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JALALABAD PAPERS

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Message from the Chief Patron



I congratulate Army institute of Business Administration (AIBA) Sylhet for bringing out the first issue of its Academic Journal 'Jalalabad Papers'. I am glad that this institution has recently completed five years of its journey successfully maintaining a very high standard of academic environment. I remain optimistic that AIBA Sylhet with its positive and enthusiastic approaches shall maintain the excellence in business education in Sylhet Division in particular and in Bangladesh as a whole.

As an intellectual mirror, journals reflect its generated knowledge for the society. A glimpse of the contents of this very 1st issue assures me that 'Jalalabad Papers' shall also bear similar essence and, unfold vistas of new ideas before the readers. I am confident that this publication will pave the way for both the faculty and students to display their creative thoughts in the future days to come.

I earnestly appreciate the editorial board and everyone involved in publishing 'Jalalabad Papers' for their hard work and dedication. I wish that this journal, by showcasing the activities and innovative ideas of its students and faculty members, will earn a prestigious position amongst the business schools of Bangladesh.

I hope the readership would find the publication both interesting and enlightening. I wish 'Jalalabad Papers' a glaring success.

A handwritten signature in green ink, appearing to be 'জুবায়ের সাহিন'.

Major General Md Jubayer Salehin, SUP, ndu, psc

GOC, 17 Infantry Division and Area Commander, Sylhet

Area and

Chief Patron, AIBA Sylhet Governing Body

Message from the Patron



This is a matter of great pride for me as a Patron of the institution to see the inaugural issue of academic journal by Army Institute of Business Administration (AIBA) ‘**Jalalabad Papers**’ is seeing the light. I deeply express my admiration to the authority for achieving the milestone of publishing 1st volume of 1st issue of the journal. Indeed, publication of an academic journal is a hallmark event in the academic development of this institution.

Knowledge and Power, the motto of this institution implies the empowerment of students through prudent knowledge apt to meet challenges in their careers both at national and global standards. Hence, this journal will open a new horizon of knowledge which will surely benefit the society intellectually. The journal, no doubt, will represent the collective work force of a group of innovative individuals of AIBA, Sylhet. By publishing the translated thought of the scholars, ‘**Jalalabad Papers**’ is going to play the role of the forefront and strengthen the relationship between the scholarly communities and the institution which will show a path to quality higher studies.

I do also remember our predecessors who worked relentlessly for the journals ISSN number and design. My heartfelt thanks the Chief Patron, Director and editorial board for the praiseworthy contribution.

I wish ‘Jalalabad Papers’ will be able to meet up the quest for knowledge of its readers. I heartily expect this publication to be a success.

A handwritten signature in black ink, appearing to read 'Al Faroque Siddiquee'. The signature is fluid and cursive, with a long horizontal stroke extending to the left.

Brigadier General Al Faroque Siddiquee, ndu, afwc, psc

Commander 360 Infantry Brigade

and

Chairman, Governing Body of AIBA

Chief Editor's Note



It is indeed a great pleasure for us to publish the first issue of our academic research journal '**Jalalabad Papers**', a milestone for **Army Institute of Business Administration (AIBA), Sylhet**. We believe that economic growth should translate into the pleasure and progress of a nation. Along with it there should be a development of quality education, true culture and modern technology. We have to see how to harness the various resources of the country for achieving the common goal.

Keeping this in mind, the **Jalalabad Papers** has contents covering several contemporary issues like transit and regional growth, global economic initiative by China in the concept of One Belt, One Road (OBOR), empirical studies on business management and organization, understanding cognitive development for the business leadership, banking practices, environmental issues, case study related to media and communications, entrepreneurship etc. This issue is an integrative and a holistic approach to the solution to the root causes by the authors in their research papers.

The Editorial Board is truly grateful to respected Chief Patron and Patron for their passionate advice and visionary guidance all along the process. We sincerely acknowledge the painstaking contributions of our esteemed reviewers who helped us to maintain the journal standard. We also express our special gratitude to the authors of this journal for contributing their best work and also to our valued readers for their continuing support.

Any kind of suggestions will be welcomed for the improvement of the quality of next issues of the journal.

Brigadier General Ejazur Rahman Choudhury, ndc, hdmc, psc (retd)

Director, AIBA, Sylhet

and

Chief Editor, Jalalabad Papers

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Format and Style of the Paper:

- The word limit of the article is expected to be within 4000 to 6000 words which includes the entire paper encompassing appendices, attachments and annexes (without the references)
- The text should be typed in Times New Roman with font size 12.
- Lines are to be justified at both left and right margins.
- Paper size: A4. The pages are to be numbered at the bottom center of each page.
- The margins should be one inch (1”) from all sides, with double line spacing.

Structural Composition:

- The title must be as short as possible.
- The abstract placed at the beginning of the paper should be a single paragraph, *Italicized* and not more than 250 words.
- The keywords, approximately 5 (five) words or short phrases are expected that are central and specific to the research work.
- Headings must be concise, with a clear indication of the distinction between the hierarchies of headings.
- All figures, tables and charts should have appropriate titles with chronological numbers. The sources are to be annotated immediately below the chart, table or graph.
- References to other publications should be in APA style. References which are mentioned in the text are to be cited only.

Review of Papers: All papers will go through double blind peer review process for selection.

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Transit Through Bangladesh – Challenges to Good Cross-Border Road Connectivity and Possible Ways Forward

Brigadier General Md. Zahirul Islam, ndc, psc, G (retd)

Abstract

Good transport connectivity and logistics are the key factors for collective development by promoting trade and investment. The geographical location of Bangladesh enables it a significant role in facilitating connectivity among the countries of the region and linking South Asia with other regions of the world. It also offers Bangladesh a unique opportunity to derive benefit from cross-border trade and investment. At present, several initiatives on transport connectivity are at hand. Starting from Indo-Bangladesh bilateral transit deals to sub-regional, regional and inter-regional connectivity, Bangladesh is an active partner in all these initiatives. This study thus, aims to conduct an in-depth examination of the current road connectivity infrastructure of Bangladesh with a view to evaluating the weaknesses and suggesting some ways forward to achieve a meaningful connectivity. In the process the study addresses the questions on the state of roads, loopholes in regulating and managing the road traffic system and projected growth of traffic density. In doing so, the study progresses through a qualitative research, based on both primary and secondary information on road communication infrastructure of Bangladesh. Owing to the topography, high population density and thick habitation of the country, road infrastructure development has its inherent limitations in space and operation. Road connectivity through Bangladesh means further increase on road traffic load. The paper therefore, emphasizes on the need for developing a compatible road communication infrastructure. The paper then puts forward some policy recommendations for the maximum benefit of Bangladesh as it proceeds with implementing transport connectivity at bilateral, sub-regional or regional levels.

