may not clearly defined, which TA should resolve on priority basis and which to resolve with convenience.

On the other hand, the final results of TAs be adopted by managerial, administrative or consultant practitioners. But they should be aware of their applied consequences and constraints. In case of such implications, it is suggested to discuss with TAs expert team. All the stake holders can sit for strategic planning and get advice from someone knowledgeable about the quality tools.

References


**Appendix A I:**

Table AI: Final Weights of TAs, Means and P-values of the case study, (Sing and Rawani, 2018)

<table>
<thead>
<tr>
<th></th>
<th>Final Weights</th>
<th>Mean of Final Weights</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute, Mission, Vision, &amp; Programme</td>
<td>1327</td>
<td>26.02</td>
<td>0.64</td>
</tr>
<tr>
<td>Programme outcomes</td>
<td>1335</td>
<td>26.18</td>
<td>0.56</td>
</tr>
<tr>
<td>Programme Curriculum</td>
<td>1170</td>
<td>22.94</td>
<td>1.00</td>
</tr>
<tr>
<td>Student’s Performance</td>
<td>1561</td>
<td>30.61</td>
<td>0.00</td>
</tr>
<tr>
<td>Faculty Contribution</td>
<td>1256</td>
<td>24.04</td>
<td>0.99</td>
</tr>
<tr>
<td>Facilities &amp; Technical Support</td>
<td>1398</td>
<td>27.41</td>
<td>0.03</td>
</tr>
<tr>
<td>Academic Support units &amp; Teaching Learning Support</td>
<td>1260</td>
<td>24.71</td>
<td>0.99</td>
</tr>
<tr>
<td>Governance Institutional Support &amp; Financial Resources</td>
<td>1299</td>
<td>25.47</td>
<td>0.87</td>
</tr>
<tr>
<td>Improvement attainment outcomes</td>
<td>1497</td>
<td>29.35</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Figure AI: Density plot Showing significance of TAs, (Sing and Rawani, 2018)

**Appendix A II:**

Table AII: Final Weights of TAs, Means and P-values of the case study, (Dror, 2019)

<table>
<thead>
<tr>
<th></th>
<th>Final Weights</th>
<th>Mean of Final Weights</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institute, Mission, Vision, &amp; Programme</td>
<td>1327</td>
<td>26.02</td>
<td>0.64</td>
</tr>
<tr>
<td>Programme outcomes</td>
<td>1335</td>
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<tr>
<td>Programme Curriculum</td>
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<td>1.00</td>
</tr>
<tr>
<td>Student’s Performance</td>
<td>1561</td>
<td>30.61</td>
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</tr>
<tr>
<td>Faculty Contribution</td>
<td>1256</td>
<td>24.04</td>
<td>0.99</td>
</tr>
<tr>
<td>Facilities &amp; Technical Support</td>
<td>1398</td>
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<tr>
<td>Academic Support units &amp; Teaching Learning Support</td>
<td>1260</td>
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</tr>
<tr>
<td>Governance Institutional Support &amp; Financial Resources</td>
<td>1299</td>
<td>25.47</td>
<td>0.87</td>
</tr>
<tr>
<td>Improvement attainment outcomes</td>
<td>1497</td>
<td>29.35</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Appendix A II: Table AII: Final Weights of TAs, Means and P-values of the case study, (Dror, 2019)
<table>
<thead>
<tr>
<th>Technical Attributes</th>
<th>Fast Delivery</th>
<th>Reliable Delivery</th>
<th>Low Cost</th>
<th>High Product Quality</th>
<th>Stable Product Quality</th>
<th>Product Range</th>
<th>New Products*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Weights</td>
<td>5.46</td>
<td>5.88</td>
<td>1.44</td>
<td>1.28</td>
<td>8.16</td>
<td>1.44</td>
<td>1.44</td>
</tr>
<tr>
<td>Mean of Final Weights</td>
<td>1.82</td>
<td>1.96</td>
<td>0.48</td>
<td>0.43</td>
<td>2.72</td>
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<td>0.48</td>
</tr>
<tr>
<td>P-Values</td>
<td>0.1577</td>
<td>0.2981</td>
<td>0.7026</td>
<td>0.8786</td>
<td>0.0114</td>
<td>0.8786</td>
<td>0.8786</td>
</tr>
</tbody>
</table>

Figure AII: Density plot Showing significance of TAs, (Dror, 2019)
Empowering Pakistani Woman: Impact of Education, Technology and Training Skills Development

*Noreen Sharif*, Lecturer, Management Sciences, National University of Modern Languages (NUML), Hyderabad, Pakistan

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**ARTICLE DETAILS**

**History**
Revised format: May 2021
Available Online: Jun 2021

**Keywords**
Woman empowerment, education, technology facilitation, training & skills development

**JEL Classification**
M11, M12

**ABSTRACT**

**Purpose:** It is known fact that currently Pakistani woman are facing several problems e.g., domestic violence, gender dominancy, gender discrimination and unequal distribution of power, rights and work, due the inadequacy of education. In this contemporary era of gender inequality woman empowerment is an essential area of study to be focused on. This study, therefore, aims to investigate the impact of education, technology and Skills development adopted for empowerment of women.

**Design/Methodology/Approach:** Data was collected from private and government girls’ colleges of Hyderabad district Sindh. A survey technique was used to collect data using convenience non random sampling technique. Smart PLS responses analyzed with the sample size of 1184.

**Findings:** Results of Structural equation modeling through Smart PLS supported the structural model. It was found that appropriate educational facilities, technology facilitation and training and skills development positively related to Pakistani woman empowerment.

**Implications/Originality/Value:** Education is the milestone in empowering woman and the main factor in woman’s prosperity and development. In this scenario, education is a turning point in playing vital role in empowering woman because it enables the woman to face the challenges of contemporary time and make a significant change in their traditional roles and in their lives. Academician, policy makers and leaders of organizations must note this fact.

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**Introduction**

In this contemporary era of gender inequality woman empowerment is an essential area of study to be focused on. Women's empowerment is certainly obligatory in the societies as it upsurge woman self-esteem and contribute in the whole society, nation and the world. Assuming their equal right to participate in education, society, economy and politically. Thus, woman empowerment is accepting the rights of woman by giving them recognition, understanding their valuable and distinguishing participation and well appreciated struggles (Ali, 2015).

Due Half of humans comprises of woman, but the literacy rate of women is lower than the man’s literacy rate. The literacy level of women is affected by the discrimination, gender inequality and society’s set traditions which are hurdles in woman access to get education. Education is the key to woman success empowerment to survive in the male dominating society. Women must strengthen its position to fight against the gender bias constructed by society. Women education is the most important need of the contemporary time & women should be considered equally competent no matter in outside the world or behind the veil (Tunio, 2015). Where the women education can be enhanced by empowering them educationally, socially and legally (Ojha, 2016). Education is a systematic process of providing skills, knowledge and experience to enhance a human force, that is the major requirement of society (Ali, 2015).

In Pakistan, the literacy rate is extremely poor and insignificant as compare to other developing countries. In general, country is comparatively more developed in the demographic, cultural, and health-nutrition indicators but is less progressed in housing, academics and political domain (Tunio, 2015). Thus, Pakistan has overlooked education sector which is major ingredient and indictor for the success and development of modernized world (Khan & Zerby, 1981). The Pakistan Economic Survey 2018-2019 revealed 60% where the percentage for male remains 58% whereas female found 49% (Rehman, Jingdong, & Hussain, 2015). For the rapid economic growth there is need develop education institutions and empower the women by providing improved education facilities and appropriate infrastructure (News, 2020).

Women are empowered by help resources, awareness, unbiased policies and facilities are also needed by higher authorities (Fernandes, 2015). This study is unique as it highlights the issues of educational barriers faced by women to get education and ways to resolve poverty issues faced by Hyderabad district Sindh women. This Study helps gain imperative insight for the policy makers, academicians and governing bodies in Pakistan to provide a way forward for mitigating gender disparity and establishing productive initiatives for empowering women. Education provides a foundation for development, the groundwork on which much of our economic and social well-being is built. It is the key to increasing economic efficiency and social consistency. By increasing the value and efficiency of their labor, it helps to raise the poor from poverty. Education is key towards the reduction of gender disparities (Umair, 2016).

**Hypothesis Development**

**Educational Facilities and Women Empowerment**

Empowerment can be seen as a means of creating a social environment in which decision-making and social change decisions can be made individually or collectively. Woman empowerment is termed as, a power to a woman where she is free to make her decisions because empowerment stands for that multidimensional phenomenon that enables one to have authority of their own lives (Correa-fernandes, 2015).

Formal education is the learning that takes place in everyday life. Naturally, informal educators le
earned from relatives, societies and their friends and, on the other hand, formal education is needed to empower the individual with certain special skills that distinguish them in society (Ambreen, 2013). Study indicated since women empowerment is an energetic and dynamic process that facilitates them to realize their identity and power in all characteristics. Due to the lack of educational facilities, and less focus to equip them with appropriate academic qualification; women have ignorance towards their rights. As a result their positive participation in society is below average (Ojha, 2016). In the similar context (M. Ahmed, Zameer, Verman, & Godiyal, 2021) revealed the educational barriers faced by girls to approach basic education results imbalances in their life and society. Investing in their futures has the potential to uplift their families and reduce poverty.

The study would indicate the approach to fundamental education rural and urban schools in Pakistani context. Since in rural areas parents reluctant to send their children to school. Thus are due to absence of resources, incompetent teachers, lack of facilities for female students. Thus, study highlighted the education system weaknesses and suggested ways to be incorporated to empower the rural as well as urban region woman (Saeeda Shah, 2012). Additionally, an educated woman cannot be exploited as easily, as she knows and is aware of her individuality and rights. She will not be easily suppressed. Education of women can also help in eradicating many social evils such as dowry problems that plague all parents, unemployment problem and others (Yerriswamy, 2016). An Indian study revalued the poor situation, where educational hurdles are not only created by male members but also female senior’s members of their society remain opposed to girls education. Although up to some extent these barriers were overcome by many NGOs and governmental interventions. Lack of education is the main obstacle to growth and empowerment. The rate of literacy is high in rural areas especially among women education. Women’s education is critical in rural areas of India comparatively urban areas of India (Tunio, 2015).

Therefore, on the ground of the preceding studies, it is hypothesized that:

H1: Educational facilities positively related to woman empowerment

Technology Facilitation and Training & Skills Development and Women Empowerment

Is shown the reason behind failure to woman participation in growth and progress in the country in Saudi Context (Ojha, 2016). It reveal due to access to technology like internet, computer or other multimedia sort of equipment’s, lack of training for instance leadership, team working, developing self-esteem and personality development, communication skills and less provision of supportive administrative structure to empower woman. The study further indicated success of countries depend upon whole nation but due to lack of equitable and inclusive participation of women the process work slow. If women engaged in economic activity on the same level as men, results clear economic and social benefits. Another study highlighted rural areas women who are lacking in educational as well as vocational training facilities suffers a lot and unable to improve their livelihood. Due to this shortage the employment opportunities and financially resources enhancement impossible. Education and training equally important for all. Well skilled manpower not only contributed positively to economic growth, but to improved quality labour market and improves the standards of living of the society in general since skillful labour would tend to have quality jobs and high wages compared to unskilled labour (Mulhim, 2013).

The finding endorsed similar positive association between Technology facilitation and training & skills development and Women empowerment in Nigeria. It was found that the major difficulties of Technology facilitation and training & skills development for sustainable empowerment were inadequate training facilities and acute shortage of trained qualified instructors and trainers. Thus, at the extend governmental as well as private support sector participation in essentials to equipped woman (Memon, 2007).
The study found positive relationship between Technical and Vocational Education and Training and women empowerment in rural and urban areas of Pakistani context. The finding reveals since Rural women are found to get less economic benefits of jobs and income earnings as compared to their urban people (Okolie et al., 2020).

Therefore, on the ground of the preceding studies, it is hypothesized that:

- **H2: Technology Facilitation positively related to woman empowerment**
- **H3: Training and Skills Development positively related to woman empowerment**

Figure-1 Conceptual Framework
Source: Researcher

Materials and Methods
The quantitative based research methodology a general survey has been conducted in this study that includes questionnaire which were distributed among the private and government girls’ colleges of Hyderabad district Sindh. A well-structured cross-sectional questionnaire is used which consists of twenty four items. All the adapted instrumentare pre-tested. Questionnaires were distributed to the girls’ students of both public and private Colleges situated in Hyderabad district Sindh.

For the study a convenience non-random sampling techniques is applied where to get the minimum sample size. To find out the sample size G*power software version 3.1.9.2 (A. Ahmed, Wadood, & Mohammad, 2020) is used that results 132 as minimum sample size. Total 1400 questionnaire have given to students from the population of Hyderabad district girl’s private and public colleges, out of which 1184 were received where 646 are taken from of public girl’s colleges and 538 are taken from private girl’s colleges. Therefore, the return rate is 85% of the original sample. The survey questionnaires initial part consists of demographic details of the respondents while lateral part comprises of 24 items with five point Likert scale. In this study 5-point Likert scale comprises of extending (1-5) strongly agree to strongly disagree is incorporate in the questionnaire. Negative/reverse coded questions are the portion of questionnaire so the employees could response with concern. Following are the parts of questionnaire. Educational facilities (EF) measured using 5-items instrument by (Faul, Erdfelder, Lang, & Buchner, 2007). The items included for example “I am generally comfortable when communicating with my teachers,” technology facilitation (TF) using the 4-items scale adopted from the study of (Plax, Kearney, & Downs, 1986). Examples of the items are: “the technology necessary (computers, cables, modems, etc) for the internet use in my institute are modern and updated”, “I have good and quick access of the Internet facility at my institution.” However, training and skills development (TSD) tested using 3-items scale by (Taylor & Todd, 1995)is used. Examples of the questions included are: “I am given a real opportunity to improve my skills in this institution” and “this institution has a well-defined training and skills development programmes.” While woman empowerment (WEMP) with the 12-items scale by (Gaertner & Nollen, 1989)is used.
Examples of the items included, “I have influence over what happens in my work” and “I am confident about my ability to do my job”

**Data Analysis**

Using structural equation modeling (SEM) Spreitzer (1995) the data analysis has been done. In measurement model analysis, the table-1 shows that the outer loadings are satisfactory indicating above 0.50 which reflect the reliability of the indicators (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Ringle, Wende, & Becker, 2015). The composite reliability values are above the suggested value of 0.7 which establishes internal consistency reliability (Hair, Sarstedt, Ringle, & Gudergan, 2017). As per suggestion (Hair, Black, Babin, Anderson, & Tatham, 2006) the AVE larger than 0.5 indicating convergent validity has been established.

### Table-1 Outer Loadings, Composite Reliability and Average Variance Extracted

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Outer Loadings</th>
<th>Composite Reliability (CR)</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Facilities (EF)</td>
<td>EF1</td>
<td>0.74</td>
<td>0.868</td>
<td>0.569</td>
</tr>
<tr>
<td></td>
<td>EF2</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EF3</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EF4</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EF5</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Facilitation (TF)</td>
<td>TF1</td>
<td>0.79</td>
<td>0.877</td>
<td>0.641</td>
</tr>
<tr>
<td></td>
<td>TF2</td>
<td>0.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF3</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF4</td>
<td>0.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and Skills Development (TSD)</td>
<td>TSD1</td>
<td>0.655</td>
<td>0.824</td>
<td>0.612</td>
</tr>
<tr>
<td></td>
<td>TSD2</td>
<td>0.822</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSD3</td>
<td>0.856</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman Empowerment (WEMP)</td>
<td>WEMP1</td>
<td>0.65</td>
<td>0.900</td>
<td>0.646</td>
</tr>
<tr>
<td></td>
<td>WEMP2</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP3</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP4</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP5</td>
<td>0.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP6</td>
<td>0.64</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>WEMP7</td>
<td>0.66</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>WEMP8</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP9</td>
<td>0.62</td>
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<td></td>
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<tr>
<td></td>
<td>WEMP10</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP11</td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEMP12</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher

### Table-2 Heterotrait-Monotrait Ratio (HTMT)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Facilities</td>
<td>0.451</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Facilitation</td>
<td>0.612</td>
<td>0.510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and Skills</td>
<td>0.773</td>
<td>0.551</td>
<td>0.730</td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman Empowerment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As shown in table-2 in the study as per suggestion of Hair (2006) assess the discriminant validity through HTMT. All the values are below 0.85 so, the discriminant validity has been established (Henseler, Ringle, & Sarstedt, 2015).

By employing software named Smart PLS3.2.9 by Henseler et al. (2015) the structural equation model (SEM) was performed next to ascertain the strength of model. For that bootstrapping technique with 5000 resamples Ringle et al. (2015) employed using Bias-Corrected and Accelerated (BCa). The parameters used in the this study to analyze the structural model is significance of path coefficient (t-value), estimation of path-coefficient (β), confidence interval, effect size ($f^2$) as by Hair et al. (2017) recommended.

### Table-3 Significant testing results of the structural model path coefficients

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>Standard Beta</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
<th>LCI</th>
<th>UCI</th>
<th>$f^2$</th>
<th>Effect Size</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H$_1$:</td>
<td>EF $\rightarrow$ WEMP</td>
<td>0.300</td>
<td>0.01809</td>
<td>16.583</td>
<td>0.00</td>
<td>0.265</td>
<td>0.335</td>
<td>0.05</td>
<td>Small</td>
<td>Yes</td>
</tr>
<tr>
<td>H$_2$:</td>
<td>TF $\rightarrow$ WEMP</td>
<td>0.250</td>
<td>0.01265</td>
<td>19.765</td>
<td>0.00</td>
<td>0.225</td>
<td>0.275</td>
<td>0.07</td>
<td>Small</td>
<td>Yes</td>
</tr>
<tr>
<td>H$_3$:</td>
<td>TSD $\rightarrow$ WEMP</td>
<td>0.290</td>
<td>0.02154</td>
<td>13.466</td>
<td>0.00</td>
<td>0.248</td>
<td>0.332</td>
<td>0.16</td>
<td>Medium</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table-3 indicates that EF $\rightarrow$ WEMP (Standard Beta=0.30, t-value 16.583, p-value <0.05) (Hahn & Ang, 2017) with CI [0.265, 0.335] not overlapping zero (Hair et al., 2017). Hence, signifying the acceptance of H$_1$. The association between EF and WEMP has small effect in this study, $f^2$= 0.05(Preacher & Hayes, 2008).

Above table-3 indicates that TF $\rightarrow$ WEMP (Standard Beta =0.250, t-value 19.765, p-value<0.05) (Wong, 2013) with CI [0.225, 0.275] not overlapping the zero (Hair et al., 2017) which demonstrating the acceptance of H$_2$. This relationship has small effect size in current study, $f^2$= 0.07(Preacher & Hayes, 2008).

Table-3 demonstrating the TSD$\rightarrow$WEMP (Standard Beta =0.290, t-value 13.466, p-value <0.05) (Wong, 2013) with CI [0.248, 0.332] not overlapping the zero (Hair et al., 2017). Hence, signifying the acceptance of H$_3$. The association between TSD and WEMP has medium effect in this study, $f^2$= 0.16 (Preacher & Hayes, 2008).

### Discussion

By investigating the hypothesized association using SEM, it was identified that Educational facilities positively related to woman empowerment. This authenticates with previous conclusions, which shows a positive connection between educational facilities to woman empowerment. Endorsing the comparable relationship (Wong, 2013) indicated education is the key factor for empowerment, prosperity, development and well-being of women. By providing appropriate education help developing and boosting up strength and confidence in women. Economically strong educated women in Pakistan were more empowered to make reproductive and household decisions. Correspondingly (Chaudhry & Rahman, 2009) endorsed the similar outcome as women are empowered with the provision of all by help academic resources in order to attain awareness and establishing self-belief. While (Tunio, 2015) empowering women is to give women the right. Women can have equal right to contribute in academics, society and the
economy. Although there are significant gender disparities in academics, throughout the whole country, but some sector are much poorer than others. The second hypothesis was concerned about Technology Facilitation positively related to woman empowerment. Findings suggest academic and non-academic education in rural Bangladesh led to positive and significant influences on women empowerment (Umair, 2016). Relatively (parveen, 2016) mentioned Technology Facilitation is equally essential for empowering woman in society. It improves standard of living, It opens up doors for new opportunities to do business or work. Technology can improve productivity, and uplift financial autonomy of women. While the last hypothesis Training and Skills Development positively related to woman empowerment. The literature confirmed the similar outcome appropriate training, support and skill development initiatives are desired to strengthen woman. As due to lots of limitations, restrictions and financial and moral constraints or cultural norms they are unable to uplift their strand of living of themselves and their family (Mulhim, 2013) while in Pakistanis context (Okolie et al., 2020) validated that Rural women as well as urban woman faces lots of difficulties in equipping themselves with modern ways of operations. Ultimately it boosts up their confidence and result dynamics in their personality and increase growth.

Conclusion
It was concluded that Pakistani women make enormous contributions to economies, whether in businesses, on farms, as entrepreneurs or employees. Women's empowerment is essential to be encouraged to feel strong by ensuring them that they can do all and all that they intend to do. Presently there are inadequate educational facilities, technology facilitation and appropriate training and skills enhancement opportunities for Pakistani woman. In this regard, suitable schooling, formal and non-formal modes for developing competences, boosting up the skills though knowledge sharing, training, seminars, workshops will significantly groom and progress Pakistani woman. Economically strong educated women in will be more empowered to make productive decisions. Academician, policy makers and Leaders of organizations must note this fact; initiatives to upsurge women’s empowerment set a straight path towards gender equality, eradication of poverty and inclusive economic growth for the country and at worldwide level.

References


Mulhim. ( 2013). the current use if ICT by novice female teachers in Saudi primary schools and their perceived training needs.


parveen. (2016). Retrieved from


Terrorism as a Major Threat to Societal Peace: The Case of Pakistan

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ARTICLE DETAILS

History
Revised format: May 2021
Available Online: Jun 2021

Keywords
Terrorism, Pakistani Society, Societal Peace, Counter-Terrorism, Insecurity

JEL Classification
H80, H89

ABSTRACT

Purpose: The central objective of this research is to look at causes behind the phenomenon of terrorism faced by Pakistan. In the contemporary era, Pakistan is facing and suffering from the destructive and gravest issue of terrorism. It has become a major problem not only for the federation as well as for the citizens of Pakistan. Terrorism has made the Pakistani society, where people do not feel secure, a society that lacks a responsible system. The factors that caused terrorism are societal despotism, economic inconsistency, political uncertainty, religious dogmatism as well as foreign intervention or international stratagem.

Design/Methodology/Approach: Qualitative method has been used in this study. Secondary sources including newspapers and research articles have been used to evaluate reasons as well as the dynamics of the phenomenon of terrorism which has severely damaged social fabric of the Pakistani society.

Findings: The article has evaluated the major causes of multiple societal dimensions of terrorism and found that unsystematic government set-up, non-democratic system, absence of law and order and frustration and collapse of law enforcement organizations, incursion, and ingress of refugees, weaponization as well as talibanization. It has also revealed that role of religious institutions, madrassas and religious sermons delivered on the occasion of daily life religious rituals are major reasons of the extremism prevailing in the Pakistani society.

Implications/Originality/Value: So, it is concluded that the major causes of multiple societal dimensions of terrorism are religious institutions, hate-speeches delivered at different ceremonies of religious and social rituals.

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Introduction
Pakistan being an Islamic state and the land of the Muslim majority is on the crossroads through facing and suffering from the bloody attacks of terrorists. Terrorism has seriously caused Pakistani society and has created threatened impacts to destruct the societal peace of Pakistan. One cannot deny the fact that peaceful society in the country does make its citizens live freely and with mental peace rather the terrorist attacks have emerged to spread poison, blood, devastation, destruction, violence, fear, an atmosphere of danger, insecurity, mental stress. Historically, the concept of terrorism is as ancient as human development. To understand and to know about the term terrorism one must know the violence of the time of the French revolution. In traditional times, terrorism indicates in the shape of individuals and tribal disturbance. Afterward, many small states faced up to the terrorist attacks by the larger states. In human history, there are unnumbered wild wars in which billions of humans were exterminated in violent terrorist actions. Unfortunately, such violent actions are still visible to human eyes and humans are badly suffering even in the 21st century. There are multiple examples of human violence in world history either it was seen when Alexander the Great, Hitler of Germany, the Roman warriors, Europeans, and other combatants, fighters murdered a large number of innocent people that have ultimately created destruction in the society. Even there were fights and wars based on religion. Above all, terrorism in the modern era has taken a new form to destruct societal peace either in the case of Iran, Iraq, the Middle East, Kuwait, Africa, the USA, Turkey, or any country of the globe. Even though the cruel acts of terrorism are noticeable and seen all over the globe though Pakistan is going through the brutal acts of terrorism directly and extremely in the form of social trouble and social mess. Due to the outbreaks of terrorism, Pakistan’s society is labeled as unrest and violent society, where no building, no footpath, no area is perceived and considered as a peaceful place. In the international community, Pakistan is at the forefront of the war against terrorism and thus the population and the state itself are facing the anger and horror of terrorists. Pakistan being a developing country got independence from the British Empire in 1947. Four provinces of Pakistan namely Punjab, Sind, Baluchistan, and Khyber Pakhtunkhwa none of them are safe from the bloodshed of terrorist groups.

Terrorism in Pakistani Society
It is estimated in 2016 the population of Pakistan is 193,368,813. For Pakistan’s development and progress, terrorism is the biggest danger. Its origin can be seen since 1979 when there was an attempt to throw out Russia from the territory of Afghanistan. The societal spectrum of Pakistan is considered to be the most peaceful society but due to the invasion of Russians in Afghanistan (a neighboring country), the social setup of Pakistan saw a big hurdle and crush in the economic as well as political systems. On the other side, the militant organizations were motivated by the superpowers of the world to develop Jihad culture in the form of a holy war in Islam to overthrow Russians. In the eighties, the land of Pakistan was considered a fruitful piece of earth for the militants to attract the young generation to overthrow the Russian forces. Perhaps during the ruling era of Zia-ul-Haq (1977-1988) and other ruling groups were enjoying and taking advantage of the ideas of the superpowers of the world, afterward when the removal of the Russians from Afghanistan, all the extremist militants' groups separated and moved in different directions. Later on, the role of the international society takes back the support from the militant organizations and also changed their plan and agenda. These militant groups were very rich and ambitious in money, weapons as well as in terms of religious and political domination in the region to fight against each other. Moreover, during the Afghan war (1979-1989) a large number of arms, weapons, bullets, and missiles were stored in Pakistan that were later on utilized by these militants' groups in extreme tribal and political violence. However, social injustice, political turmoil, economic instability, crimes, corruption giving fuel to different forms of terrorism. Thus, the geopolitical scenario of Pakistan changed with the disintegration of Russia from the international order. Due to this changed scenario, the mud of terrorism strongly grasps and speedily spread in Pakistani society. However, the difficulties and problems arise after the 9/11
incident, and in the contemporary era, it has appeared as a major threat for our country.

The increase of political Islam and terrorism in Pakistan has regional, international as well as domestic connotations. Domestically, the increase of political Islam and terrorism in Pakistan has extremely affected the building of state and society of Pakistan (Ahmed, 2007).

Pakistan is playing an effective role to stop militant groups and terrorism that used to increase terrorism acts in Pakistan. The proliferation of terrorism has strengthened the sound of fear and intolerance in the society. Terrorism is one of the social immorality, social wickedness, and social wrongdoing not only in the case of Pakistan but for the whole world to destroy mankind. This is how terrorism takes place in Pakistan and badly, adversely beat the society as a social, economic and political tussle. Hence the social employees being major part and contributors to society to bring social change must work and think on the pattern of how to defeat the fearful and striking effects of terrorism for good social change and development.

Terrorism is a complicated phenomenon that has multiple connotations likely a “creation of violence”, “fearful action”, “societal disturbance”, and a “loss of mankind”. Terrorism in Pakistan has cost a big threat and loss of humans. Therefore, for terrorist acts two terminologies come at the forefront is “mala prohibita acts” and “mala in se acts”. Prior means crimes that are made illegitimate by law, whereas later means those crimes which are crimes which are immoral. It is a social activity which can be used in the hour of peace and conflict. On the other in defining that what is a terrorist organization, it is an illegal secret organization that usually consists of planners, trainers, and true bombers or actual killers. There are multiple frameworks of a terrorist organization like known social order of command, a horizontal framework is those where leading authorities are unknown or where they do not have any key role, and the terrorists prefer to act alone or lone wolves.

Terrorism is a phenomenon that lacks symmetry warfare. Asymmetric warfare is that warfare where there is a use of unplanned or unforeseeable inhumanity by a weak group meaning by those with a small weaker force in opposition of the stronger one which includes government, military, or society to gain benefit. It is a kind of warfare that is fought between extremely opposite sides. Here the weaker one cannot attack the stronger side in terms of the traditional rules of war reasoning that it cannot attain by adopting such strategies. The main aspect of asymmetric warfare means to have unpredicted and uncommon moves in warfare. This can be related to the aspect of war with no front lines, a war conducted under the umbrella in opposed to the nameless enemy, without knowing that where it would move and how it would conclude?

Some of the analysts describe the common worldwide phenomenon of terrorism in the shape of four phases i.e. the very first phase of terrorism can be seen from the era of late 19th century and 20th early century. Second phase was called as the colonial phase that is compact within the national geographic borderline from the year 1921 till the present day. The third phase called the present move to and fro, launched global terrorism, crossroads national borders, which initiated in the 1960s. For example, 9/11 terrorist attacks explain the fourth phase of terrorism. In this phase, terrorism has reached the international stage. There is a use of any kind of weapons and arms to be used. It is very common saying that terrorism is the war of all against war. In the fourth phase, where terror means destruction in terms of both physically and imaginatively through the largest killings, murders, the frequent availability and uses of weapons of mass destruction, and religious laws for terrorist attacks opposing ordinary citizens.

Its complexity can be seen due to the facts of different factors from internal circumstances to foreign developments. The economy, politics, social area, national security, integrity all are negatively affected by
terrorism. However, the menace of being labeled as a failed state is not any other problem but only terrorism is the reason. No doubt, this issue cannot be easily resolved with the involvement of a single individual rather it demands a collective honest effort. A motivated and wide-ranging counter-terrorism strategy has become an essential need of time. The political unity and coherence between the institutions is the mandatory move in this respect.

The emergence of terrorism in Pakistan can be seen from the two important incidents, which conduct regression, dogmatism, and consequently terrorism in Pakistan. Prior to 1980s, religion has never been a disputable pitfall in Pakistan. After 1979 Iranian revolution, the sectarian extremists appeared in Pakistan that has modified the essence and significance of sectarian sadism in Pakistan. Other than this, the Soviet invasion of Afghanistan was the most critical incident in terms of extensive belligerence. Major change reshapes the society in Pakistan emerged after the flood of the Soviet-Afghan war. The real damage was uncovered after the Soviet termination from Afghanistan, where occurred weaponization and violence in Pakistan. Perhaps, later on, due to the USA attack on Afghanistan and Pakistan in War on Terror as a confederate, the noise of extremism, militancy, and terrorism fly up. The weight of terrorism has become quite greater due to its diverse nature. There are multiple forms of it, which include, ethnic, sectarian, nationalist separatist, as well as jihadi terrorism.

Since Pakistan’s emergence as an independent state, increase of ethnic diversity or form of sectarianism is the most soul-stirring. Due to this factor of ethnicity, the country was divided into parts in 1971. Bombings, fire-raising, physical attacks, damaging of property and even murders have been some facts of that time. Separatist terrorism is one of the other threats to Pakistan. For example, the province of Baluchistan is suffering from the broken guerilla wars. The foreign powers who carry out evil and wicked terrorism acts also resort to target killings to promote their separatist agenda.

Jihad is another category of terrorism that is the most widespread in the present era. This type of terrorism originated when the Soviets invaded Afghanistan in the late 1970s. When later on Soviet termination, this armed brawl changed into a civil war, and afterward, Afghanistan became an upbringing and reproduction land for terrorists. Moreover, after the 9/11 attacks, some of the jihadi groups revolve their guns against Pakistan. The reason of being Pakistan’s present situation is going in a critical situation due to multiple causes such as underdevelopment, strategic location, mixed cultures, and religious position of society.

**Major Causes of Terrorism**

The major cause is the extensive illiteracy rate in Pakistan. In the literacy rate index, Pakistan ranks 113th among the 120 nations. However, people are unaware of the real teachings of Islam, they are smoothly enraptured by the emotional debates about religious extremists (Sodhar, 2013).

- Lack of justice is the main cause of terrorism in Pakistan where the common people do not get justice being the nationalists they are continuously suffering from the illness of the society either in the form of unequal resource of distribution, limited access to the quality of education, and the most rising is that of those who belong to any elite’s authority in the political system would get all the benefits, deficiency in case of health facilities, and non-availability of basic needs and commodities to the large part of the population. People are not getting their fundamental rights of being human. In Pakistan, the lower depressed class is at the front to be exploited by the terrorists.
- Crash of democracy by military dominions also took part in terms of the spread of terrorism in Pakistan. History tells it was mainly due to the military authorities that indulged Pakistan in this dilemma. For instance, when Zia took a decision to include Pakistan in the war against the Soviets in Afghanistan, similarly due to General Pervez
Musharraf era when he emphasized in order to put Pakistan on the frontline as an ally of the US in the war against terrorism.