Keywords: Road Communication, Transport Connectivity, Transit, Infrastructure.

1. Introduction

Bangladesh has a unique geographical location in South Asia with two land-locked neighbours of Nepal and Bhutan to the North, and the Indian land-locked states of ‘seven sisters’ to its North East (NE). The location and proximity of Bangladesh offers huge potential of connectivity for these landlocked countries and territories for trade and investment with rest of the world. Due to poor regional connectivity, the countries and their territories have been losing a great deal economically. For example, freights from

Nepal and Bhutan travel a long distance to reach Kolkata port as their only access to sea. Cargo carrying goods from Agartala travel around 1645 kilometers to reach Kolkata port through 'Shiliguri Corridor'. With transit across Bangladesh this distance could be reduced to 400 kilometers. A sea freight takes 15 - 20 days to move between New Delhi and Dhaka, as the maritime route from New Delhi is via Mumbai and Singapore or Colombo to Chittagong Port and then by rail to Dhaka. But the same freight could reach Dhaka within 3-4 days, if direct land communication were there between the two countries (Rahmatullah, 2009). This lengthy communication network and consequent cost of transportation in South Asia poses a significant barrier in mutual trade and investment.

The Indo-Bangladesh transit agreement of 2010 and the MOU signed in 2015 paved the way for Indian transit through Bangladesh (BIWTA, 2015). During Prime Minister Sheikh Hasina's visit to India in October 2019, Bangladesh agreed to allow Indian use of Chittagong and Mongla ports. This agreement also permits India to use Bangladeshi road, rail and river routes for carrying freights from Chittagong and Mongla ports to Indian destinations (Bayron, 2019). Similarly, recently concluded Motor Vehicle Agreement (MVA) at sub-regional level will enable Bhutan and Nepal to connect with Chittagong and Mongla ports using road and railway links. Beside that Bangladesh is also a signatory in a good number of cross border communication initiatives (RTHD, 2016). Success of some of these transport connectivity projects hinges on the quality of the infrastructure that we may offer. Effective implementation of these projects would promote regional trade through integrated communication systems that will fetch benefit for all the countries of the region. As Bangladesh embarks into implementing the transport connectivity agreements, this study explores through the current state of road communication and existing road infrastructures of Bangladesh. In doing so, the study reveals weaknesses in infrastructure and management with a view to suggesting some ways forward.

2. Objectives

This research has been carried out with the following objectives:

- a. To examine the current state of road connectivity infrastructures in Bangladesh to facilitate cross border transport connectivity.
- b. To identify the major challenges to transit through Bangladesh and suggest the plausible ways to overcome those challenges.

3. Methodology

This study is carried out as part of a research on regional transport connectivity. I adopted a qualitative approach that sought to carry out study of the infrastructural facilities vis-à-vis the capabilities of our road communication networks. At the onset, the study focused on content analysis of primary and secondary sources of information, taking into account various government and research documents, agreements, protocols, books and journals. After obtaining sufficient knowledge on the plans and agreements on connectivity at different platforms, second stage of the study began with field visits and examination of existing facilities. It included visit of some of the important road segments emanating from the borders and ports. Study of the land ports have been an important part of this research as efficiency of managing all cross-border road movement involves the infrastructure, facilities and services at the land ports also. Currently, there are total twenty-three land ports in the country. Out of these, ten are operational, while the rest thirteen land ports are not yet functional. This study focused on physical study of some of the selected operational land ports that handle major share of cross border movement. Some important road segments have also been included during field survey. Concurrently, information on rest of the ports and road segments have been collected from the offices of Road Transport and Highways Division (RTHD) and Bangladesh Land Port Authority (BLPA) and from their official database. Then interviews and informal discussion were held with different departments of the Government, freight forwarders, port officials and customs. A Focused Group Discussion (FGD) was also organized with business community involved with cross border trade. The study in all stages pondered on examining the infrastructural facilities connected to cross border road transportation to discern the weakness with a view to suggesting plausible ways forward.

4. Literature Review

In global trade and economy better transport connectivity offers a higher competitive advantage, which is a vital indicator of a country's competitiveness in doing business. Good communication infrastructure, both within and between countries has been the basis of growth and development. In this regards, Bose (2011) emphasizes that physical investment in transport connectivity helps link markets and resources, and provides corresponding benefits in terms of economies of scales. The connotation of "connectivity" is more of a contextual based of its application. In the context of integration and competitiveness, Groff (2014) suggests that its scope has two dimensions - "physical" connectivity and "software" connectivity. Physical connectivity, that links countries and regions together, includes road, rail, air and maritime transport, telecommunications, power, energy and information networks. Physical connectivity is

further complemented by software in terms of cross border deals, trade facilitation agreements, customs automation, one-stop service, policies and procedures to facilitate smooth passage across borders (Groff, 2014). Bhattacharyya (2012) stresses further on the needs for “second generation” connectivity infrastructure such as quality logistic centers, ports, industrial clusters and social economic zones as vital for smooth connectivity.

In South Asia transport connectivity is a critical issue for landlocked countries (LLC) and territories. Their lack of direct access to the sea and isolation from global supply chain has substantial negative impact on their economic growth and development (World Bank, 2008). In his study, Sobhan (2006) points out that, prior to independence of India in 1947, Assam was a net exporter of tea, timber, bamboo and jute to the rest of the world, exporting about 3,80,000 tons of goods a year through the then East Bengal for overseas shipment from Kolkata. But with the partition of British India this promising province was cut off from its hinterland in Bangladesh and became a landlocked territory. While looking at the deplorable state of the NE states of India, Sobhan (2006) argues that the economic isolation has made it an inhospitable region and deprived from all external investment.

However, like these LLCs, it is also critical issue for the countries like Bangladesh that provide transit to other countries. Transit may fetch economic benefits, but it imposes some negative impacts of transit offering countries. Bose (2011) argues that seamless connectivity may give rise to illegal activities in the form of smuggling, arms trade, human trafficking, drugs market to heavy traffic, environmental pollution, transmission of communicable disease etc. Therefore, he (Bose, 2011) stresses that strategies to deal with such menaces are needed to overcome the negative impacts of greater connectivity; and at the same time substantial level of capacity building is needed at national level to facilitate transit to other countries.

In the context of South Asia, it is obvious that given the transit opportunities to the neighbouring countries and territories, Bangladesh may lose its chance of exploring the potential export markets of its products in Nepal, Bhutan and in the Indian Seven Sister States. However, Rahmatullah (2009) argues that if transport connectivity is conceived in the sub-regional context, both Bangladesh and its neighboring countries can derive significant economic benefits. He (Rahmatullah, 2009) believes that the two seaports, with another potential deep-sea port may generate investment in transportation and foreign exchange earnings from the services.