- Poverty and Unemployment are also the cause of terrorism in terms of the major threat to societal peace in Pakistan, when people do not get their essential needs their basic necessities all such issues forced them to go for suicide which is the worst impact on others. As presented by the Sustainable Development Policy Institute, every third Pakistani income is below the poverty line i.e. 58.7 million out of 180 million are existing in creeping poverty. Benazir Income Support Program (BISP) conducted a survey and find that almost 45.7% population of Pakistan is poor. Such people, grasped in the brutal cycle of poverty, join terrorists for financial benefits (Sodhar, 2013).

People in Pakistan on daily basis are dying and want to get rid of life or they opt for suicides either because of poverty, hunger, disease, not getting appropriate jobs or because of the injustice attitudes, they are facing due to the non-attentive attitudes of governmental bodies. In Pakistan, poverty, inequality, unemployment, lack of jobs for qualified people, the fact of discrimination between rich and poor, and low economic conditions are said to be the root causes of terrorism. Because of the poverty factor, people who cannot afford are unable to send their children to institutions and were convinced to send them to madrassas which is a place of no standard and backward place for getting knowledge in the name of Islamic education.

In Pakistani society, everyone is quite aware and it is obvious to say that madrassas are the vital source of militancy. It is not originated from the poor economic background rather the teenagers who belong to poor family backgrounds used to directly join the militant communities in order to improve their living standards. Hence poverty compelled the provision of a big supply of manpower for terrorist organizations.

- The religious intolerance in Pakistan also causes terrorism. The unbearable conflict between Sunni and Shia, which in every province of Pakistan due to these Sunni-Shia extreme issue many mosques have been attacked for which the major threat to societal peace wherein people even do not go for prayers.

- In the Afghan war, where Pakistan’s participation has also torture the country with terrorism. Then these militias have become so unchecked that they used to challenge the process of the government in different areas of the country. It is also one of the causes of terrorism in Pakistan, consequently, a high level was given in taking part in war on terror. Pakistan’s contribution to the war on terror is considered to be meant as Pakistan’s support for the USA, UK, and NATO forces in the war on terror that was basically originated by the USA in finding Usama bin Laden after the horrible incident of 9/11 attacks. By means of the historical notion, Pakistan supported these groups for achieving its goals and objectives in Afghanistan and India, but realistically, Pakistan part in war on terror emerged as a conversion of these groups into anti-Pakistani militants, and they started attacking Pakistan’s police, army, infrastructure as well as civilians. As such these anti-Pakistan groups enabled themselves as Tehreek-e-Taliban Pakistan (TTP). Several attacks of a large number of mass destruction such as attacks on Mehran naval base in 2011 and many others social destruction was claimed by this militant organization. Later on, in 2014 joint military organizational forces of Pakistan have joined to start an offensive “Operation Zarb-e-Azb”, in opposition to such militant communities.

- Terrorism rise in Pakistan due to its crippled economy. The fluctuated economy has escalated inflation, poverty, and unemployment rate. Pakistan Economy Watch (PEW) conducted a survey, which reveals that nearly 50% of the Pakistani workforce is unemployed (Sodhar, 2013). Miseries and hardships forced people to go for acquiring additional approaches of income and terrorists attract such criticized people. Hence such economic weakness enabled business for terrorists quite possible.
• Lack of law implementation is a vital cause of terrorism. In order to define law implementation, it makes sure obedience to state laws and rules and is usually regarded as a society’s stately attempt to acquire agreement with the general rules, regulations, and laws of the society. Being a crucial counterterrorism tool, law implementation has a lot to be concerned with terrorism and it is a big source of akin response in terms of the acts of terrorism. But unluckily the law enforcement situation is depressing. It is observed that the ineffectiveness of law enforcement has allowed the open field for the terrorist’s activities to be carried out.

The legislation regarding antiterrorism has many flaws. From the security perspective, there are deficiencies in terms of Pakistan’s anti-terrorism act. For example, many holds-up terrorists are released without any trial and judicial proceedings as their imprisonment end without any measures and actions. There is a lack of a systematic mechanism in order to gather and protect genuine proof in front of the court, a very discouraging police system, non-availability of high-security prisons for terrorists’ suspicions and distrusts, deficiency in terms of the security for the judges, prosecutors, and spectators. Deficiency lies in checking mechanisms over religious madrassas and mosques.

• External Interference is also the utmost cause of terrorism in Pakistan. It is quite observable that foreign intelligence agencies are vastly present in the state, also they are encouraging and supporting financially as well as giving them training to the terrorists in anti-state activities. The foreign involvement has had a negative impact on the part of the media’s role in Pakistan. The foreign agencies most popular are CIA, RAW, and Mossad, i.e. USA, India, and Israel respectively have involvement in terrorist activities and playing terrorists games in Pakistan. The media also reported that there is a vast existence of Blackwater involvement in terrorist attempts in the country.

• One of the most influential causes of terrorism is that of oppression. This can be the outcome of the group’s representation of governments and their actors as oppressive and harsh. Then for such things, terrorism provides food to lessen the power. In autocratic societies, where there are military-occupied areas or also in the international arena, by means of the political image is limited, those groups which are against the current state matters often hold in terrorism as a main aspect of the expression and not as a last center or destination. On the part of the nationalist-separatist movements like Hamas, terrorists usually appeal to the unjust action by governments that deny them dignity, recognition, security, and liberty as the main cause for joining terrorist communities. In the case of Pakistan, oppression of Muslims encourages terrorism.

For example, in the case of the Shia-Sunni conflict, where one sees the oppression and discrimination among the citizens. Many terrorists’ attacks on Sunni Muslims and Shia Muslims. This kind of religious discrimination highly impacts societal norms and values in a harsh way. Today in Muslim countries, Sharia is based on the findings of ijtihad (the process of making a legal decision by an independent explanation of legal sources i.e. Quran and Sunnah) and taqālid which means “to follow” of those discoveries by the later scholars of Islam in the wake of already laying social duties. With hour, people who are dominant in league with the priesthood have used this twisted version of Sharia in order to reach their personal and political conclusions. Now in the present scenario, there is a need to restore the original Islamic teachings only then the Muslims can get rid of the terrorism and intolerance in the country.

• Mortality Salience meant for when the individual got the awareness of his or her death is inescapable. This aspect is related to the terror management theory. In Pakistan, the sudden death of Qandeel Baloch, where the role of media is presenting one in reporting and through news and awkward impact in the societal setup. For such media must
perform its duties carefully. Similarly, many leaders were being murdered and killed due to the political issues among the political parties at the state level. All these signals the acts of terrorism.

- Pakistan being a multi-national and multi-lingual country. Racism in Pakistan does exist although Pakistan came into being in the name of Islamic teachings. As in Islam no matter which color, race, or ethnicity he or she belongs to. People are fighting in the country on the basis of racial discrimination that is one of the big sources of origin of terrorist acts.
- Egoism and Arrogance are the key issues of individual psychology that bring arrogance, prejudices, and impatience attitudes in society. Such actions by the people make society a difficult place. For example, every day such cases appeared that in rural as well as in urban areas of Pakistan, where people are going for suicides or they are killing others either due to personal issues or due to the issue of properties, land, marriage, or domestic matters which increases the notion of frustration among public.
- Interest and Agitation Seeking is another factor that initiates the path of terrorism. Agitation seeking means the sudden inborn risk and animation which is provided by the terrorist career. It is being noticed that interest and agitation seeking are more prone towards joining the terrorist organizations for creating violence. Some of the terrorists are also labeled as the stress seekers by which they do not have control over their emotions and their rude behaviors escalating in the society shows that are more concerned about their personal reward and feel powerful by creating terror and violence at the state-level.
- Financial gain causes terrorism among the states. If one country is financially going at a high level, then chances of terrorist acts are also raised to destroy the economy and social sectors of the country. In case of China-Pakistan- Economic Corridor (CPEC) that is building for the development of the economy and financial needs of the states but if any foreign actor involves like India, the hostile state for Pakistan, can cause a threatening image for the country.
- Hatred for the international economic hegemony is one of the main variables that draw terrorists on the journey to make an unbearable situation of the country. The countries which are economically stable, for such cases the wrong doers supported to escalate terrorism. In case of Al-Qaeda where Pakistan and Afghanistan do matter. Many terrorists regard with distrust and hatred the World Trade Organization (WTO). It is described by the Bureau of Economic Analysis, that the September 11, 2001 attacks shattered $16 billions of private and governmental property, which includes frameworks, computer apparatus, and software.
- Network of Communication denotes the rising actions of the terrorist groups and terrorist organizations, where through the channels of communication they reached their targeting place. For example, many incidents do see by the nations of Pakistan that sometimes do blame the neighboring countries likely Afghanistan and India for such actions same is the case if any terrible acts were held there, they also make blamed Pakistan, which ultimately leads to the sense of the negative image of hatred among each other.

For any viable state, terrorism emerged as a giant threat. It leads threat to the democratic system. Pakistan has had only a vibrating democracy. If the environment of insecurity wins, democracy would never prosper, and due to which the people would lose trust in the democratic system. The sovereignty of Pakistan is also threatened by terrorism. These terrorist groups have had made the entrance of drone attacks which occurs as a serious and swear issue to the sovereignty of the country. From the economic perspective, these terrorists’ attempts in Pakistan have raised capital and investors. The capitalists are unwilling to put money into because of the unsystematic law and order in the country. Terrorism also affects the tourism industrial sector in Pakistan. Due to these threatening evils the possibility of good governance also in menace. The governmental administrator finds difficulties and unlucky to improve the law and order in the state. National security is endangered by the crisis situation.
Pakistan is divided into small sub-nations struggling and fighting for their existence and independent identity. However, terrorism is a major threat to sovereignty, democracy, governance, to its journey towards progress and prosperity, to national security, to national integrity, and to its economy all these when comes together formed a societal dimension. Terrorism is one type of politically-motivated violence, it is a sensitive and contentious issue which creates controversies all over the world (Ahmad, 2010). Thus all these including crime and corruption causes terrorism to be emerged and give chance to these groups to foster such dangerous actions in the state. Pakistan is a society with mixed identities, by means of provincial governmental identities, along with the ideological recognition, such as Wahhabi, Deobandi, Barelvi, and many others. The social abilities of Pakistan and state policies of Pakistan are distinctive. There is an ongoing struggle between the non-combatants in order to get controlled the state and those in uniform challenging the civilians the right to get control over the rules of the state, such break-up must be taken into consideration when we are going to map up the Pakistani surroundings of terrorism. Most of the time, what happens is that people used to blame others for example the foreign intelligence agencies for damaging Pakistan, although problems and issues lies within the state. Terror in Pakistan is based on a bloodthirsty brand of religion, religious beliefs, and by the state. Sadly, there is a lack of good governance, dishonest and double-dealing rulers of civil and military, inclusive of judicial setup. Irrational and unjustified security is present in the country, which lacks public support. Due to the above-mentioned disasters, there lies a conflicting situation between the state and the society. Thus, the social problems of Pakistan are illiteracy, poverty, unemployment, terrorism, food and water crises, population growth, corruption, internal and external immigration, poor health facilities, discrimination of gender, infrastructure issue, insufficient energy and gas sector, disloyal leaders, democracy in the shape of dictatorship all these symbolize the major threat to societal peace.

Conclusion
Pakistan is facing terrorism from internal or domestic sides and also from external hands. By means of socio-economic problems in Pakistan, there are illiteracy, injustice, poverty, unemployment, as well as dissatisfaction. The political causes of terrorism in Pakistan include unsystematic government set-up, non-democratic system, absence of law and order and frustration and collapse of law enforcement organizations, incursion, and ingress of refugees, weaponization as well as talibanization. In order to view the religion-based causes, it has the major role of religious institutions, madrassas, and religious extremism. The rays of terrorism can be boosted up due to the ignorance and neglecting attitudes of the governmental sectors. However, Pakistan has certain social, political, economic, and religious facts due to which the terrorists’ attacks are day by day increasing and for these citizens of Pakistan can well act by performing their effective role in defeating this horrible act by their wise actions, by informing and reporting to the bureaucratic sources for the immediate response to defeat the acts of terrorism.

For this, the most crucial is that the government of Pakistan has to take in the prior way that to provide their citizens’ full security so that the people of the country could easily and safely report the information. For this the support of government or state and people is essential that must be preplanned, must be efficient and actively performed their duties and loyal to their own state and their own people of the country. Perhaps in defeating terrorism, the role of citizens does matter in a sense that they should have that much capability, knowledge, and rational attitude and the rational sense that no other individual or any organization could be deceived, in case if deceived would then be a source of destruction in the whole country. In the present scenario, terrorists have not spared any public places, hotels, and restaurants, educational institutions, parks, shopping malls, stadiums, airports, mosques, bazaars or markets, and even hospitals. For all this to prevent defeat counter actions and the role of military agencies and citizens does matter.
Defeating terrorism means to remove the destructive nature of the world, defeating terrorism also highlights the aspect to come up with the world so-called peaceful environment for everyone, a kind of peace-loving society where every individual has the right to live freely but under the rules and laws of the state and the citizens’ minds must be accordingly the way they are living in a secure society.

References


Jihad, Extremism and Radicalization in Pakistan

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**ARTICLE DETAILS**

**ABSTRACT**

**Purpose:** The purpose of this study is to fill current information cavities in the present material on the determinants of radicalization. The radicalization has badly affected good governance. Education, health, socio-economic and political system are major components of good governance. This research paper examines the emerging trends of Jihad, Extremism and Radicalization in Pakistan.

**Design/Methodology/Approach:** A survey was conducted a total of 4200 respondents across the country. There was no response from 200 persons and received the response of 4000 respondents, with 2800 people (70 percent) urban and 1200 respondents (30 percent) from rural area. The figure of respondents from each of the four provinces of Pakistan (Khyber Pakhtunkhwa, Punjab, Balochistan, and Sindh, ), Gilgit Baltistan, and Azad Jammu and Kashmir (AJK), entities reveals the percentage of population of each area vis-à-vis the total population of the country.

**Findings:** The results revealed that the causes of radicalization and extremism are as varied as they are abundant. The study of radicalization, Jihad and extremism in both contexts has sought to find out the causes of radicalization. It is concluded that the root causes of the Islamic militancy and religious radicalization in Pakistan are generally religious, political, ideological, economic, and social in nature.

**Implications/Originality/Value:** This research paper gives a comprehensive viewpoint and analysis amongst religion, radicalization, governance, extremism, politics, Islamic militancy, sectarianism, conflict and identity. The major root causes of militancy and radicalization were traced out which will be helpful to overcome Islamic militancy, extremism, radicalization and sectarianism in Pakistan.
Introduction

The political geography of Pakistan has been a great source of internal instability. The Punjabi ethnic group has traditionally exerted the most leading influence for the governance of the country as well as over the other ethnic groups in the region, such as the Balochis, Sindhis and Pashtuns, who have histories and linkages to Iran, India and Afghanistan, respectively (Ghosh, 2009). Since its inception, Pakistan became habituated to a country of perpetual crisis, and while some of these have a result of circumstances outside the control of the state machinery, most are a consequence of its own action. From its foundation in 1947, Pakistan has remained a state dominated by a powerful military on the one hand, and increasingly authoritative and autonomous insurgent on other. The civilian democratic governments have attempted to function within this construct, but have been repeatedly removed or made redundant by the military when their utility was judged to have ceased. The Extremism and Islamic ethnicity is a great threat to the global harmony and safety and it is also causing the political disturbance and putting a great influence for stable political environment of Pakistan. The Islamic militancy is playing a major role to increase the current wave of radicalization in Pakistan (Basit & Rathore, 2010). It has badly affected the governance in Pakistan. The major research on Islamic militancy and extremism is mostly covering the northern areas of Pakistan. There was less focus to study the trends and genesis of radicalization in other parts of Pakistan (Shah, 2020). Radicalization and Islamic Militancy has been a cavernous problematic issue in Pakistan which is causing local and worldwide instability (Shahab, 2010). Radicalization is the practice which is used by the individuals to accept thrilling and dangerous thinking, with views which vehement dealings essential to be drawn for political or religious purposes. It can produce radicalism that is taking on or acceptable of an illogical and thrilling status regarding an issue (Naqi, 2009). According to Safdar Sial and Tanveer Anjum: Religious Radicalization or Islamic Militancy means that Islam is a religion which has a set of views and rehearses that has been seemingly anti-intellectual, anti-modern, anti-liberal, and antidemocratic. Thus, as a political ideology, Islamism – also known as Islamic fundamentalism, militant Islam, radical Islam (Sial & Anjum, 2010).

– generates a mindset that is invariably hostile to non-Muslims, deviant sects, women and liberal Muslims. Ishtiaq Ahmed says that “such a mindset translated into political actions tends to be violence-prone and can give impetus to terrorism (Ahmad, 2009). Similar radicalization, there is no consensus definition and single explanation for radicalization (Azam & Aftab, 2009). It can be explained in Pakistan in different means, primarily in political, religious, and social contexts (Aftab, 2008). There is lack of consensus of definition of radicalization; it is difficult to accept the real meaning and phenomenon of the radicalization (Rana, 2009). The political marginalization, poverty, economic deprivation and other inequalities, social injustice, sectarian divisions, illiteracy, the role of madrassas and the indoctrination agendas of militant organizations are major root causes of radicalization in Pakistan (International Crisis Group, 2005). The causes of radicalization are as varied as they are abundant. The phenomenon of radicalization in Pakistan can be analyzed in two contexts: one, as part of the larger global phenomenon and exploration of regional and global linkages; and second, as analysis of radicalization’s possible connection with religion. The study of radicalization in both contexts has sought to find out the causes of radicalization.
No doubt, worldwide, it is first time that the Islamists and non-Islamists have been facing same nemesis in the shape of universally affianced Islamist extremism. The current wave of militancy and radicalization has badly affected Pakistan. It totally changed the social structure and political system of Pakistan. Farman Ali says that “the root causes of the Islamic militancy and religious radicalization in Pakistan are generally religious, political, ideological, economic, and social (Ali, 2010).” Charles Kimball highlights that “the genesis of various Islamic radical groups in South Punjab under the umbrella of the religious sectarian factions and their capability to forge close ties to one another is posing a major security threat to global, regional and domestic peace (Kimball, 2001).” The majority of Pakistani believes that Pakistan is an ideological state which was created on the basis of Islam. All India Muslim League made a long struggle for Pakistan on the basis of “Two Nation Theory” and Two Nation Theory was formulated on Islam that Muslim and non-Muslim were two separate nations. Due to creation on ideological basis of Islam, Islam has been a vital character in Pakistan history. Saleem H. Ali says: “While historians differ about the motivation of Pakistan’s founder Mohammad Ali Jinnah, regarding the formation of an Islamic state, there is little doubt that contemporary Pakistani identity is anchored in Islam (Ali, 2009).” Abdul Basit and Mujtaba Muhammad Rathore describe that “The Islamic Republican Pakistan has not ever accomplished a separate nationwide identity of its own (Basit & Rathore, 2010).” Since its existence, Pakistan is facing social and religious clashes between the Western-oriented liberal bureaucracy and a right-leaning clergy. K. K. Aziz says that “the lingering tug-of-war between a Western-oriented liberal bureaucracy and a right-leaning clergy has further confused the discourse on the national character (Aziz, 2004).”. No doubt, majority of Pakistan’s citizens have customarily religious identity. The people of Pakistan openly and proudly express to be the followers of Islam. The numbers of researchers think that radicalization and extremism is long-lasting feature of fundamental tendencies in Pakistan and Pakistans have been divided in to various sects, creed, caste and groups on the basis of religion and social identity. The people’s division on the sectarian lines has formed the Pakistani society more complicated. The Muslims in Pakistan have been separated into two major Muslim sects—Shia and Sunni. The Shia sect is further divided into two sub-sects Twelvers and Ismailis. There are four primary Sunni schools of thoughts on the basis of Fiqh: Hanafi, Shafi‘i, Mālikī, and Hanbali. The Hanafi School of Thought is subdivided into Barelvi, and Deobandi. There are Ahl-e-Hadees in Pakistan who don’t believe Fiqh. In Pakistan, Twelvers (Shia), Ismailis, Ahl-e-Hadees, Deobandi and Barelvi, have built their separate mosques and Madrassah and they say their prayers and perform their duties according to their sects. Before Soviet invasion into Afghanistan and so-called Afghan Jihad, there was no such sectarian division in rural areas and this wave of sectarianism was grown up after the involvement of Saudis and Iran and USA funding. This division into different sects and castes has more highlighted the religious cleavage.

The main cause for fierce indexes of sectarianism is the presence of several sectarian clutches within different schools of thought who go to gather support for their agendas among the followers of their respective sect. Before so-called Afghan Jihad, Sunni Barelvi Sect followers were more than 75% of the total population of Pakistan. Shia were 10-12%, Deobandi were 8-10%, Ahl-e-Hadees were 2-3%. The Barelvi Sect has more mosques and Madrassah. After Afghan Jihad and Iranian Revolution, Deobandi, Ahl-e-Hadees and Shia sects have increased not only their mosques and Madrassah but also more converted Barelvis into Deobandi Sect; Barelvis and Deobandi both belong to Hanafi Fiqh. The Deobandi sectarian organizations are working with different names. The Deobandi sectarian organizations have different wings such as political wing, religious wing, social wing, and militant wing. Tableeghi Jamaat, Sipah-e-Sahaba Pakistan (SSP) Lashar-e-Jhangvi Pakistan Ahl-e- Sunnat Jamaat, and Tehreek-e-Taliban belong to Deobandi Sect. The Deobandi organization has a vast network which is spread almost in whole Pakistan. The militant wings of Deobandi sectarian organizations- Sipah-e-Sahaba Pakistan (SSP), Lashar-e-Jhangvi and Tehreek-e-Taliban are playing most active role and are producing extremism in Pakistan. There have been very few militant wings linked with Ahl-e-Hadees, and
Shia. Tehreek-e-Labbaik Pakistan and Sunni Tehreek are called the militant wings of the Barelvi organizations but both denied it that they are not militant wings and claim for political parties which are registered before the Election Commission of Pakistan and recent election of 2018 Tehreek-e-Labbaik Pakistan has obtained 2520294 votes. Hassan Abbas says that “the present tendency of extremism in Pakistan has been ascribed to the backing of General Zia’s rule to the anti-Soviet ‘jihad’(Abbas, 2004).”. The powerful and influenced militant Islamist lobby is working in Pakistan underneath the impact of religious parties. Dr. Muhammad Ishaque Fani says that “a smaller number of violent Sunni and Shia Islamist groups in Pakistan are present who have been influenced by the teaching of Madrassah (Fani, 2007).” Bernard Lewis describes that “the maximum Muslims are not fundamentalists, and most fundamentalists are not terrorists, but most present-day alleged terrorists are Muslims and proudly identify themselves as such (Lewis, 2002).” Ibrahim M. Abu-Rab says that “the Islamists dialogue has got a great deal of consideration globally due to the breakdown of the Soviet Union and the emerging of the New World Order (Abu-Rabi, 2003).” Majority of the Pakistanis don’t believe in extremism and are not radical, and they are lenient, “both of differences within Islam and of non-Muslim believe”.

Abdul Basit and Mujtaba Muhammad Rathore describe “although the religious political parties in Pakistan could not get popular support from the people in general elections expect 2002 election, but voters perceptions endorse the need for two things: an increased role of religion in politics, law and society; and the need for social development(Basit & Rathore, 2010).” From 1947 to till now in general elections, the religious political parties could not succeed and were unable to get majority votes from Pakistani people. The alliance of the religious political parties, Muttahida Majlis-e-Amal (MMA), was succeed to form its provincial government in Khyber Pakhtun Khwa (KPK) in 2002 elections and it was first time in Pakistan history since 1947 that religious parties alliance Muttahida Majlis-e-Amal (MMA) has got 63/342 seats of National Assembly and it had third position in 2002 elections. This victory and performance of Muttahida Majlis-e-Amal (MMA) in the election and the confidence of the voters was considered its success to “the strong anti-American sentiment in the country” (The Friday Times, 200).

During the Zia regime, the role of region was penetrated into Pakistani politics and General Zia has supported and boost up the religious political parties like Jamaat-e-Islami, Jamiat Ulema-e-Islam and Jamiat Ulema-e-Pakistan. From last a few decades, religion has been playing an important role and influence in Pakistani politics and it has been happening with active support of Madrassah. The ratio of Madrassah of Deobandi, Shia and Ahl-Hadees is more in South Punjab as compare to other parts of Pakistan. The role of Madrassah cannot be ignored in Pakistani Politics(Shahab, 2010). These Madrassah had played an active role to grow the militant organization in South Punjab and these militant organizations like Lashar-e-Jhangvi (LeJ), Sipahi-e-Muhammad Pakistan (SMP), Lashkar-e-Tayyabe (LeT), Jaish-e-Muhammad (JeM), Sipah-e-Sahaba Pakistan (SSP), and Tehrik-e-Jafaria Pakistan (TJP) have strong roots and have a broad base of sympathizers in the population in South Punjab. It is common perception now a days that increase wave of militancy in Pakistan might be connected with a rising number of Madrassah in Southern Punjab. Though, it much complicated and more difficult to analyze the real role of Madrassah and the relationship between the increase numbers of Madrassah and Islamic Militancy in South Punjab but it is clear that Madrassah are involved in terrorist activities. In many cases, they had provided shelters and residences to the terrorist when they launched terrorist acts in South Punjab. During the investigation in many cases, the arrested terrorists confessed that they launched terrorist acts with the help and support of local Madrassah students. Before launching the terrorist acts, they stayed in Madrassah and chalked out the plan. Before the division of united India in 1947, the Bahawalpur State (which is now the part of the South Punjab) has more proportionately and higher number of Madrassas as compare to the other part of Pakistan. Three districts of Bahawalpur division have higher number of Madrasah and this ration is continuously increasing since 1979. The enrollment sheets of Madrassah students and schools
students were examined and analyzed, it was found out the enrollments of Madrassah students were increasing and enrollments of School students were continuously decreasing.

In the last two decades, Pakistan had to face experienced of various types of militancy and extremism. The conflicts and nursery of the terrorists are being emerged and in current situation, a new security threat that has emerged in this region is the ever expanding circle of violence by radical Islamist groups. This phenomenon has gained momentum in South Punjab by the influence of Madrassah in developing fundamental visions among the people and particularly in Madrassah students. After 9/11 terrorist attacks on the United States of America, the analysts, researcher and think tanks were more concern to the Madrassah education in Pakistan. Many studies were conducted on Madrassah education in Pakistan and their impact on society. The Number of studies and analysis were views that Madrassah are the nurseries of the terrorism and they are producing many radical and terrorist persons (Shahab, 2010).. Pakistan which has the background of a politically unstable country, less literacy rate region, impoverished by poverty, and disease, conflicts, a foothold by Extremist Islamist groups could further destabilize the region. The manifestation of radical groups in Pakistan including several Al-Qaeda affiliated formations and their associates, such as Al-Qaeda Bare Saghir, Lashkar-e-Jhangvi, Tehreek-e-Taliban Pakistan, Jaish-e-Muhammad and other extremist outfits are responsible for extremism and radicalization in Pakistan. These extremist organizations pose a grave threat to the region which is home to almost 220 million people. Some Arab countries and their opponents have become embroiled in Pakistan in a new war waged by these extremist, a conflict that has no front line. The process, pattern and trends of radicalization and extremism are complex phenomena which are mainly attributed to:

• The weakness of the state and governance.
• Poverty and Socio-economic disparities
• Highly illiteracy rate
• Ineffective institutions and lack of welfare service.
• Wrong interpretation of already existing ideologies or the bankruptcy of modern ideologies.
• Most importantly, global nexus of Extremism
• Role of Madaris and Religious Political Parties
• Destabilization of Democratic System

Besides this, psychological factors are also associated with the process of radicalization. A radical Islamic organization can be defined as a group of Muslims having extremist views who want to bring about fundamental change by making the entire world a Kingdom of God. These groups have normally been associated with the Middle East, South Asia and now in many parts of Pakistan. Radical Islam contains various interpretations of the Holy Quran by many people to achieve group or individual objectives. It is commonly promoted through extreme acts of violence and terror as such the recent attacks carried out by Lashkar-e-Jhangvi Lahore.

Literature Review

The various researches and studies were conducted to find out the root causes of militancy and co-relation of Madrassah education with radicalization. There are a number of literatures available on Madrassah education, Radicalization in Pakistan. The different researchers have identified this issue and problem with different ways. The analysts have studied and analyzed various features, tendencies, outlines, and dynamic of extremism and Islamic militancy in Pakistan in order to know religious ethnicity, extremism and radicalization in Pakistan. Dr. Fani says that: studying the various aspects, trends, patterns, and dynamics of radicalization and sectarianism in Pakistan and their reasons are much complicated in the context of Pakistan, a society that is ethnically heterogeneous and divided along ethno-linguistic, ideological, sectarian and political lines”(Fani, 2007). The available literature on Madrassah education has pointed out
an important character of Madrassah during the “so-call Afghan Jihad” against the Soviet troops in Afghanistan in 1979 in heat up radicalization in Pakistani society.

In Pakistan, Madrassah network has been spread over the whole country. This network of Madrassah has contributed a lot to increase the existing wave of radicalization in Pakistan. The active part of Madrassah and the brainwashing programs of militant groups are heating up Islamic militancy and sectarianism in Pakistan. It is true that a lot of literature is accessible on Islamic militancy; religious ethnicity and sectarianism in Pakistan; none of the literature is dealing with the matter right way in the local context. The available work on extremism, sectarianism and poor governance in Pakistan has examined and analyzed the phenomenon in the related of the “jihadi” philosophy laid by Ex.-Army Chief and President General Ziaul Haq’s regime in 1977-1988, as well as so called Afghan Jihad. The available literature has found out the root causes of Islamic militancy and sectarianism in Pakistan to the start of ferocious religious separations among the Sunni Deobandi and minority Shia sects. Though in Pakistan Madrassah have been grown up after Soviet Invasion in to Afghanistan in 1979, they could not get the attention of US media and western policy makers before 9/11 terrorist attacks on United States of America.

Jessica Stern describes that “Pakistan’ Madaris posed a grave menace, not only to the stability of the South Asian region but also to the US national security interests (Stern, 2001). Her research work is critical encourages this fixation upon Madrassah. Jessica Stern assumed in her study that “Pakistani Madaris are birth place of conceptual indoctrination and armed training for militant groups all through Pakistan and South Asia” (Stern, 2000). Peter Singer and Robert Looney also have taken up the matter of Madrassah education and pointed out that “there are clear links between the Madaris and militants” (Singer, 2001). (Looney, 2002). They have argued that in Pakistan majority of the militant is Madaris students and many Madaris are performing as facilitators for the militants. The International Crises Group (ICG) has submitted a research a report in 2002 that indicated “the threats and dangers which are posed by the Madaris in Pakistan” (ICG, 2002). The report alleged that the public schools and private schools are totally failed to provide space for students to get education in rural areas and about a third of all students in Pakistan were enrolled in the Madaris. It is very important fact and matter was more significance that the Director of ICG in Pakistan, Samina Ahmad, “who prepared the report was directed to appear before the Senate Foreign Affairs Committee in April 2005 and present report about the links between Madaris and terrorism” (Lugar, 2005). Since 2001, an alternative opinion of the Islamic militancy, and religious ethnicity was given in various research articles and editorials in different newspapers at local level and internationally. There is a lot of research work and studies were carried out on “Ziaul Haq’s Islamization programs and the Islamic Jihad Culture which was sponsored during the Soviet invasion in to Afghanistan. This literature describes that Afghan war is liable for the development of religious extremism in Pakistan. Oliver Roy has studied “the growth of religious extremism and the ‘jihad’ culture in the backdrop of the anti-Soviet jihad” (Roy, 2002).