Similarly, on the question of huge investment for building the required infrastructure, Rahman, (2019) emphasizes on step-by-step development of the infrastructures for our own needs, as these investments can be recovered through appropriate charges and services, and would create increased opportunities for export. Chawla (2017) argues that transit or transshipment of cargo across Bangladesh is important to India because it would greatly boost the economy of North East India. It would also fetch benefits for the country in the form of transit fees and transport charges.

Study of transport connectivity in different regions of the world reveals wide range of experience. European Union (EU), Association of South East Asian Nations (ASEAN) and Greater Mekong Sub-region (GMS) are all successful in moving their respective regional cooperation forward to their larger interest (Rahman, 2015). The ASEAN leaders recognized transport cooperation as the very basis of their economic development and adopted Vision 2020 for Trans-ASEAN transport network (Rahmatullah, 2006). The GMS programme launched in 1992 is another example of sub-regional transport cooperation that connected six countries namely – Cambodia, China, Lao PDR, Myanmar, Thailand and Vietnam (ADB, 2011). The EU model also offers example of regional integration as an essential means for mutual growth and development. Cameron (2010) argues that EU has been able to deepen the economic cooperation and raise intra-regional trade by establishing closer transport connectivity within the region. The EU countries have been able to set up a wide range of multi-modal transport network for speedy movement of goods and people within the region.

In case of South Asia, the attempts to develop intra-regional trade and transport facilitation have generally been fragmented with each country undertaking reforms with other countries, based on their mutual priorities (Rahman, 2015). During the 2004 SAARC summit in Islamabad, it was decided to strengthen transport links across the region. Accordingly, the initiative on SAARC Regional Multimodal Transport Study (SRMTS) was mooted to establish connectivity among SAARC countries (World Bank, 2008). SRMTS recommended ten SAARC Highway Corridors (SHC), out of which six pass through Bangladesh (SRMTS, 2006). The SAARC MVA was planned to be signed in November 2014, which stalled due to Pakistan's inability to complete the internal formalities (Pal, 2016). Meanwhile, at sub-regional level, the Bangladesh, Bhutan, India and Nepal MVA (BBIN MVA) was initiated with the objective to reach consensus for the seamless traffic within the sub-region. The BBIN MVA is a framework agreement. Its implementation details, including customs formalities, routes, traffic volume, and fees etc will be set out in bilateral or multilateral protocols (RTHD, 2016).

5. Bangladesh in Regional and Global Connectivity Initiatives

As Bangladesh is signatory to various regional and international connectivity initiatives, all the national plans are integrated to the regional and international connectivity plans to connect Bangladesh with regional and global supply chain. In addition to the regional and sub-regional initiatives, Bangladesh government signed number of protocols with India for cross-border movement of cargo and passenger transports. Currently bus services and cargo traffic are operating between the two countries. The trans-border connectivity initiatives that involve transit through Bangladesh are as follows:

5.1 Asian Highway (AH): The AH project was conceived in 1959 under the auspices of UN-ESCAP with the aim of establishing regional road transport linkage among the mainland Asian countries. The potential routes were identified and analyzed during 1960-1970. However, the original plan of the AH was further modified in 1992 under the Asian Land Transport Infrastructure Development (ALTID) project. The modified project incorporated other elements such as the railway and inland dry ports in addition to the road transport linkage. The AH project comprises of 1,44,630 km roads passing through 32 Asian countries linking Europe. There are three routes, namely AH-1, AH-2 and AH-41 that pass-through Bangladesh covering a total length of 1771 km (Table 1).

Table 1: Asian Highway Routes through Bangladesh

Routes	Description	Remarks
AH 1	Guwahati - Dawki - Tamabil - Sylhet - Dhaka- Mawa - Narail - Jessore- Benapole	Total length: 492 km.
AH 2	Guwahati - Dawki - Tamabil - Sylhet - Dhaka- Hatikamrul - Rangpur - Banglabandha.	Total length: 811 km(common 294 km of H1).
AH 41	Teknaf - Cox's Bazaar – Chattogram - Feni - Dhaka - Hatikamrul - Banpara - Paksey - Khulna – Mongla.	Total length: 924 km (common 162 km of AH2).

Source: RTHD Report 2016, pp. 13-22.

5.2 SAARC Highway Corridor (SHC): The idea of SHC was mooted at the 12th SAARC Summit in 2004 with a view to strengthening economic cooperation further by establishing transport links across the region. Accordingly, SAARC Regional Multimodal Transport Study (SRMTS) was taken at hand to establish connectivity among SAARC countries. SRMTS recommended 10 road corridors for future development based on several criteria. There are six corridors that involve Bangladesh as shown in Table 2.

Table 2: SAARC Highway Corridor Routes through Bangladesh

Routes	Description	Remarks
SHC 1	Lahore – New Delhi – Kolkata – Benapole – Jashore - Dhaka – Akhaura – Agartala	Out of total 10 SAARC Highway Corridors (SHC), six corridors involve Bangladesh.
SHC 4	Kathmandu – Phulbari – Banglabandha – Mongla /Chattogram	
SHC 5	SandropJongkhar–Guwahati–Shillong– Sylhet–Dhaka– Kolkata	
SHC 6	Agartala–Akhaura–Chattogram	
SHC 8	Thimphu–Phuentsholing–Jaigaon–Burimari– Mongla/Chattogram	
SHC 9	Maldha–Shibganj–Jamuna Bridge (Bangladesh)	

Source: RTHD Report 2016. pp. 23-32

5.3 South Asian Sub-regional Economic Cooperation (SASEC): SASEC comprises of six South Asian countries: Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka to promote prosperity and improve economic opportunities for the sub region. The programme was initiated with the financial assistance of ADB. The SASEC initiative was launched to boost intraregional cooperation and at the same time to connect the region with Myanmar, China and the global market. In 2004 the SASEC Transport Working Group agreed to establish 21 transport corridors, with three corridors that pass through Bangladesh (Table 3).

Table 3: SASEC Road Corridors through Bangladesh

Routes	Description	Remarks
SASEC 9	Kathmandu–Kakarvitta–Banglabandha – Mongla or/and Chattogram	Among the 21 SASEC corridors three road corridors involve Bangladesh.
SASEC 4	Thimphu–Chengrabandha – Burimari - Chattogram or/and Mongla	
SASEC 5A	Kolkata– Benapole – Khulna - Mongla/Magura Dhaka – Chattogram	

Source: RTHD Report 2016. pp. 33-42

5.4 Bangladesh, China, India & Myanmar (BCIM) Economic Cooperation Project:

The BCIM spans across South, South East and East Asia. It is a civil society initiative, which later involved respective governments. The civil society initiative launched in Kunming sought to explore possibilities of regional and sub-regional

cooperation involving Bangladesh, China, India and Myanmar and specifically the land-locked and relatively backward regions. The BCIM Route 1 was initially chosen to pass through some geographically challenging terrain. Later on, an Alternative Route has been chosen (Table 4). In addition, eight dry ports have been selected along the route, of which one each at Benapole and Sheola are to be provided by Bangladesh.

Table 4: BCIM Economic Corridor Routes through Bangladesh

Routes	Description
BCIM Route 1	Kolkata – Benapole – Dhaka – Sylhet – Sheola /Sutarkandi-Silchar – Imphal - Tamu – Mandalay – Ruili – Tengchong – Kunming.
Alternative Route	Kolkata - Dhaka – Chattogram -Cox’s Bazar –Ghundum – Taungbro- Kyauktaw – Mandalay - Lashio - Ruili - Kunming.
Dry Ports	Petrapole (India), Benapole (Bangladesh), Sheola (Bangladesh), Sutarkandi (India), Moreh (India), Tamu (Myanmar), Mose (Myanmar), Ruili (China)

Source: RTHD Report 2016. pp. 43-50

5.5 Bay of Bengal Multi-Sectoral Technical & Economic Cooperation (BIMSTEC):

The BIMSTEC initiative involves eight countries of South Asia and South East Asia. The BIMSTEC identified fourteen road corridors, four rail corridors, two IWT corridors, eleven maritime gateways and fifteen aviation gateways. Some of the road and railway corridors overlap with the Asian Highway and Trans Asian Railway routes. There are seven BIMSTEC corridors (Table 5) that involve Bangladesh.

Table 5: BIMSTEC Routes through Bangladesh

Route	Description
Bangladesh, India	Kolkata-Dhaka-Agartala
Nepal, India, Bangladesh	Katmandu-Phulbari-B.Bandha-Mongla/Chattogram
Bhutan, India, Bangladesh	Bhutan-Shillong-Tamabil-Sylhet-Dhaka-Kolkata
India, Bangladesh	Agartala-Chattogram
Bhutan, India, Bangladesh	Thimpu-Chengrabandha-Burimari-Chattogram/Mongla
India, Bangladesh	Maldah-Jamuna Bridge
Myanmar, Bangladesh	Chattogram-Teknaf-Maungdaw

Source: RTHD Report 2016. pp. 51-60

5.6 Bangladesh Bhutan India and Nepal Motor Vehicle Agreement (BBIN MVA):

The BBIN MVA is a sub-regional transport connectivity initiative for vehicular traffic between Bangladesh, Bhutan, India and Nepal initiated in February 2015. It is a framework agreement; its implementation will require detailed bilateral and possibly trilateral arrangements. The BBIN MVA is designed to facilitate cross border movement of vehicles helping to boost trade and economy of the sub-region. There are five cargo routes and nine passenger routes identified through Bangladesh for passage of vehicular traffic. According to Article XVI of the Agreement, Bangladesh, India and Nepal have already ratified the BBIN MVA for making it enforceable, while Bhutan is yet to ratify the Agreement in the parliament.

Table 6A: BBIN-MVA Passenger Routes through Bangladesh

Route Description	Remarks
Khulna-Jessore-Benapole - Petrapole-Kolkata.	It coincides with SASEC 5A inside Bangladesh.
Chattogram- Dhaka- Banglabandha/Fulbari-Siliguri	The route in Bangladesh is similar to SASEC 9.
Chattogram- Dhaka- Burimari/Chengrabandha-Siliguri	The route is same as SASEC Corridor 4.
Chattogram- Dhaka- Benapole - Petrapole-Kolkata	Aligned to SASEC 4/9 and SHC 1.
Guwahati-Shillong-Dawki/Tamabil-Dhaka-Benapole - Petrapole-Kolkata	Coincides mostly with AH1.
Dhaka-Banglabandha/Fulbari-Siliguri-Panitanki/ Kakarvita-Kathmandu	
Kathmandu-Kakarvita - Panitanki-Siliguri- Chengrabandha – Burimari - Dhaka	
Dhaka -Burimari / Chengrabandha –Jaigaon / Phuentsholing - Thimphu	
Dhaka – Sylhet - Tamabil / Dawki - Guwahati/ Samdrukgongkhar	

Source: RTHD Report 2016. pp. 51-60

Table 6B: BBIN-MVA Cargo Routes through Bangladesh

S/No	Description
1.	Teknaf - Chattogram - Dhaka - Rangpur - Burimari/ Chengrabandha - Phuentsholing – Thimphu.
2.	Mongla - Jessore - Hatikamrul - Rangpur - Burimari / Chengrabandha - Phuentsholing – Thimphu.
3.	Teknaf - Chattogram - Dhaka - Rangpur - Banglabandha / Phulbari - Kakarvita – Kathmandu.
4.	Mongla - Jessore - Kushthia - Rangpur - Banglabandha/ Phulbari - Kakarvita – Kathmandu.
5.	Agartala/Akhaura - Ashuganj - Joydevpur - Chandra - Jessore - Benapole/Petrapole – Kolkata.

Source: RTHD Report 2016. pp. 51-60

6. Organization and Management of Road Network

Located at a vital geographical location of South Asia, Bangladesh plays a crucial role in advancing the intra-regional and inter-regional road connectivity. Among different modes of transport in Bangladesh, road transportation is the most dominant one, carrying over 70 percent of passenger and 60 percent of freight traffic internally (FYP, 2015). The roads and highways network cover a total length of 21,576.10 km. The highways of Bangladesh fall in three categories: The National Highways (N), Regional Highways (R) and the Zila (District) Highways (D). Details of Bangladesh road network are given in Table7:

Table 7: Road Networks of Bangladesh (in kilometers)

Roads & Highways	Numbers	Length	Remarks
National Highways (N): Highways connecting National capital with Divisional HQ’s, sea/land ports or Asian Highway.	96	3,826.78	8 Lane Road: 17.50 km 6 Lane Road: 20.60 km 4 Lane Road: 470.51 km
Regional Highways (R): Highways connecting District HQ’s, main river or land ports or with each other not connected by National Highways.	126	4,470.45	Width: 5.50 – 7.30 m

Zila (District) Roads (Z): Roads connecting District HQ's with Upazilla or connecting between Upazillas by single main connection with National/Regional Highway through shortest distance/route.	654	13,278.87	Width: 3.70 – 5.50 m
Total	876	21,576.10	
Rural Roads	-	3,53,074.06	

Source: Compiled from ADB Report: Connecting Bangladesh-Economic Corridor Network, 2016. p. 8, RTHD Annual Report 2017-2018. pp. 29-30 and Road Master Plan 2009, Ministry of Communication, p. 30.