Ayesha Jalal has given her findings in her book that “challenges reductive understandings of jihad as holy war against non-Muslim infidels by providing a rich intellectual history of the shifting, diverse, and contested meanings of jihad in South Asia: (Jalal, 2008). Amir Mir’s the Fluttering of Jihad states that while the Bush era is coming to a fag end amidst an endless war on terror, the Taliban-style militias are again spreading out rapidly from the Pakistan and Afghanistan border provinces and Federally Administered Tribal Areas(FATA) which are much different today to the Taliban-controlled Afghanistan before the 9/11 attacks (Mir, 2008). C. Christine Fair has carried out her study “Islamic Militancy in Pakistan: A View from the Provinces” empirically and examined the people’s views and beliefs regarding the Islamic militancy, extremism and sectarianism. She also evaluated the beliefs of the Pakistani government and discussed response of the government to the Islamic militancy and religious...
ethic and sectarianism (Fair, 2005). Muhammad Qasim Zaman examines the pattern and
trend of radicalization of Shia and Sunni in the backdrop of the Iranian Revolution 1979,
implementation of Zakat Ushr Zakat Ordinance 1979 in Pakistan and resultant awakening of the
Shia sect(Zaman, 1998). Rana Muhammad Amir has examined the root causes that drive people
to become a ‘jihadi’. The author then details the multi-faceted organizations that mix religion with
politics, as well as questioning the role of the Western world in creating problems(Amir,
2003). Rana Muhammad Amir and Rohan Gunaratna have discussed different trends and pattern
of terrorism in Pakistan and analyzed the role of Al-Qaeda in the Pakistan(Amir & Gunaratna,
2007). Aqeel Yousafzai highlighted that “the Taliban cross border movements from Afghanistan
to Pakistan and from Pakistan to Afghanistan has become the most complicated matter among
Pakistan and Afghanistan relations. The attacks were carried out by Taliban against the US-led
forces, Afghan government, NATO and ISAF in Afghanistan and in the Tribal Areas and Swat
District of Pakistan”. (Yousafzai, 2009). “The growth of Islamic militancy, religious ethnicity
and sectarianism in Pakistan has been examined by Hassan Abbas particularly since 1947, and
has been evaluated its links to the Pakistani army's corporate interests and U.S.-Pakistan
relations(Abbas, 2004). The Washington DC based Middle East Institute, has issued a report
titled “the Islamization of Pakistan, 1979-2009” which explains “the history of extremism,
Islamic militancy and radicalization in Pakistan in the context of the Iranian Revolution” (The
Middle East Institute, 2011). The Asia 2005 report issued by International Crisis Group in 2005
was a useful and helpful peace of work to study and analyze the links between Islamic militancy,
extremism and the tendencies of radicalization in Pakistan”(International Crisis Group,
2005). Raheem ul Haq has examined the “Youth Radicalization in Pakistan” and submitted a
report which has been published by United States Institute of Peace, Washington, D.C. on
February 26, 2014. Raheem ul Haq has explained the procedure of youth radicalization in
Pakistan and has recommended “how the governmental institution and policy makers can best
confront the growing challenge”. He further explained that “Pakistan has faced serious challenges
and threats of terrorism, extremism, radicalization and Islamic Militancy; and more than 47,000
thousands lives have been lost in terrorism-related violence in Pakistan over the past decade”
(Haque, 2014). He gave his recommendations that “opposing youth radicalization in Pakistan
needs an all-inclusive approach that helps political, social and educational alternatives to
exclusionary Islamic Identities, reducing the space for groups that espouse violence in the name
of an exclusive Islamic Identity”. Danial Wagner in his article points out that the main reason for
Islamic radicalization in States in Asia is the ungovernable states, what he calls ‘the Asian
Confederation of failed states’. Due to these failed states Muslim radicalization has reached on its
peak as these states have no check on the activities of extremists due to their poor governance,
corruption and resource scarcity (Wagner, 2017). Charlie Warren says that when Robert Kaplan
indicated that extremism is making its strongholds in Asia, nobody gave attention to that. Now
the ‘Coming Anarchy’ has reached in the region of West Africa making it a home to several
radical organizations as Boko Haram, Al-Qaeda in the Islamic Maghreb etc. Charlie Warren also
indicates that the recent rise of terrorism has its basis in insatiable political condition of the
region, local grievances, the illicit flow of weapons and money and the crass border
infiltration(Warren, 2012). Tatah Mentan describes the overall security challenges of Africa
whether conventional or non-conventional. He examines in detail the political, social and,
economic insecurities prevailing in the region and lays emphasize on how to get rid of these
diverse challenges(Menten, 2014). Zachary Devlin-Foltz says that Africa’s fragile and failed
states are crafting such political and security situations which are increasing the leverage of
Islamist fanatics in their continuing fight with moderates for influence. He indicates that counter-
extremism and counter-terrorism approaches in Africa cannot be disjointed from building
stronger, more legitimate states (Foltz, 2010). Fatwas was examined in detailed by Shmuel Bar
and he explained that “ Fatwas are legal views proclaiming whether a given act under Islam is
compulsory, permitted or not allowed , which works as a main device by which religious leaders
coeerce justify believers to engage in acts of Jihad”. Shmuel Bar describes that “Islamic
jurisprudence performs an important role in determining for believers the practical meaning of the duty to jihad”. He has discussed “the extensive scope of matters that these fatwas deal with, covering almost all facets of Islamic law of war: the rationalization for declaring jihad; the land in which the jihad should be fought; whether women and children may participate in jihad; the legality of killing women, children and other non-combatants”. He has “elevated different questions relating to the Religious Policy of the West in the face of the threat of Islamic extremism” (Shmuel, 2006). Robert Rothberg has examined the detailed situation of terrorism in African Region and described that “the eliminating both of present extremist and guerilla cells and possible forthcoming terrorist threats and combinations cannot be achieved without careful, considered attention to uplifting governance in general throughout the region of Africa”. Robert Rothberg has explained that “nearly all of the nations are fighting against terrorism with the help of United States of America or without her help and the United States of America can and will help the region upgrade its counterterror and security operations, especially a harbors and airports, but its more profound task is to help inoculate the ground against the spread of terrorist sympathizers”. He says that “means winning hearts and minds, which—for victory in the ultimate combat against Al Qaeda and terrorism—means helping to strengthen governance and improve the life prospects of all of the inhabitants of this crucial and endangered region” (Rotberg, 2005).

Robert Rothberg has described that “the ways through which terrorism has reached on its peak in the region”. The Washington, D.C. based the International Republican Institute (IRI) has conducted a survey in Pakistan in 2009 and collected public responses from Pakistani people on Pakistan’s coalition with the United States of America against war on terror and in the survey Pakistani people were questioned and asked to give their views about Al-Qaeda, Tehreek-e-Taliban Pakistan(TTP), Afghan Taliban, and Jaish-e-Muhammad (JeM), Lashar-e-Jhangvi (LeJ), Sipah-e-Muhammad Pakistan (SMP), and Punjabi Taliban in Pakistan(Ramsey, Kull, Weber, & Lewis, 2009). The joint public opinion survey of urban Pakistanis on a wide array of compelling policy questions on Democracy, Islamist Militancy, and Relations with the United State of America was conducted by C. Christine Fair; Clay Ramsay; and Steve Kull from September 12-18, 2007 under the umbrella of United States Institute of Peace (USIP), Washington, D.C. and World Public Opinion organization. The 907 adults urban Pakistanis have participated in the survey. The multi-stage probability sampling method of 907 Pakistan urban adults was used. The interviews were conducted from the 19 cities of Pakistan. The participants were asked to explore their views on the role of Islam, democracy, militant groups in Pakistan, and relations between Pakistan and United States of America. “The study lacked a homogenous sample representative of entire Pakistani populations and public perspectives on social, cultural and ideological fronts” (Fair, Ramsay, & Kull, 2008).

Sabeeha Hafeez has worked on The Changing Pakistani society and described that “Any attempt to Islamize the social sciences is very likely to engender fanaticism, emotionalism, and post-facto analysis on or interpretation of social realities” (Hafeez, 1991). Dr. Muhammad Ishaque Fani has described that “the literature review has provided and informed a detailed conceptual framework which has defined key concepts under study, and the hypothesized relationships that were being tested” (Fani, 2007).

**Hypothesis**

Pakistan is the flash point of Jihad, Extremism and Radicalization which is causing instability in Pakistan.

**Significance and Utility of the Research Work**

This research paper gives a comprehensive viewpoint and analysis amongst religion, radicalization, governance, extremism, politics, Islamic militancy, sectarianism, conflict and identity. The major root causes of militancy and radicalization were traced out which will be helpful to overcome Islamic militancy, extremism, radicalization and sectarianism in Pakistan.
The finding and recommendation of the study will be utilized to eliminate radicalization, Islamic Militancy in Pakistan. The Think Tanks Experts, Researchers, Educationists, and Policy Makers will get benefit from this research and will use the findings and recommendations for their wider purposes.

**Scope and Objectives of the Study**
The aim of this study is to fill current information cavities in the present material on the determinants of radicalization. The radicalization has badly affected good governance. Education, health, socio-economic and political system are major components of good governance. If there is socio-economic and political instability, the governance will be das and ineffective.

**Research Methodology**
Wanda Thomson Bernard describes that “research is the creation of information regarding a given substance matter and researcher who create and regulate information rise up their power to deal with the particular Issues involved” (Bernard, 2000). In other words, Sushil R. Pandey says that “The methodology is the order line of any research work, which deals with the technique of investigation of phenomena and process of research, essentially empirical in data collection and data analysis” (Pandey, 2001). The current research deals with the questions, trends and genesis of radicalization in South Punjab and its impact on governance. The current wave of militancy in South Punjab has been badly affecting the good governance. The bad and poor governance has enhanced the militancy in South Punjab. The poor performance of governmental Institution has failed to combat terrorism in South Punjab. The research work was conducted to use primary and secondary data.

The experimental and quasi-experimental research design had been used to conduct and complete this research work. For this purpose sample frame and sampling methodology of purposive, simple random, systematic random sampling was used. For conducting this research work, regression analysis had been used. The available material, data and literature on the purposed topic was carefully and systematically was examined and used. The interviews and survey were conducted from the general public, School, college, university and Madrassah students, and policy makers and those who are involved in governance related activities, either formally or informally. The public materials already collected by various government and semi-government/autonomous bodies, ware also examined and utilized for the research. I have also gone through the individual’s research reports, findings of think tanks, articles, newspapers, magazines, books to complete my research work. I have conducted this research work by using the theoretical as well as applied methodology. For the study of context of historical perspective and analysis, Hedley Bull has strappingly “encouraged and recommended a research agenda for the study of world politics based on historical methodology as opposed to a total reliance on a scientific approach derived from behavioral methods” (Bull, 1972). This method was also adopted to complete this research. Dorothy W. Baruch describes that the use of history enables the scholars to understand the particular characteristics of a state (Baruch, 1952). (Banfield, 1961).

**Field Survey**
Field survey is a quantitative research technique and methods to use widely basis on variety of data-collecting, along with different types of interviews, questionnaires, tape recordings. C. Wright Mills says that “quantitative techniques and content analysis of essays and stories are used in empirical research” (Mills, 1951). Fink describes “surveys as ways of producing information to describe, compare and predict attitude, opinion, values and behavior based on what people say or see and what is contained in records about them and their activities” (Fink, 1995). Ackroyed and Hughes characterize “survey into four distinct categories: factual; attitudinal; social psychological and explanatory” (Ackroyed & Hughes, 1993). Gans’ research of
“Levittown was based on questionnaires, interviews and participant observation” (Gans, 2017). Karsh in his study of “strike used structural interviews that were subjected to content analysis and also files correspondence, photographs, newspapers clipping, songs, and court transcripts, outlines of speeches, notes and personal memos” (Karsh, 1958). During this research, a field survey had been conducted to get data for analyzing the trends, patterns, dynamics and dimensions of radicalization in South Punjab. The date had been collected through a random survey and common questionnaires, in-depth person’s interviews.

Matt Stroh says that “the Usage of interviews in various research projects is now wide-spread and widely accepted. These offer the opportunity to sit and listen to people’s concerns and onions at a level in accessible to a questionnaire” (Stroth, 2000). Interviews are used extensively by sociologists that Benny and Hughes have referred to Modern Sociology as “the Science of the Interview” (Burgess, 1995). According to Dawn Burton, “Face-to-face interviews are better at eliciting data to open-ended questions and self-administrated questionnaires are better generating information from highly structured questions where respondents are required to tick an appropriate box” (Burton, 2000).

A survey was conducted a total of 4200 respondents across the country. There was no response from 200 persons and received the response of 4000 respondents, with 2800 people (70 percent) urban and 1200 respondents (30 percent) from rural area. The figure of respondents from each of the four provinces of Pakistan (Khyber Pakhtunkhwa, Punjab, Balochistan, and Sindh,), Gilgit Baltistan, and Azad Jammu and Kashmir (AJK),entities reveals the percentage of population of each area vis-à-vis the total population of the country. The 1008 persons (36 %) of the participants had been from urban Punjab; 432 participants (36 %) of the respondents were from rural Punjab; 448 participants (16 %) of the respondents were from urban Sindh; 192 persons (16 percent) of the respondents were from rural Sindh; 672 persons (24 percent) of the respondents were from urban Khyber Pakhtunkhwa; 288 persons (24 percent) of the respondents were from rural Khyber Pakhtunkhwa; 280 persons (10 percent) of the respondents were from urban Balochistan; 120 persons (10 percent) of the respondents were from rural Balochistan, 140 persons (5 percent) of the respondents were from urban Azad Jammu Kashmir (AJK); 60 persons (5 percent) of the respondents were from rural Azad Jammu Kashmir (AJK); 168 persons (6 percent) of the respondents were from urban Gilgit Baltistan, 72 persons (6 percent) of the respondents were from rural Gilgit Baltistan; 84 persons (3 percent) of the respondents were from urban area of federal capital Islamabad and 36 persons (3 percent) of the respondents were from rural area of federal capital Islamabad. An effort was also made to ensure representation of respondents from different age groups, literacy levels and status of employment. 1640 respondents(41 percent) were from the 16-20 year age group, 1400 respondents(35 percent) were between 20-25 years, 320 respondents(8 percent) were from 25-30; 240 respondents(6 percent) were between 30-40; 400 respondents(10 percent) were 40 or above. The 240 respondents (6%) were M. Phil Degree holders, 320(8%) were Master’s Degree, 1400 respondents(35%) were Graduate Degree holders, 1520(38%) were intermediate . Barely 400(10%) of the people were illiterate and 120(3%) had only received Madrassah education. On the social status, most of the respondents were not very wealthy: only 1000 respondents (25%) had their own vehicles, 400 people (10%) used private vehicles while 2600 persons (65%) relied on public transportation. 840 persons (21%) were students who were without jobs, 2680 persons (67%) belonged to the salaried class as 1680(42%) were employed in public sectors and 1000(25%) were in private sectors – while only 480 persons (12 per cent) ran their own business. The composed material and statistics and facts had been examined and scrutinized. This analysis was useful and helped to know the ground realisms of the Radicalization in Pakistan particularly in South Punjab.
Conclusion
Radicalization and Islamic Militancy has been a cavernous problematic issue in Pakistan which is causing local and worldwide instability. Radicalization is the practice which is used by the individuals to accept thrilling and dangerous thinking, with views which vehement dealings essential to be drawn for political or religious purposes. The political marginalization, poverty, economic deprivation and other inequalities, social injustice, sectarian divisions, illiteracy, the role of madrassas and the indoctrination agendas of militant organizations are major root causes of radicalization in Pakistan. The causes of radicalization and extremism are as varied as they are abundant. The phenomenon of radicalization in Pakistan can be analyzed in two contexts: one, as part of the larger global phenomenon and exploration of regional and global linkages; and second, as analysis of radicalization’s possible connection with religion. The study of radicalization in both contexts has sought to find out the causes of radicalization. The current wave of militancy and radicalization has badly affected Pakistan. It totally changed the social structure and political system of Pakistan. It is concluded that the root causes of the Islamic militancy and religious radicalization in Pakistan are generally religious, political, ideological, economic, and social in nature. No doubt, majority of Pakistan’s citizens have customarily religious identity. The people of Pakistan openly and proudly express to be the followers of Islam. The numbers of researchers think that radicalization and extremism is long-lasting feature of fundamental tendencies in Pakistan and Pakistanis have been divided into various sects, creed, caste and groups on the basis of religion and social identity. The people’s division on the sectarian lines has formed the Pakistani society more complicated. The Muslims in Pakistan have been separated into two major Muslim sects—Shia and Sunni. The Shia sect is further divided into two sub-sects Twelvers and Ismailis. There are four primary Sunni schools of thoughts on the basis of Fiqh: Hanafi, Shafi'i, Malik and Hanbali. The Hanafi School of Thought is subdivided into Barelvi, and Deobandi. There are Ahl-e-Hadees in Pakistan who don’t believe Fiqh. In Pakistan, Twelvers (Shia), Ismailis, Ahl-e-Hadees, Deobandi and Barelvi, have built their separate mosques and Madrassah and they say their prayers and perform their duties according to their sects. Before Soviet invasion into Afghanistan and so-called Afghan Jihad, there was no such sectarian division in rural areas and this wave of sectarianism was grown up after the involvement of Saudis and Iran and USA funding. Before Soviet invasion into Afghanistan and so-called Afghan Jihad, there was no such sectarian division in rural areas and this wave of sectarianism was grown up after the involvement of Saudis and Iran and USA funding. This division into different sects and castes has more highlighted the religious cleavage. The main cause for fierce indexes of sectarianism is the presence of several sectarian clutches within different schools of thought who go to gather support for their agendas among the followers of their respective sect. Before so-called Afghan Jihad, Sunni Barelvi Sect followers were more than 75% of the total population of Pakistan. Shia were 10-12%, Deobandi were 8-10%. Ahl-e-Hadees were 2-3%. The Barelvi Sect has more mosques and Madrassah. After Afghan Jihad and Iranian Revolution, Deobandi, Ahl-e-Hadees and Shia sects have increased not only their mosques and Madrassah but also more converted Barelvis into Deobandi Sect.

References
Christine Fair, C., Ramsay, C., & Kull, S. (2008). Pakistani Public Opinion on Democracy, Islamist Militancy, and Relations with the US., United States Institute of Peace (USIP) and World Public Opinion organization.


The Role of Socio Economic Factors in Determining the Women Bargaining Power in Pakistan

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ABSTRACT

Purpose: In recent times, women’s status has been upgraded through an increase in socio-economic factors, which had implications in determining their bargaining power. The bargaining process produces household decisions which usually consist of unequal bargaining power. This study investigating the socio-economic factors through which female education and income change their bargaining power at the household.

Design/Methodology/Approach: For this purpose, a primary survey through a questionnaire has administered in different areas of Punjab, Pakistan. We have collected the data 200 working married women OLS ordinary least square model has been applied to estimate our results.