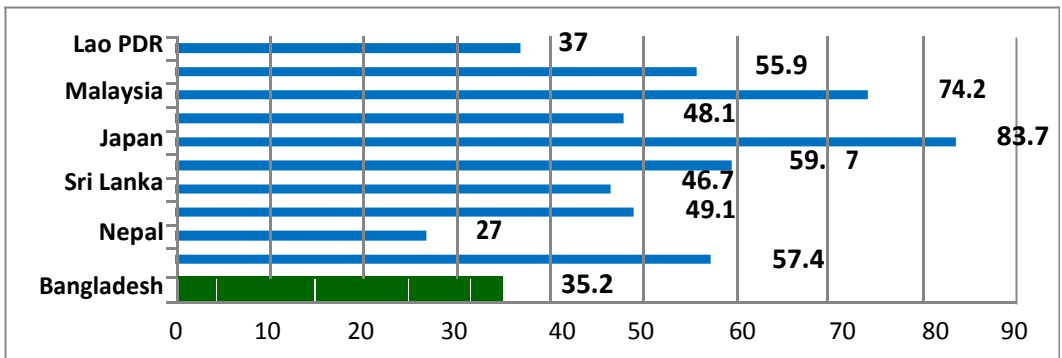
Traditionally, the Roads & Highways Transport Department (RTHD) gets major share of budget allocated for communication network development. The Government's Vision 2021 envisaged developing an efficient road network system to facilitate movement throughout the country (Planning Commission, 2012). The 6th Five Year Plan (FYP) of Bangladesh stressed on corridor-based development with a view to accommodating regional traffic in Bangladesh, while the 7th FYP has set investment projects for structural development (RTHD, 2016). Here primary attention has been laid on upgrading existing highways rather than on new road construction (Planning Commission, 2012).

Bangladesh Government in its Vision 2021 has embarked on a wide range of plans to upgrade its major highways with four lane capacities by 2021 to reduce travel time and traffic congestion, and to facilitate cross border movement of vehicles (Planning Commission, 2012). The Dhaka-Chattogram Highway and the Dhaka-Mymensingh Highway has already been upgraded into four-lane roads, while the work to upgrade Dhaka-Chattogram Highway into six lane road is under process. The development works on Dhaka-Rangpur Highway is going on and likely to be finished by 2021 as planned. The Dhaka-Rangpur Highway will be part of the corridor that will pass through Bangalbandha Land Port to connect with India and Nepal. It is also planned to be integrated with Bhutan via India, as part of AH-2. The Ashuganj-Akhaura Highway will be up graded to four lane road to connect Agaratala. The construction works of this 51-kilometer road is expected to be completed by 2020.

7. Glimpses on the Current State of Roads

Although the above-mentioned initiatives are underway to promote regional transport connectivity, there remain hurdles to make these arrangements functional and effective. Most of the sections of the roads in the proposed plan are two-lane roads with very limited four-lane segments closer to the urban areas of district or divisional towns. In addition, there are some sub-standard sections of the roads also with broken pavements and road surfaces. On some major roads the links are broken due to non-availability of bridges. Ferries operate there to help maintain continuity of the links. One such major link is the Padma Bridge, where bridge constructions is under way beyond its scheduled time of completion. As most of these road corridors pass through the capital city Dhaka, it needs number of by-pass roads to avoid the congestion to the city traffic. Although the government has taken up projects for upgrading most the proposed roads into four and six lanes, the progress is falling behind the schedule. The road network of Bangladesh is among the worst in Asia, as revealed by World Economic Forum Survey 2018. Globally, Bangladesh ranks 111 on Road Quality and 121 on Road Connectivity out of 140 countries (WEF, 2018). A comparative study of the scores on road quality among the South Asian and East Asian countries shows the state of the quality of roads in Bangladesh as given in Chart1:

Chart 1: Comparative Scores on Road Quality



Source: WEF 2018, Global Competitiveness Report 2018 (140 countries). pp. 53-555

Physical study reveals that the roads of Bangladesh lack the ability to handle the number and type of vehicles including modern multi-axle articulated transports. Efforts to expand and develop the road network encounter some major problems. Firstly, the rivers and their tributaries and the low laying areas significantly increase the cost of road construction. Secondly, the high population density and thick habitations put lands at

their scarce, complicating the task of widening or adding the road capacity; and finally, complicacy in land acquisition for widening and construction of new roads delays the expansion plan. The quality of construction and maintenance of the existing roads are not up to the standard. It is often observed that the poorly constructed highways and other roads lack timely repair and maintenance after they are damaged. The repair works are then undertaken hastily and finished somehow to manage the huge traffic load. As the repair and maintenance of the roads are done irregularly, without any prior plan, and on an adhoc basis, within few days the road conditions again deteriorate with numerous potholes due to heavy traffic and rainfall, which increases the chance of fatal accidents and traffic jams. Even the country's main artery Dhaka-Chattogram Highway, which has recently been upgraded to a four-lane road, finds difficulty to take traffic loads and container traffic at some critical segments due to substandard level of road construction and maintenance. Severe congestion frequently interrupts traffic at these places at regular intervals incurring high costs, delays and other traffic hazards (ADB, 2010). Same is the case with other highways, which are planned for gradual development into four-lane.

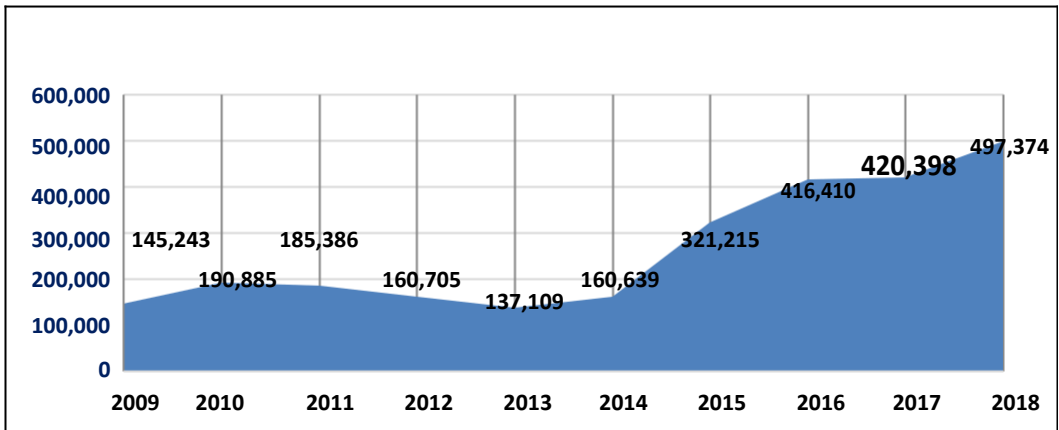
A main problem with the national highways is that the road shoulders are not sealed on both sides to prevent unauthorized use and development. As such the highways are open for use by pedestrians, rickshaws, carts and slow-moving indigenous transports. Road encroachment is also a severe problem as the roadsides are occupied by habitations, vendors, shops, workshops, rural markets, truck depots and irregular bus stoppages. This scenario is even worse for the roads emanating from the bordering areas that link different parts of the country. In most cases these border side roads were constructed as single lane district roads not designed for the current type and volume of vehicle movement. In some of the areas the plan for upgrading and expanding the roads are getting stalled due to complicacy in land acquisition. The plan for upgrading the 51-kilometer Ashuganj – Akhaura road into four lanes to link with Agartala is getting delayed due to the same complicacy, as revealed from land port sources during the field visit. Similarly, around 40 km segment of Jessore-Benapole road cannot be widened because of the old grown trees on both sides. These trees could not be chopped off in the face of severe protests by locals and environmentalists.

8. Road Traffic Management

Traffic congestion is one of the major hurdles of road communication system of Bangladesh. In some segments of major highways, it is a big barrier for uninterrupted movement of vehicles. The problem is further complicated as the highways converge towards Dhaka while linking with other parts of the country. This leads to excessive

traffic congestion in and around Dhaka. The 48-kilometer Dhaka Bypass i.e., the Modonpur-Bhulta-Joydevpur, that has been planned to connect Chattogram with north and north western part of the country may ease the situation provided the authority can prevent unauthorized encroachment of lands on the roadsides. This project had initially encountered problems of land acquisition from local landowners, causing delays to begin the construction work (Financial Express, 2018). It is learned that in some places the government is even ready to pay three times the higher price in its bargaining negotiation with the landowners. A significant concern is that the gradual increase in socio-economic activities of the rising population growth and consequent scarcity of lands has a severe impact on road network development. Another serious concern for road transport in Bangladesh is the presence of traffic mix on the roads. Mechanized and non-mechanized vehicles ply together on the same roads creating problem for economic and efficient operation of mechanized vehicles. This practice, to a large extent is responsible for traffic congestion and frequent road accidents. This particular aspect needs a special care during planning and designing of the roads. Currently Bangladesh Road Transport Authority (BRTA) has more than twenty varieties of passenger and cargo transports registered, which regularly plies on the roads. Every year the number of vehicles registration is on the rise. The Chart2 given below shows the statistics of vehicles registered in last ten years:

Chart 2: Number of Vehicles Registered Annually (2009-2018)



Source: <http://brta.portal.gov.bd/sites/default/files/monthly/report-march-18-pdf>

The BRTA record shows that so far the all-time highest number of vehicles registered were reported to be 4,97,373 vehicles in 2018. This records an increase from the previous highest number of 4,20,398 vehicles in 2017. The BRTA record shows an yearly average

of 1,00,788 vehicles registered since 1995, while the lowest record was 28,764 vehicles in 2000. The different categories of passenger and cargo vehicles registered by BRTA are given in Table 8.

Table 8: Categories of Vehicles Registered in Bangladesh 2010-2018

Type of Vehicles	Upto-2010	2011	2012	2013	2014	2015	2016	2017	2018/ March	Grand Total
Ambulance	2793	219	181	243	338	480	378	495	172	5299
A/ Rickshaw	126763	20423	23545	15697	19897	20000	11173	9168	2425	249091
Auto Tempo	14266	175	626	395	500	1095	1322	1592	451	20422
Bus	27778	1761	1439	1107	1488	2391	3833	3760	817	44374
Cargo Van	3522	489	282	687	608	399	1017	1413	413	8830
Covered Van	5658	2354	1421	2271	2869	2354	3340	5176	1675	27118
Delivery Van	17063	1004	774	894	1176	1719	2181	2410	715	27936
Human Hauler	6520	1152	715	385	225	1142	3487	3393	497	17516
Jeep	32286	2134	1569	1314	1870	3601	4892	5425	1346	54437
Microbus	66379	4051	3044	2537	4313	5224	5804	5575	1248	98175
Minibus	25644	276	249	148	256	323	472	492	102	27962
Motor Cycle	759257	114616	101588	85808	90685	240358	332057	326550	94740	2145659
Pick Up	32240	10460	7625	6553	9554	10257	11371	13512	3587	105159
Private Car	219830	12950	9224	10472	14699	21062	20304	21959	5160	335660
Special Type	6371	396	226	227	172	296	620	993	305	9606
Tanker	2706	317	195	226	362	324	394	319	96	4939
Taxicab	44380	75	172	51	374	88	44	15	32	45231
Tractor	20600	5200	3494	1885	1522	1699	2576	2777	1114	40867
Truck	82871	7327	4335	5129	8136	6330	7275	10353	3325	135081
Others	1317	7	1	1080	1595	2073	3870	5021	1558	16522
Total	1498244	185386	160705	137109	160639	321215	416410	420398	119778	3419884

Source: BRTA Report, 2018

In addition to the number of registered vehicles, there are large number of unregistered vehicles readily found almost everywhere in the country. Although there are no accurate official statistics of such vehicles, according to a rough estimate of the BRTA, over three lac vehicles are plying on the streets without registration, and 50,000 of them in the capital city (BRTA, 2018). In addition to that, BRTA Report (2018) also shows that there are more than 55,000 vehicles in the country which lack road fitness. According to Section 47 of Motor vehicle Ordinance of 1983, every motorized vehicle must be registered. The law states that anyone using vehicles on the street without registration or

fitness certificate would face a three-month imprisonment and a fine of Tk 2000 for the first time. And for any subsequent offence, the person may face up to six months in imprisonment, or up to Tk 5,000 fine, or both. However, BRTA claims that such violations are the concerns of the traffic department of police, and BRTA often conducts drives against unregistered and unfit vehicles through mobile courts (Khaled, 2017).

Besides different types and numbers of vehicles, the road network of Bangladesh has the lack of adequate east-west connections. The ongoing construction of 6.15-kilometer-long Padma Bridge is expected to facilitate the east-west link and improve connectivity with Mongla Port. For northwest – southeast and northeast – southwest connections the road networks are encroached upon at more than 30 locations each by local *haats* and bazaars. This encroachment means significant increase in traffic congestion, travel time and transportation cost, which will become even further worse with the forecasted growth of vehicles over the period 2015 – 2025 as given in Table 9 below:

Table 9: Forecasted Average Annual Vehicle Growth Rates: 2015–2025

Level	Year	Truck	Bus	Car	Others*	All Vehicles
Low	2015-2020	7.10	3.00	6.90	5.25	5.15
	2020-2025	1.40	3.00	5.50	2.00	2.45
	2005-2025	5.10	3.00	7.57	5.69	4.64
Medium	2015-2020	6.40	4.00	7.00	5.30	5.00
	2020-2025	2.80	4.00	5.70	2.90	3.18
	2005-2025	5.82	4.00	8.40	6.45	5.24
High	2015-2020	6.00	5.00	6.80	5.20	5.50
	2020-2025	5.22	5.00	5.45	4.20	4.90
	2005-2025	6.87	5.00	9.90	7.32	6.50

Note: “Others” refers to such vehicles as jeep, taxi, auto-rickshaw, tractor, motorcycle and trawler.