Findings: The result of the study shows that the socio-economic factors has significant and positive role in determining the women bargaining power within and outside the household. Higher income and education not only enhance their bargaining power in decision-making within and outside the household but also increase the status of women in society.

Implications/Originality/Value: Our society needs to change their prospective towards women by removing these obstacles and giving them freedom of voice and choice, so they can lead their life according to their will. Changing such social norms through education will create better position for women in the household as well in society.

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Introduction

Policy-makers and development practitioners believe that not only the well-being of women, but also the key development outcomes such as health and education have been affected by the
bargaining power of women (Beegle, Frankenberg, & Thomas, 2001; Qian, 2008; A. R. Quisumbing, 1994; Reggio, 2011) On the other hand, their bargaining power has an effect on decisions about household production like labor allocation for diverse activities which may include household chores, wage or agriculture work etc.. (Alkire et al., 2013; Ganle, Afriyie, &Segbefia, 2015; Mahmud &Tasneem, 2014; Mello &Schmink, 2017; Radel, Schmook, Haenn, & Green, 2017). Authority of the spouse in decision making process of household in resource allocation related to their bargaining power. Income has significant role to determine the bargaining power, but not only income can determine this many other factors also have influence on the bargaining process (C. Doss, 2013). Negotiation power over resources of household between spouses called the bargaining power. By using the ability of power and status influence the other, between spouses ones who make the household related decision possess more bargaining power in this process. It also includes household production decision such as labor allocation for various activities like agriculture work or wage etc.. (Alkire et al., 2013; Ganle et al., 2015; Mello &Schmink, 2017). Recently, participation of women in economic sector and labor force is a most highlighted topic, which reduces the gap between gender not only in employment sector but also in education. It has positive impact on economic growth (ILO, 2012). Higher education and employment are main factors for enhancing women status in society while giving them some power of bargaining power on resources. But discrimination still prevails in the society, the gap between gender pay is almost 14% in OECD countries (OECD, 2018), all around the world, female participation in labor market is only 54% as compared to males which is 81% (World Bank, 2017) Women have to bear care burden of their families which is hindrance in their way to participate in labor force (Folbre, 2018; Juhn& McCue, 2017). Economic status of female and their earnings is an important indicator which supposed to positively related to the women bargaining power. In estimation, income can use as an instrumental variable or change in policy. Yusof and Duasa (2010) took indicator of women income share in income of household also Luke and Munshi (2011) took the sample of tea estates to estimation the change in female income in India.

Background of the Study

Usually males do not involve females in decision-making process within and outside the household (Ali et al., 2011; Zaman, Stewart, &Zaman, 2006). Pakistani society is known as male dominant society, here gender discrimination exists which create huge inequalities in having access to all kind of resources (Mumtaz, Salway, Waseem, &Umer, 2003). Pakistani women are deprived of even the basic needs for their life like proper diet, education etc. They are not even allowed to participate in workforce and other social activities (Jejeebhoy&Sathar, 2001; Winkvist&Akhtar, 2000). Women status in the society is known only as homemakers and dependent members while men are known as wage earner. This kind of gender inequality, especially in developing countries such as India, Pakistan, Nepal, Bangladesh due to women unequal bargaining power within the house, which cause the uneven outcomes in well-being (Ngunjiri, 2013). Females are the major part of the rural economy in Pakistan. But still they remain unseen for their efforts and nobody acknowledged their importance. They just consider as a child bearer and care taker of the house. According to (UN, 2018) Worldly, Pakistan ranking is very low for gender equality.

All around the world, almost 865 million women have the potential to fully contribute towards their economies. From which 812 million women are of developing countries. In Pakistan, the female participation rate in labor force was only 17.87% in 2004. Recently Pakistan shows a significant increase in female participation rate in labor force 22% in 2019 (World Bank, 2019).
Literature Review
The existing literature gives indication about the indicators of women bargaining power where the numbers of variables are used as proxies of bargaining power. Few authors have taken the women’s role over consumption decisions of this as proxy for the bargaining power. Where the others highlight the assets held by women as instrumental in determining their bargaining power. There are many other factors exist that affect the outcomes of household decision making and expressed as the indicators of bargaining power. Previous literature about intra-household allocation provided the results that an extra dollar given to mother was supposed to spent on food, children’ schooling and health than an extra dollar given to father (Thomas, 1994). Desai and Andrist (2010) gave their point of view on these issues in the Indian context and find response by experimenting for a positive relation between age at marriage and the three measures of empowerment which are: control over family resources, access to resources and involvement in household decisions. Yount (2005) examines about the Egyptian women’s access to resources and their response on exposure to the new ideas on their empowerment and freedom. She uses direct measures of empowerment which includes women’s attitude around a male child preference, household decision making including women who have the final say in the household about visiting friends and in the household spending about their children education, health care and marriage. All these results show that the urban working women, those who are educated, have greater hold and influence in making decisions for their children and have freedom to take decisions for their children. This indicates that giving new ideas improve the women’s empowerment in Egypt. Most of the empirical literature of developing countries like Pakistan, Bangladesh and India emphasize that how the different factors effect female bargaining power within the household, such as education, family size, no of sons, family status, asset ownership, participation in paid employment (Sarikhani, 2012; Sathar&Kazi, 2000). If female have a higher degree and income or asset ownership, these factors can ensure women status in society (Acharya, Bell, Simkhada, Van Teijlingen, &Regmi, 2010; Arooj et al., 2013; Fatima, 2014). Female with more land / assets have more authority in household.

Guvuriro and Booysen (2018) examine the elements of the intra household decision making power and responsibilities the women of the South African couples. In this study they also show the impact of the financial decision making and bargaining power on the household goods and their spending on them. The results show the gap in the income, age, and career that support a female spouse endorses their financial decision making as well. And if the female partner financial decision making is greater than they will do larger expenditures on household type goods, food, and education disregarding to the male partners. Shahid (2017) investigates domestic negotiation power between male and female of Pakistani families in Houston. The bargaining power used as strategy by immigrant women of Pakistan in U.S. They examine that these immigrant women bargaining strategies tried to fulfill their needs and also access to healthcare facilities. It shows who holds the power of decision making of resources distribution within and outside the household. The findings show that the more income and education have positive and significant impact on female decision making and negotiation power. But wife natal family background and permanent residency are also important determinants of their negotiation and decision-making power.

Education plays a vigorous role in the processes of decision making and resource allocation. Education not only impacts the outside options of women but also her bargaining power. Women education relative to her husband may attached towards her bargaining power. Thomas (1994) takes education level of her and her husband to check the impact of it on child height for age. A. Qusiumbing, Estudillo, and Otsuka (2004) also take level of education of both spouses to examine the education level of children and transfer of land to children in Ghana, the Philippines, and Indonesia. Moghadam, Khiaban, Esmaeili, and Salsali (2018) international research shows
that increasing level of women education had significant impact to decrease fertility rate. This phenomenon has also prevailed in Iran by decreasing fertility rate in recent decades. Higher level of education in Iranian women has decreased their fertility rate. To investigate this study, they used a narrative review method. They examine that the higher number of women in universities decreases their fertility rate, but they are still deprived from power of decision-making within and outside the household. The research also shows that the increasing level of education does not lead towards gender equality regarding their socio-economic, political and cultural status. They suggest that the women’s empowerment one of the main determinants for sustainable development. So, it is need of the time to make some strategy to decrease gender inequality and more emphasis on women rights.

In the literature, income and education are highlighted as an important indicator of bargaining power along with many other proxies (C. R. Doss, Deere, Oduro, &Swaminathan, 2011). However, women’s beliefs and perceptions about their rights and role in society, social values, political values, and their freedom and choice are proxies of their bargaining power. There is a dearth of literature which empirically link those non-income dimension of bargaining power in the context of the Pakistan. Therefore, the purpose of this study is to fill the Gap by examining the impact of women’s education and income on their bargaining power, taking in account a comprehensive set of proxies of bargaining power. Further, the underlying study utilizes larger sample size taking into account broader section of working women in a society.

Methodology
The research methods to be used or chosen in the proposed study includes research design, data gathering process and the techniques for the data analysis. The underlying study is quantitative in nature utilizing a primary data set. It investigates the effects of socio-economic class primarily household income and education levels of working women in determining their bargaining power.

Data and Sources
The questionnaire composed of Twenty-three questions in total including sub categories of each question. The semi structured questionnaire was developed by consulting various studies carried out in this area and after discussion with academia questionnaire covering numerous variables. The population of the present study comprised of the working-women both from formal and informal sectors. In this study, the data collected from two hundred working married women divided in terms of income to five strata’s lower, lower, middle, upper middle and upper-income groups. The data collected in the month of August till October 2018. The researcher had travelled in various areas of Lahore including universities, colleges, banks and beauty salons for collecting the data in the month of August. The women working in informal sector as domestic helpers, and tailors, beauticians and sales girls are also part of the sample. The final sample comprised only 180 out of 200 responses recorded to draw analysis of the research.

Description of Variables
Bargaining power is used as a dependent variable in this study while Income and Education are taken as independent variables of the study. Control variables are also used in this study. Control variables include size of family, age of women at the time of marriage, no. of children, dowry, children outcome, decision making, social mobility, social values, participation in politics, household income, no. of dependent, owner of house and family head. Women’s bargaining power gives them power of making decision in house and strengthen their status in society. Many studies of the women’s bargaining focus on husband and wife relationship (C. Doss, 2013). We used bargaining-index to measure the socio-economic factors impact on bargaining power in bargaining-index have taken the average of different components of the bargaining power to investigate the impact of socio-economic factors on the bargaining power. These components are
Decision making (Connelly, Roberts, & Zheng, 2010; Garikipati, 2008), Social Mobility (Breuer & Asiedu, 2017; Sanyal, 2009), Social Values (Hanson, 2009; Sebert-Kuhlmann et al., 2017; Yount & Li, 2009, 2010), Participation of women in politics (Mahmud & Tasneem, 2014; Sanyal, 2009), Financial empowerment (C. Doss, 2006; Haile, Bock, & Folmer, 2012; Panda & Agarwal, 2005), savings (Ashraf, Karlan, & Yin, 2010; C. R. Doss, 1996; Lundberg & Ward-Batts, 2000).

**Econometric Model**

Bargaining power = f (Income, Education, control variables) … (A)
Control variable includes size of family, age of women at the time of marriage, number of children, assets brought to marriage, first baby (boy or girl), number of dependent, earners, owner of house and family head.

**Bargaining Power**

Given below is the functional form of the equation (A)
Bargaining Index = \( \beta_0 + \beta_1 \) (Income) + \( \beta_2 \) (Education) + \( \beta_3 \) (Control variables) … (1)

\[
\begin{align*}
\text{Bargaining Index} & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 X_i + \epsilon_i \quad (1.1) \\
\text{DM}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 X_i + \epsilon_i \quad (2.1) \\
\text{SM}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{FE}_i + \beta_4 X_i + \epsilon_i \quad (2.2) \\
\text{SV}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{FE}_i + \beta_4 X_i + \epsilon_i \quad (2.3) \\
\text{PP}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{FE}_i + \beta_4 X_i + \epsilon_i \quad (2.4) \\
\text{Bargaining Index} & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{FE}_i + \beta_4 \text{Savings} \quad \text{... (2)}
\end{align*}
\]

Bargaining Index = \( \beta_0 + \beta_1 \) (Income) + \( \beta_2 \) (Education) + \( \beta_3 \) (Financial Empowerment) + \( \beta_4 \) (Control variables) … (3)

\[
\begin{align*}
\text{DM}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{FE}_i + \beta_4 X_i + \epsilon_i \quad (3.1) \\
\text{SM}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{S}_i + \beta_4 X_i + \epsilon_i \quad (3.2) \\
\text{SV}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{S}_i + \beta_4 X_i + \epsilon_i \quad (3.3) \\
\text{PP}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{S}_i + \beta_4 X_i + \epsilon_i \quad (3.4) \\
\text{FE}_i & = \beta_0 + \beta_1 \text{EDU}_i + \beta_2 \text{INC}_i + \beta_3 \text{S}_i + \beta_4 X_i + \epsilon_i \quad (3.5)
\end{align*}
\]
Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Obs.</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>180</td>
<td>36.74444</td>
<td>8.692848</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Education</td>
<td>180</td>
<td>14.80556</td>
<td>4.630597</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Children</td>
<td>180</td>
<td>2.438889</td>
<td>1.536025</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Household Size</td>
<td>180</td>
<td>5.722222</td>
<td>1.818759</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Dependents</td>
<td>180</td>
<td>2.55</td>
<td>1.648683</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Age at Marriage</td>
<td>180</td>
<td>23.73889</td>
<td>3.87553</td>
<td>38</td>
<td>14</td>
</tr>
<tr>
<td>Earners</td>
<td>180</td>
<td>2.394444</td>
<td>.849048</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Share in Income</td>
<td>180</td>
<td>.4482222</td>
<td>.2679701</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Decision Making</td>
<td>180</td>
<td>2.719048</td>
<td>.7285722</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Social Mobility</td>
<td>180</td>
<td>2.603704</td>
<td>.6761788</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Social Values</td>
<td>180</td>
<td>2.872222</td>
<td>.4756974</td>
<td>4</td>
<td>1.33333</td>
</tr>
<tr>
<td>Political Particpation</td>
<td>180</td>
<td>2.561111</td>
<td>.6279246</td>
<td>3.75</td>
<td>1</td>
</tr>
<tr>
<td>Bride Price</td>
<td>180</td>
<td>765833.3</td>
<td>915490.4</td>
<td>8000</td>
<td>8000</td>
</tr>
<tr>
<td>Bargaining Index</td>
<td>180</td>
<td>2.45194</td>
<td>.4571916</td>
<td>3.434524</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Source: Authors own calculation

Table 1 shows the independent and dependent variables descriptive analysis which contains in this study. The total observations of the working women are 180. The average value of women age is 36.74 while standard deviation is 8.69, which means the actual age of women is deviated by 8.69 from average value of age. The maximum values of age are 60 whereas minimum value of 20. The average value of education is 14.80 deviated by 4.63 where maximum value is 23 and the minimum value of the education is 0. The mean value of the children is 2.43 deviated by 1.53 with the maximum value of 6 and the minimum value of 0. The average value of the household size is 5.72 deviated by 1.81 where the maximum value is 12 and the minimum value is 1. The mean value of the dependents is 2.55 deviated by 1.64 with the maximum value of 7 and the minimum value of 0. The mean value of the age at marriage is 23.73 deviated by 3.87 with the maximum value of 38 and minimum value of 14. Average value of the earners is 2.39 where the maximum value is 7 and the minimum value is 1. The mean value of the decision making is 2.71% deviated by 0.72 with the maximum of 4 and the minimum value of 1. The mean value of the social mobility is 2.60% deviated by 0.67 with the maximum value of 4 to minimum value of 1. The mean value of the political participation is 2.56% deviated by 0.63 with the maximum value of 3.75 and the minimum value of 1. The mean value of the bride price is 765833.3 deviated by 915490.4 with the maximum value of 50,00,000 to minimum value of 8000. The mean value of the bargaining-index is 2.45% deviated by 0.45 with the maximum value of 3.43% to minimum value of 1.25%.

Empirical Analysis
We used OLS ordinary least square model in our study to examine the effect of independent variables on dependent variables. To control the problem of heteroscedasticity, we have used the robust regressions.

**Hypothesis 1:** Socio-economic factors do significantly affect the bargaining power and its components.

<table>
<thead>
<tr>
<th>Table 2: Socio-Economic Factors and Bargaining Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Share in income</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Children</td>
</tr>
<tr>
<td>Hh size</td>
</tr>
<tr>
<td>Hh head</td>
</tr>
<tr>
<td>Age at marriage</td>
</tr>
<tr>
<td>Dowry</td>
</tr>
<tr>
<td>2.owner (husband)</td>
</tr>
<tr>
<td>3.owner (another member)</td>
</tr>
<tr>
<td>4.owner (rented)</td>
</tr>
<tr>
<td>2.owner (private)</td>
</tr>
<tr>
<td>3.owner (informal)</td>
</tr>
<tr>
<td>First child</td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>Value of F</td>
</tr>
<tr>
<td>Prob&gt;F</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
</tbody>
</table>

**Notes:** p<0.01, ** p<0.05, * p<0.1

Robust standard errors in parentheses

In table 2, independent variables are related to the socio-economic factor. To the significance of the overall regression model, F test is used which is significant for all the regressions. Findings show that the education and income have the significant impact on bargaining power. In equation 1, education shows the positive impact on bargaining power, higher level of education determines the bargaining power. As women gain more education, they are able to increase their bargaining power within the household; the results are in line with the study of the (Acharya et al., 2010; De Brauw, Gilligan, Hoddinott, & Roy, 2014; Kabeer, 1999; Kandiyoti, 1998) Income has the significant but negative impact on the bargaining power whereas, women with lower level of income contribute larger amount of their income in household relative to the higher level of income. Women with lower level of income have to face obstacles related to their bargaining.
power and decision making because they belong to the lower middle class where men are known as dominator and head of the house. If woman have a higher income than her husband does not mean that she has a higher level of empowerment (Miedema, Shwe, & Kyaw, 2016). On the other hand, women with higher level of income have more freedom and power to make decisions, because they already belong to the upper class where they have no need to contribute more in household income. Dowry has positive and significant impact on bargaining power and financial empowerment shows that the assets brought to marriage enhance the women’s status in household. High dowry establishes a strong position for women in the house and give her more power to negotiate (Jejeebhoy & Sathar, 2001) dowry increase the women status in household and ensures her wellbeing (Zhang & Chan, 1999) dowry positively impact on outcomes, and has an impact on household bargaining power. Which show, higher dowry or dowry is related with higher self-reported satisfaction of a women (Brown, 2009).