Source: Ministry of Communications, Road Master Plan – 2009, RTHD. Dhaka. p.23. and ADB South Asian Working Paper, 2016. Pp. 30-34

Traffic volumes along the roads and highways network are medium to high on the national highways and low on the regional highways and district (zila) roads. But the average volumes of vehicle traffic overall have been growing at 5.0%–6.3% per year as shown in the table above (Table 9). Here, the traffic growth has been seen consistent with the projections made in the set out in the Road Master Plan – 2009 of the Roads and Highways departments (Table 10).

The projected volumes of traffic in general are higher for busier routes like Dhaka–Chattogram Highway, which may eventually have to carry more than 30,000 vehicles a day. Although this has been a modest projection, if one considers the full implications of the development of regional and inter-regional connectivity, it could lead to increased transport with increased traffic flow. Moreover, increased economic and regional trade and transit activity would create a demand for the services of transport and logistics, which would spur capacity expansion. The projections of the Road Master Plan 2009 estimated the growth of traffic volume up to the year 2025 only. Beyond that, traffic volumes will likely rise further in response to modernization, increased mobility, and a projected GDP growth of 10% per year. Thus multi-modal transport connectivity across the region may need to deal with even higher traffic growth. The projected motor traffic growth on the highways is shown at Table 10 below:

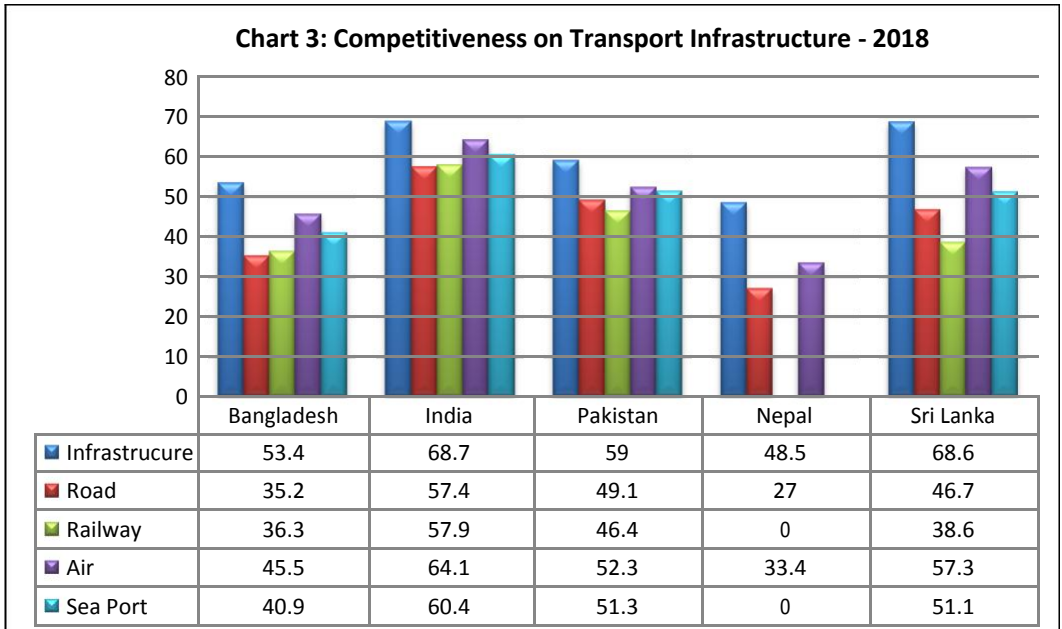
Table 10: Projected Motor Traffic Growth: 2015-2030

Road Type	Average Annual Growth Rate of Traffic (Percentage)
National Highway	8–10
Regional Highway	10–15
District (Zila) Road	10

Source: Road Master Plan 2009, RTHD and ADB South Asian Working Paper, 2016. Pp. 30-34.

9. State of Infrastructures in Global Perspective

According to World Economic Forum (WEF) quality and extension of transport infrastructure of a country is an important index of its economic competitiveness (WEF, 2018). A well-developed infrastructure lowers transportation costs and facilitates smooth movement of goods and people within and across the countries. The road connectivity system and infrastructures of Bangladesh consist of roads and highways network connected through the land ports and related services. Among different modes of transport, road transportation is the dominant mode, carrying over 70 percent of passenger and 60 percent of freight traffic (Planning Commission, 2015).



Source: WEF 2018, Global Competitiveness Report 2018 (140 countries). pp. 53-555

According to WEF’s report Bangladesh stands far behind its comparators in all modes of transportation infrastructure and services. The Global Competitive Index (GCI) of 2018 indicates that Bangladesh ranks 109 on transport infrastructure out of total 140 countries (WEF, 2018). A comparative statistic of competitiveness of Bangladesh in relation to other South Asian countries indicates it clearly as shown in Chart 3. To elaborate the regional countries’ competitiveness further, the data on competitive index and rankings of the countries of South and South East (SE) Asia in 2018 are given in Table 11:

Table 11: Global Competitiveness - Transport Infrastructure of Asian Countries – 2018

Countries	Infrastructure (Overall)		Road Connectivity Index		Road Quality		Train Service Efficiency		Air Transport Service Efficiency		Sea Port Efficiency	
	Score (100)	Rank (140)	Score (100)	Rank (140)	Score (100)	Rank (140)	Score (100)	Rank (140)	Score (100)	Rank (140)	Score (100)	Rank (140)
Countries of South Asia												
Bangladesh	53.4	109	34.3	121	35.2	111	36.3	68	45.5	109	40.9	93
India	68.7	63	62	76	57.4	51	57.9	26	64.1	53	60.4	40
Nepal	48.5	117	34.3	122	27.0	126	NA	NA	33.4	130	NA	NA
Pakistan	59.0	93	66.9	62	49.1	69	46.4	52 N	52.3	89	51.3	69