In equation 2, now we separated the bargaining components from bargaining index. The independent variables are related to the dependent variable i.e. decision making. Share in income has positive and significant impact on decision making of purchasing small and large items. This shows that increase in income enhance the power of decision making in household. Again, education and age have positive and significant impact on decision making. Female ownership of a house has positive and significant impact on dependent variables. All other ownership had undermined the bargaining power except women ownership of house. Women with their own house have more bargaining power relative to the husband and rented (Beegle et al., 2001; Panda & Agarwal, 2005). In equation 3 and 4 where dependent variables are social mobility and social values which are related to independent variables. In the equation 3 the socio-economic factors do not have significant impact, but age came out significant. Education also has positive and significant impact on financial empowerment in equation 6. Overall result shows that the socio-economic factors do affect the bargaining power and its components.
### Hypothesis 2: Financial empowerment does significantly affect bargaining power. Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Bargaining Index</th>
<th>Decision making</th>
<th>Social mobility</th>
<th>Social values</th>
<th>Political participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>0.0223*** (0.00849)</td>
<td>0.0570*** (0.0216)</td>
<td>0.0105 (0.0191)</td>
<td>0.0145 (0.0189)</td>
<td>-0.0102 (0.0201)</td>
</tr>
<tr>
<td>Share in income</td>
<td>-0.114 (0.122)</td>
<td>0.644*** (0.242)</td>
<td>-0.184 (0.226)</td>
<td>-0.112 (0.201)</td>
<td>-0.397 (0.244)</td>
</tr>
<tr>
<td>Financial Empowerment</td>
<td>0.136*** (0.0297)</td>
<td>0.113*** (0.0545)</td>
<td>0.199*** (0.0587)</td>
<td>0.0322 (0.0449)</td>
<td>0.118** (0.0518)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0133*** (0.00361)</td>
<td>0.0270*** (0.00618)</td>
<td>0.0195*** (0.00653)</td>
<td>-0.00652 (0.00491)</td>
<td>0.00442 (0.00807)</td>
</tr>
<tr>
<td>Children</td>
<td>-0.0315 (0.0276)</td>
<td>-0.0543 (0.0458)</td>
<td>-3.72e-05 (0.0488)</td>
<td>0.00402 (0.0408)</td>
<td>-0.0849 (0.0516)</td>
</tr>
<tr>
<td>Hh size</td>
<td>-0.0114 (0.0199)</td>
<td>-0.000567 (0.0325)</td>
<td>0.00292 (0.0335)</td>
<td>-0.00493 (0.0256)</td>
<td>-0.0131 (0.0322)</td>
</tr>
<tr>
<td>Hh head</td>
<td>0.0159 (0.0755)</td>
<td>0.132 (0.168)</td>
<td>-0.0101 (0.134)</td>
<td>0.120 (0.119)</td>
<td>-0.0425 (0.121)</td>
</tr>
<tr>
<td>Age at marriage</td>
<td>0.00732 (0.00839)</td>
<td>0.00222 (0.0170)</td>
<td>0.00987 (0.0152)</td>
<td>-0.00793 (0.0116)</td>
<td>0.00845 (0.0163)</td>
</tr>
<tr>
<td>Dowry</td>
<td>-0.0283 (.0378)</td>
<td>-0.0400 (.0611)</td>
<td>-0.0913 (.0881)</td>
<td>0.0321 (.0478)</td>
<td>-0.0528 (.0571)</td>
</tr>
<tr>
<td>2.downer (husband)</td>
<td>0.0482 (0.0822)</td>
<td>0.0556 (0.175)</td>
<td>0.292* (0.176)</td>
<td>-0.0493 (0.129)</td>
<td>0.0453 (0.141)</td>
</tr>
<tr>
<td>3.downer (another member)</td>
<td>-0.0610 (0.0946)</td>
<td>-0.415*** (0.195)</td>
<td>0.166 (0.184)</td>
<td>-0.0154 (0.161)</td>
<td>0.0531 (0.162)</td>
</tr>
<tr>
<td>4.downer (rented)</td>
<td>0.0887 (0.115)</td>
<td>0.134 (0.252)</td>
<td>0.182 (0.226)</td>
<td>0.107 (0.204)</td>
<td>0.281 (0.236)</td>
</tr>
<tr>
<td>2.sector (private)</td>
<td>-0.0257 (0.0593)</td>
<td>-0.0933 (0.103)</td>
<td>0.00663 (0.116)</td>
<td>-0.0905 (0.0862)</td>
<td>-0.169* (0.0900)</td>
</tr>
<tr>
<td>3.sector (informal)</td>
<td>0.118 (0.125)</td>
<td>0.358 (0.304)</td>
<td>0.258 (0.279)</td>
<td>-0.0832 (0.249)</td>
<td>-0.319 (0.231)</td>
</tr>
<tr>
<td>First child</td>
<td>0.0433 (0.0399)</td>
<td>0.0453 (0.0792)</td>
<td>0.0613 (0.0808)</td>
<td>-0.0190 (0.0606)</td>
<td>0.0872 (0.0759)</td>
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<tr>
<td>Constant</td>
<td>1.604*** (0.300)</td>
<td>0.510 (0.561)</td>
<td>1.013* (0.597)</td>
<td>3.184*** (0.490)</td>
<td>2.624*** (0.563)</td>
</tr>
<tr>
<td>Observations</td>
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<td>180</td>
<td>180</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>Value of F</td>
<td>10.02</td>
<td>6.64</td>
<td>4.61</td>
<td>0.97</td>
<td>2.37</td>
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<td>0.0000</td>
<td>0.0000</td>
<td>0.4901</td>
<td>0.0041</td>
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<tr>
<td>R-squared</td>
<td>0.416</td>
<td>0.324</td>
<td>0.228</td>
<td>0.076</td>
<td>0.170</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3 we describe the impact of same set of independent variables over the different dependent variables accordingly. Now we can check the impact of financial empowerment as independent variable. In equation 1 and 2 education has positive and significant impact on bargaining power and decision making. Women education relative to her husband may enhance her bargaining power Share in income has positive and significant impact on decision making. Married women earnings are positively related with the authority of women in decision making (Arooj et al., 2013). Financial empowerment has positive and significant impact on bargaining, decision-making, social mobility and political participation. Findings show that the financial empowerment does determine the women status in the society. Women with assets and land have more power to make decision in house. It is highly correlated with the women bargaining power and significantly determines the bargaining power. To some extent financial empowerment as an independent variable has insignificant impact on share in income and education which means
financial empowerment matter. Results show that the assets held by women determine their bargaining power. Assets of women are used to get various benefits and give more bargaining power (Beegle et al., 2001; C. Doss, 2006; Panda & Agarwal, 2005). Age has positive and significant impact on bargaining, decision-making, and social mobility. Aging enhance the bargaining power of women and positively associated with decision making in household. Age one of the strongest determinants of the bargaining elder women have more power to take decision in the household (Acharya et al., 2010; Sarikhani, 2012; Sathar & Kazi, 2000).

**Hypothesis 3**: Savings do significantly determine the bargaining power.

**Table 4**: Savings and bargaining Power

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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</thead>
<tbody>
<tr>
<td>Savings</td>
<td>0.0650***</td>
<td>-0.00867</td>
<td>0.0969***</td>
<td>0.0473</td>
<td>-0.0116</td>
<td>0.254***</td>
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<td></td>
<td>(0.0364)</td>
<td>(0.0587)</td>
<td>(0.0983)</td>
<td>(0.0520)</td>
<td>(0.0596)</td>
<td>(0.0826)</td>
</tr>
<tr>
<td>Education</td>
<td>0.0216***</td>
<td>0.0680***</td>
<td>0.0168</td>
<td>0.0153</td>
<td>-0.00497</td>
<td>0.0380</td>
</tr>
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<td></td>
<td>(0.0124)</td>
<td>(0.0217)</td>
<td>(0.0215)</td>
<td>(0.0182)</td>
<td>(0.0184)</td>
<td>(0.0311)</td>
</tr>
<tr>
<td>Share in income</td>
<td>-0.324**</td>
<td>0.42**</td>
<td>-0.284</td>
<td>-0.222</td>
<td>-0.466**</td>
<td>-0.735**</td>
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<tr>
<td></td>
<td>(0.146)</td>
<td>(0.239)</td>
<td>(0.233)</td>
<td>(0.182)</td>
<td>(0.236)</td>
<td>(0.330)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0122***</td>
<td>0.0293***</td>
<td>0.0226***</td>
<td>-0.0073</td>
<td>0.000885</td>
<td>0.0177**</td>
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<td>(0.00626)</td>
<td>(0.00483)</td>
<td>(0.00766)</td>
<td>(0.0100)</td>
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<td>Earners</td>
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<td>-0.125**</td>
<td>0.0214</td>
<td>-0.0791</td>
<td>0.127**</td>
<td>0.0317</td>
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<td>(0.0392)</td>
<td>(0.0625)</td>
<td>(0.0782)</td>
<td>(0.0542)</td>
<td>(0.0611)</td>
<td>(0.0962)</td>
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<td>Dependents</td>
<td>0.0356</td>
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<td>(0.0261)</td>
<td>(0.0408)</td>
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<td>(0.0350)</td>
<td>(0.0433)</td>
<td>(0.0610)</td>
</tr>
<tr>
<td>Age at marriage</td>
<td>-0.00464</td>
<td>-0.00478</td>
<td>-0.0128</td>
<td>0.00314</td>
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<td>(0.0103)</td>
<td>(0.0174)</td>
<td>(0.0115)</td>
<td>(0.0161)</td>
<td>(0.0239)</td>
<td>(0.0581)</td>
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<tr>
<td>Children</td>
<td>-0.0405</td>
<td>-0.0820*</td>
<td>-0.0281</td>
<td>-0.0618</td>
<td>0.0260</td>
<td>0.0692</td>
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<td>(0.0326)</td>
<td>(0.0467)</td>
<td>(0.0428)</td>
<td>(0.0518)</td>
<td>(0.0692)</td>
<td>(0.0692)</td>
</tr>
<tr>
<td>Hh size</td>
<td>-0.0292</td>
<td>0.000740</td>
<td>-0.00567</td>
<td>-0.00590</td>
<td>-0.0668</td>
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<td>(0.0230)</td>
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<td>(0.0405)</td>
<td>(0.0326)</td>
<td>(0.0415)</td>
<td>(0.0581)</td>
</tr>
<tr>
<td>2.howner (husband)</td>
<td>-0.164***</td>
<td>-0.0988</td>
<td>0.145</td>
<td>-0.123</td>
<td>-0.0928</td>
<td>-0.790***</td>
</tr>
<tr>
<td></td>
<td>(0.00826)</td>
<td>(0.0145)</td>
<td>(0.160)</td>
<td>(0.116)</td>
<td>(0.130)</td>
<td>(0.182)</td>
</tr>
<tr>
<td>3.howner (another</td>
<td>-0.288***</td>
<td>-0.505***</td>
<td>-0.0206</td>
<td>-0.0314</td>
<td>-0.164</td>
<td>-0.955***</td>
</tr>
<tr>
<td>member)</td>
<td>(0.106)</td>
<td>(0.173)</td>
<td>(0.186)</td>
<td>(0.145)</td>
<td>(0.158)</td>
<td>(0.266)</td>
</tr>
<tr>
<td>4.howner (rented)</td>
<td>-0.137</td>
<td>-0.0157</td>
<td>-0.0108</td>
<td>0.0569</td>
<td>0.114</td>
<td>-1.101***</td>
</tr>
<tr>
<td>(private)</td>
<td>(0.136)</td>
<td>(0.226)</td>
<td>(0.224)</td>
<td>(0.188)</td>
<td>(0.232)</td>
<td>(0.307)</td>
</tr>
<tr>
<td>2.sector</td>
<td>-0.200***</td>
<td>-0.143</td>
<td>-0.0918</td>
<td>-0.111</td>
<td>-0.208**</td>
<td>-0.457***</td>
</tr>
<tr>
<td>(informal)</td>
<td>(0.0657)</td>
<td>(0.108)</td>
<td>(0.113)</td>
<td>(0.0776)</td>
<td>(0.1000)</td>
<td>(0.160)</td>
</tr>
<tr>
<td>Dowry</td>
<td>-0.127</td>
<td>0.355</td>
<td>0.162</td>
<td>-0.0948</td>
<td>0.379*</td>
<td>-0.384</td>
</tr>
<tr>
<td></td>
<td>(0.182)</td>
<td>(0.306)</td>
<td>(0.320)</td>
<td>(0.241)</td>
<td>(0.209)</td>
<td>(0.450)</td>
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<tr>
<td>Constant</td>
<td>2.123***</td>
<td>1.123*</td>
<td>1.265**</td>
<td>3.510***</td>
<td>2.821***</td>
<td>1.254</td>
</tr>
<tr>
<td></td>
<td>(0.367)</td>
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<td>(0.568)</td>
<td>(0.488)</td>
<td>(0.510)</td>
<td>(0.910)</td>
</tr>
<tr>
<td>Observations</td>
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<td>180</td>
<td>180</td>
<td>180</td>
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<td>180</td>
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<tr>
<td>Value of F</td>
<td>7.47</td>
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<td>1.23</td>
<td>2.14</td>
<td>15.01</td>
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<tr>
<td>Prob&gt;F</td>
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<td>0.0000</td>
<td>0.2515</td>
<td>0.0105</td>
<td>0.0000</td>
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<tr>
<td>R-squared</td>
<td>0.339</td>
<td>0.323</td>
<td>0.175</td>
<td>0.101</td>
<td>0.159</td>
<td>0.410</td>
</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1

Robust standard errors in parentheses

In above table 4 in equation 1 savings has positive and significant impact on bargaining power which shows that the higher rate of savings tends toward the more bargaining power. Higher savings associated with higher women status in household. Savings does help to determine the
bargaining power of the women in the house (Ashraf et al., 2010; C. R. Doss, 1996; Lundberg & Ward-Batts, 2000). Education and age have positive and significant impact on bargaining power while share in income has negative and significant impact on bargaining power.

In equation 2 education, share in income and age have positive and significant impact on decision making process shows that the higher education high share in income and age do affect the decision making and give more power to women to make decisions (Acharya et al., 2010; Ganle et al., 2015). Earners has negative and significant impact on decision making indicates that increased number of earners in the house lessen the power of women in decision making. Children and house owner also have negative and significant impact on decision making. In equation 3 savings has positive and significant impact on social mobility results show the higher savings increase the social mobility. It gives women more freedom to make independent decisions about their social mobility i.e. whether she wants to invest her savings or purchase/sell the asset. Age has positive and significant impact on social mobility. Seniority gives more freedom of social mobility. In equation 6 savings has positive and significant impact on financial empowerment savings enhance the financial empowerment of the women. As savings transfer in property or savings account gives women more financial stability or economic empowerment strengthen her position in the house which is related to bargaining power (C. Doss, 2006). Share in income has negative and significant impact on financial empowerment. Age has positive and significant impact on financial empowerment. Overall results state that the savings has positive and significant impact on bargaining power and its components.

Conclusion
This empirical estimation is based on two main factors, education and income of the married working women. Considering the overall objective of the research, my hypothesis is that Socio-economic factors do affect the bargaining power and its components which significantly contribute towards determining the bargaining power. Results show that the education and income have the positive and significant impact on bargaining power. Increase in income and higher level of education determines the bargaining power. As women gain more education and income, they are able to increase their bargaining power within the household. Women with higher level of income and education have more freedom and power to make decisions in house. Regarding outcomes male and female have different kind of choices and preferences. And also shows different outcomes if the women have more bargaining power. Dowry also plays an important and significant role for determining the bargaining power and financial empowerment. It shows that the assets brought to marriage enhance the women’s status in household, women’s high dowry strengthen her position in house and give her more power to negotiate which show, higher dowry is related with higher self-reported satisfaction of women. The policy makers are concerned about the bargaining power only because they assume that increasing women’s bargaining power has the ability to give better results. While an academic branch of literature pays attention on testing the theoretical models of the household, and almost all the applied literature focuses on the understanding of intra-household bargaining as it is important for understanding how the different results are obtained.

Higher education enhances women status in society therefore, the Government should take some serious steps regarding this problem and should have some adequate strategies to resolve this issue. Moreover, to overcome this problem it should provide more scholarships and open more technical institutes for the women. One of the major issues related to lower level of women education is the attitude and perception of the society towards the female education which prevented them to get high education, therefore, society needs some awareness related to female education. Cultural factors and old traditions are hinderers in the way of social values and social mobility. Society needs to change their prospective towards women by removing these obstacles.
and giving them freedom of voice and choice, so they can lead their life according to their will. Changing such social norms will create better position for women in the household as well in society.

References


Critical Analysis of Social Movement Theories during Lawyers’ Movement in Pakistan 2007-2009

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Abstract: This article discusses the background of lawyers’ movement and gives concept of social movement including civil society and social change. The paper also discusses difference between lawyers’ movement in Pakistan and other social movements in driving social change and development in political culture.

Methodology: This is an analytical descriptive type qualitative research mainly literature review highlighting the case study of Lawyers’ Movement 2007-2009 in Pakistan.

Findings: Role of civil society has been found very supportive for lawyers’ and independent judiciary. The movement was deep rooted, constitution based, self-organized and self-financed.

Implications: In Pakistan’s political scenario, the lawyers’ movement presents amazing and excellent example of such a civil society organization

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Introduction
The lawyers’ struggle started for Chief Justice of Supreme Court of Pakistan, Mr. Justice Iftikhar Muhammad Chaudhry when he was removed by the country’s President, General Pervaiz Musharraf on 13 March 2007 after the first hearing of reference against him. This event kick started the civil society along with media and extra ordinary mobilization of lawyers to restore the Chief Justice who was later reinstated by full court bench of including of 13 judges. On 3rd Nov 2007, however, an Emergency Order was imposed and the constitution was suspended by then President General Pervaiz Musharraf. Chief Justice and other 64 Judges of the Supreme Judiciary were removed who refused to take new oath under Provisional Constitution Order (PCO) 2007. The new Supreme Court, which was reconstituted by General Pervaiz Musharraf, confirmed the presidential election and declared him as President for another five years. On 27th
December 2007, Banazir Bhutto, the Ex-Prime Minister of Pakistan and Chairperson of one of leading political parties, Pakistan People’s Party (PPP) was assassinated during an election rally in Rawalpindi. The people insisted that General Musharraf should resign from the post of Army Chief and thus, upon growing public pressure, he resigned from the army chief and later from the President post as well. Asif Ali Zardari the newly elected President showed unwillingness to restore judges and rather asked deposed judges to take fresh oath. Some judges took new oath but 5 judges refused to take new oath.

On 16th March 2009, the restored judges aimed a great protest rally. The lawyers were very active for deposed judges. They were not active for a personality but they wanted rule of law and independence of judiciary. Their movement helped establish rule of law, the supremacy of constitution, independence of judiciary and parliamentary supremacy over military and other institutions of the country (Abbas & Jasam, 2009).

**Literature Review**

Social movements have been explained by various theories and similarly a number of theories can be applied to understand and explain the lawyers’ movement such as functionalist theories, conflict theories, value added theories, resource mobilization theory and political process theory. Socio psychological approach controls much of the study or research on lawyer movement. Wrong decision of military government about independent judiciary of the country is fundamental motivation for civil society. Pakistani people have been fed up from the last military government of General Pervaiz Musharraf which ruled on the country and made biased decisions against supreme judiciary of the country. Some other harmful issues also emerged during military regime. The case of Pakistan Steel Mill Karachi, the case of missing persons economic stress, unemployment along with the rising levels of food prices, electricity and gas load shedding and bills have been the notable issues among these. All these issues showed that the nation was feeling insecure in the own country. The theory used in present research is resource mobilization theory which explains various aspects of the social movement. (Snow, 2010).

Supreme Court Bar Association of Pakistan not only arranged all activities it also introduced this lawyers’ movement at national and international level, and developed social interaction in the community. Supreme Court Bar Association’s president provided regular leadership to the movement. There are so many resources which connected community with one another such as face book, newspapers and electronic media etc and thus gave path to the success of this movement. Political parties also supported the lawyers’ movement and voiced for the wish and will of people of Pakistan in the favor of independent judiciary. (Rosenhall, 2010)

Political parties also took interest in this movement that can be explained by the political process theory. At the time of lawyers’ movement, the situation of political parties in the country was very weak. Institutional capacity of political parties was limited and this spared the chance to the lawyers and civil society organizations to initiate and run the movement. These were two major parties, Pakistan People’s Party (PPP) and Pakistan Muslim league (Nawaz group). Some other sectors of the government and elite did not show much interest in this movement. The lawyers’ movement was not for specific personality but this movement was working for the rule of law and supremacy of the constitution. Lawyers’ movement work was dedicated and workers were honest, loyal and committed to this movement (Gofan, 1976).

During lawyers’ movement the civil society and lawyers were very sincere with their purpose. Their main purpose was justice and rule of law. Lawyers’ work during the movement was dedicated; lawyers generate structure, much loyal and hope loyalty from all Pakistanis. All framework arranged by lawyers and it was moral responsibility of lawyers which made success to
lawyers along civil society. The aim of the movement was generated the way the people identified their self that it is struggle for “justice” and solution their problems which they faced problems many long times especially during military government lawyers’ movement guide and inform to people how they can attain their goals, rule of law and independence of judiciary. The spirit of lawyers’ movement is to wish produce strong and well established society which all members of society knows with rules and guide by state constitution, set the rule of law and select the correct civilian government.(Khan, 2010).

Rebuilding and modernization of state institutions are very important for stability and change because change always leads towards the progress. Analytical frame work is most important factor for lawyers’ movement. During lawyers’ movement nation felt the increasing pressure of military government over civilian institute and sectors. There have been so many social problems increased during martial law like unemployment, deadly economic development, rising debit ratio, paralyzing political institutions, situation of war and terrorism, military pressure and destabilize the democracy in the country and control over the judiciary. It is western policy to weaken democracy of Muslim countries through their agents and also attempt to limit the institutional resources. True democracy is the process of success development for the state. During Musharraf’s government lack of political connection was the main reason that masses cannot reproduce favorable policies. All political institutions were under control in authoritarian rule of general Musharruf. Social irritation had increased during military regime because there were some political channels. State of emergency and provisional constitutional order PCO was the main causes of political strengthen failure because Pakistani nation had bad experience of different military government (Blumer, 1969).

Lawyers’ movement’s main objective was security and establishment of rule of law, and strengthening of independent judiciary. There were so many political movements during different military regime but lawyers’ movement was strong vehicle of political displeasure because in this movement there were not just lawyers but civil society was also participative in their movement especially student unions, women association, non-government association NGOs, labor association and political parties all of which played an important work during this movement. The most important aspect of lawyers’ movement was that it was supported by all ranks and cadres of the society. All workers of religious parties, NGOs, civil society organizations, labor unions, minority right organizations, human rights organizations, student unions and even household women also worked for lawyers’ movement (Snow, 2004).

Women’s role is very important in lawyers’ movement. As Bushra Khaliq in her book states following.

“These women include not only lady lawyers, members of civil society and political activists but also working class women. These women have been struggling shoulder to shoulder with their male comrades. They are equal partners in braving the brunt of the Musharraf regime’s oppression, since March 2007 along with many of these women activists were baton-charged, tear gassed and even put behind bars as a result of imposition of emergency rule on Nov 3, 2007”’ (Khaliq, 2009).

Many informal networks played an important role in this movement. Many NGOs work in rural areas. For lawyers’ movement NGOs expanded moveable skills from their work. In rural areas NGOs work on primarily education and have built some institutes on local level who arrange programs and train people. In Pakistan their amazing contribution has been the relief and rehabilitation work during 2008 earthquake. NGOs main objective is to serve as advocacy group
and maintain a platform for cooperation. After engaging in lawyers’ movement many of these organizations were penalized by the authoritarian rule of military govt. NGOs work mostly in educating rural areas, health projects and water management. New members who join NGOs are mostly young citizens. Secondly many experts and civil society members also become interested in NGOs to serve the society. These young members along with experts and civil society members participated in lawyers’ movement through their NGOs and contributed to success of lawyers' movement. With lawyers so many activists came out of their houses and supported the movement. Many experiences and skills were brought to the movement by the informal networks that were built during the movement. Many famous experts came forward and supported this movement to mobilize the people (Jaan, 2008).

In Pakistan sociopolitical environment has positive impact on lawyers’ movement. Three main areas played an important role in the lawyers’ movement. Students group, NGOs and the media. Students group were more energetic and gave new and fair breath, providing various sources of information in lawyers’ movement. Students of many universities came out, mobilized and started many marches on their own. Students made a group known as FAST. For over two years, the student groups remained highly involved in the lawyers’ movement.

The student groups started mass protests and engaged more students into the movement. After few months, the lawyers’ movement had achieved more than hundred students who were interested and working for the movement. Pakistan Students Action Community (PSAC) gathered 15 colleges and university campus members who played important role in the lawyers’ movement (www.fastrising.organization).

In the history of Pakistan student organizations have been mostly unstable. In 1980s General Zia ulHaq banned student unions. Student action committee put pressure on government and allow students to participate in political matters which helps in passing on civic leadership and prepare political leadership for future.

**Boundaries of Civil Society**

Civil society worked more actively in lawyers’ movement especially labor union, student groups, chamber of commerce, media houses and bar associations. Lawyers’ movement was such different movement which heated civil society in different ways. After achievement of the movement’s aim, the civil society went back to their function of focusing on their specific interests. Civil society played an important role by deepening democracy in different ways such as making government’s power accountable to public and teaching democratic citizenship behavior to the people. It also helped develop social democratic values such as tolerance, liberation, cooperation, communication, and representation of interest conciliation. The acculturation of these values is foundation of democracy and makes way for citizens to engage with the state (Larry, 1999). However, many other civil actors and organizations lost their engagement after the lawyers’ movement was ended. NGOs went back to their old ways after this movement (Ahmad, 2009).

**Symbols and Slogans**

Chief Justice of the country is the respectable position and symbol of justice. The incidence of Chief Justice’s arrest shocked the nation. If the Chief Justice is not secure in the country, then how people can feel secure about their life and properties. This incident captured much of the attention of the public and made people united for their protection. Lawyers and media played an important role in highlighting the symbolic importance of chief justice for the rule of law in the
country. The lawyers worked hard and faced difficulties not only for their movement but for inspiration of all sectors of the society (Pal, 2007).

During protests and rallies people displayed their rejection of military action and their slogans were “go, Musharraf go”. The protesting people shouted “Musharraf is dog”. Banners were raised during the protests reading, “support for the movement”, “only independent judiciary can survive in Pakistan, not authoritarian rulers who destroy to democracy” (Traub, 2008).

Aitaza Ahsan who was leader of the movement went to Okara Bar Association where the slogans were chanted such as “who should our leaders be like”, “like Aitazaz”. They also shouted a famous Urdu slogan which was very famous among lawyers during the movement.

“zulam kay zabtay, hum naheman tay, hum naheman tay”

When the new elected civilian government was reluctant to reinstate the deposed judges, political activists and so many lawyers were gathered outside the supreme court bar association Islamabad and presented their demand to reinstate the judges without delay.

Civil Society and Social Change
In Pakistan civil society has been seen rising for social and political change during lawyers’ movement. It has become great collection of organizations and association such as student unions, trade associations, labor unions, teacher associations, women associations and bar councils etc. This shows the interest of the Pakistani people for social change in Pakistan. Lawyers’ movement has brought the realization that civil society wants rule of law and supremacy of parliament and constitution. All these organizations and association are nonprofit organization (NPOs).

NGOs as sub-category of NPOs have great moral and social authority in the community. NGOs don’t directly involve in government decision making but work closely with the government at various levels as advocacy forums for needed social and political reforms. If government calls them at any forum NGOs give information and do work for socio political change. NGOs supported lawyers’ movement on national and international level because that movement was autonomous and represented well needed political reforms in a democratic society. Civil society through NGOs organized the rallies and public debates for independent judiciary and raised voice to contribute to the lawyers’ movement.

Social Movement Theories
Social movement is a form of collective action and has different social processes. The persons who are interested in collective action for any change in social, cultural or political structures are close knitted by solid informal networks to form a social movement. The discussion and study of social movement has been subject of social scientists. There have been many subfields for the study of social movements and their organization. Social movements have been studied at macro level and at micro level. There are different approaches used to study various forms of collective action. The desired social, cultural or political change happens when society accepts it as its overwhelming objective or as its movement are not just a movement or complain, these also take place when important personalities collect information, discuss the situations and arrange program. These personalities have sense of common aims shared to one another and link social movement actors with organizations (Smelser, 1998).

Collective behavior theory was the early form of what later on called social movement theory. For achieving a common goal collective behaviorist believed in collection action. Neil Smelser (1962)
furthered the Durkheim’s concepts of collective behavior theory. These theorists explain that, for example, when economic and financial system is getting strong, profits make businessmen wealthier. At this time, some ethnic groups distinguish themselves and point out economical resources not being divided equally. This leads to protests get started because rising economic hopes are not match with economic reward. According to Macadam some theories of social movements are classical because they shed light on the casual model of social movements. For any social movement structural change is essential objective and outcome. Structural change in economy and/or society may lead to change in culture. McAdam’s point of view describes that social movements bring structural and social changes that in turn make the societies modern and advance. He stresses that social movements are important part of modern life. Karl max describes that theory of social change is closely related with theory of social movement.

The world system and social movements’ theoretical frameworks help to understand the aspect of transnational social movements. For global justice and Islamist movements, these theories offer strong explanations. This set of theories suggest that sensations are most important for the social movement. Feelings play vital role in the social movement and protest about inequality and human rights (Snow, 2004).

Social Movement and Protest
Protest is the central feature of social movement and there are so many objectives about protest e.g. public protests. It plays an important role in the social movement bringing personal and cultural changes. About sixty years ago, sociologists believed that protest is undemocratic involvement of people in politics, however, in the early 1960’s protest became an important addition to independence politics. Social movement and protest has become a vast area of research studies and protest is now a sub-field of social psychology which is special sub-field of sociology (Snow, 2004).

Protest is an alternative activity. In Western democracies different forms of political protest have increasingly become part of collective action. People gather and view one another to take action and protest collectively. In essence protest is not a limited activity. There are so many actors and after protest they feel their position is under pressure in political process. Some protests become serious issue on state level and bring new change for state actors. As a social movement actor protest has become a major source of public pressure. In decision making process, other social movement actors occupy unimportant position and they need to maintain and pressurize the public opinion through protest (Adam, 1996).

Globalization and Social Movement
Research studies in social sciences have largely focused on processes and institutions. In early 1990s the theories of social movement emphasized national level context and mainly studied the western or post-industrial society. In the late 1990s social movement and global social movement had emerged, and globalization brought a clear outcome and challenge to conservative theories of social movements. Previously social theories had studied and focused on domestic development and discuss movement characterized but it has been clear to them that local to global national to international connection have to be hypothesis comparatively. Islamist movement is very popular after the incident of 9/11/2011. This incident extends the standard of Islamize movement for the specialist of other areas. Social Movements, civil society organization with human rights and women’s rights associations, ecological (Environment) protection group and concerning as active representative in the Deeping of the cultural and normative characteristic of world society (Melluci, 1996).
Role of Social Media During Lawyers' Movement

Pakistan Lawyers' movement for the restoration of judiciary has been a big social movement in Pakistan. After this successful social movement, the civil society realized how they can utilize their potential for gaining their rights. Thought then President, General Musharraf was too much portrayed as responsible ruler by PEMRA and tightly controlled private TV channels, however, media supported the lawyers' movement openly. All lawyers' rallies for supporting Chief Justice of Pakistan were broadcasted. Musharraf govt. threatened media to not pass on live coverage for the movement. Basic analysis of present study is that lawyers' movement was a great hurdle for the President General Musharraf's military regime in 2009. The media came forward as strong pillar of the democratic setup and realization emerged that without media support lawyers' movement could not have achieved their objectives.

Conclusion

Supreme Court Bar Association and Pakistan Bar Council led the lawyers’ movement and communicated with people and society to circulate the massage of justice. All essential decisions and rules of the movement were decided by national action committee with the participation of Pakistan Bar Council and local bar councils who used to circulate these decisions all over the country. Lawyers spread their message quickly and successfully. The lawyers' movement's most important factor is that lawyers worked closely with various civil society organizations such as NGOs, women association, trade unions, teachers associations and student unions. Civil society is very supportive for lawyers and independent judiciary because of its support for the rule of law in the country. The lawyers’ movement was deep rooted, constitution-based, self-organized and self-financed. In Pakistan’s socio-political history, the lawyers’ movement represents an amazing example of social movements bringing coordinated efforts with massive support from various civil society organizations to achieve the common objectives of rule of law, restoration of removed judges and independence of judiciary.

References