Sri Lanka	68.6	65	45.5	103	46.7	79	38.6	63	57.3	74	51.1	71
Countries of East Asia and Pacific												
China	78.1	29	88.4	17	59.7	42	59	25	60.7	63	58.6	48
Japan	91.5	5	70	57	83.7	6	91.1	2	85	6	77.3	8
Indonesia	66.8	71	34.6	120	48.1	75	61.4	19	66.7	49	54.1	61
Malaysia	77.9	32	26.8	128	74.2	20	69.5	13	76.4	19	71.5	17
Thailand	69.7	60	70.2	55	55.9	55	27.4	91	66.8	48	51.5	68
Lao PDR	57.5	99	20.5	130	37	107	21.4	105	48.3	98	NA	NA

Source: Compiled from WEF 2018, Global Competitiveness Report 2018 (140 countries). pp. 53-555

From an analytical study of the table, it is clear that in South and SE Asia Bangladesh stands almost at the bottom of the list in transport infrastructure except Nepal, which is otherwise a land locked mountainous state with inherent geographical limitations of difficult road network, and no railway or port services. While these ratings are an indicator of performance, the poor scores of infrastructure and low country rating are suggestive of the existing problems, which will pose as challenges when road transit gets into motion. Indeed, overall infrastructure development is a long-term challenge that will need to be pursued through systematic development plans. The study of WEF Reports from 2012 to 2018 given in Table 12 indicates very inconsequential progress over the period of last eight years. The overall progress in the competitiveness score has been just + 0.1 from 3.6 to 3.7 on the scale of 7. Though little progress has been made in case of railways, achievement in the roads, ports and air are very insignificant. Among 140 countries that were surveyed by WEF under GCI, Bangladesh ranked 109 in 2017-2018. When compared Bangladesh's 133rd position eight years' back (2010-2011), one may be contended that Bangladesh shows some sign of improvement in its ranking, but the overall scores do not show significant qualitative progress. The improvements have been rather very slow. The infrastructural deficiency has also been identified as the most problematic factors in doing business in Bangladesh as shown in Chart 4:

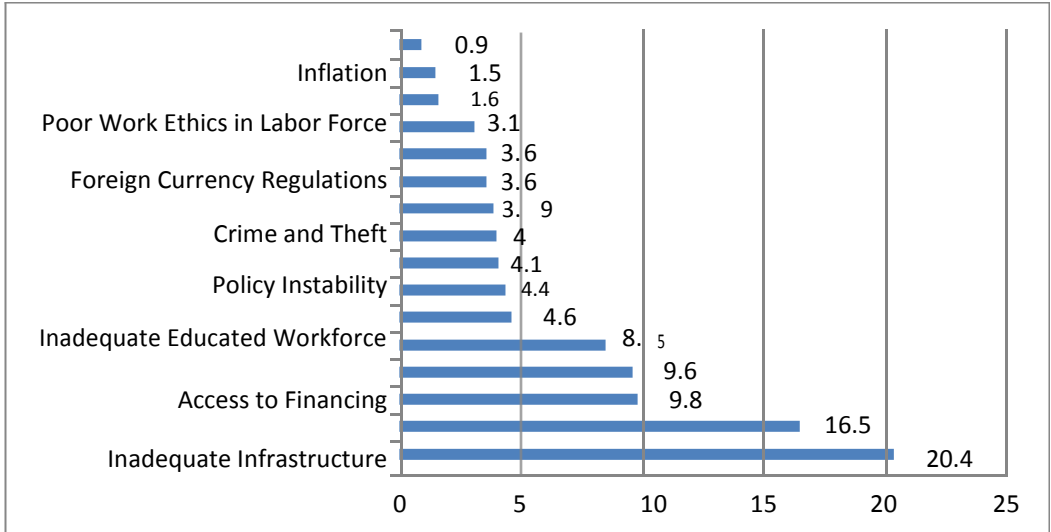
Table 12: Status of Bangladesh in Global Communication Infrastructure

Year	Total Countries Surveyed	GCI		Infrastructure				
		Rank	Score (1-7)	Rank	Value and Ranking on Quality			
					Roads (Value) (Rank)	Rail (Value) (Rank)	Port (Value) (Rank)	Air (Value) (Rank)
2010-2011	139	107	3.6	133	- 100	- 71	- 107	- 117
2011-2012	142	108	3.7	134	2.9 111	2.5 73	3.4 113	3.5 117
2012-2013	144	118	3.6	134	2.8 113	2.5 73	3.3 121	3.5 120

2013-2014	148	110	3.7	132	2.8	2.4	3.5	3.2
2014-2015	144	109	3.7	127	2.9	2.4	3.7	3.0
2015-2016	140	107	3.8	123	2.9	2.5	3.6	3.2
2016-2017	138	106	3.8	114	2.9	2.7	3.5	3.2
2017-2018	140	103	3.7	109	3.1	3.2	3.5	3.7

Source: Compiled from WEF Reports 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018

Chart 4: Most Problematic Factors for Doing Business in Bangladesh



Source: WEF Executive Survey 2016-2017. p.110.

10. Possible Ways Forward

10.1 Integration into Multi-modal Network System: The road transportation system is the most dominant mode of transportation carrying over 70 percent passenger and 60 percent freight traffic (FYP, 2015). The pressure on road traffic can be reduced if certain part of its passenger and cargo traffic load is shifted to inland water transport (IWT) and railway. Bangladesh is crissed-crossed with numerous rives covering about 5,968 kilometers of navigable channels. Besides that, Bangladesh Railway covers about 2877 kilometers of rail route network. Taking cognizance of these means of communication, road development should be planned. For an effective form of transport connectivity, the road network needs to be integrated with IWT and railway network.

10.2 Compatible Infrastructural and Institutional Development: The projected traffic growth suggests that it will require massive upgrading of the roads and highway network in the form of improved quality and greater number of lanes. Major national arteries will have to comply with international benchmarks such as those of the Asian Highway network. Given the current condition of roads in Bangladesh, qualitative improvement is an immediate concern. Bangladesh will also have to apply appropriate measures to improve the resilience of its road infrastructure in the face of climate change. The real challenge of a road connectivity arrangement will be the huge investment required (both from domestic and external sources) for roads, bridges and related infrastructure and software, including environmental, social, security and climate change adaptation measures. Standardized institutional arrangements such as one stop service, universal customs rules, immigration and security procedures must be simplified.

10.3 Traffic Control Measures and Traffic Management: The road network of Bangladesh is among the worst in Asia in terms of quality and infrastructure. It has two serious lacking which needs to be addressed with top priority. Firstly, the inability to cope with high volume of routine traffic that frequently chokes at the critical points, and secondly the lack of road fitness including the low capacity bridges to take modern multi-axle articulated transports and heavy vehicles, leading to heavy traffic congestions and frequent road accidents. These problems are particularly evident on the roads emanating from the bordering areas. Besides that, the highways and district roads are encroached at different locations by local marketplaces and irregular parking, which add to a significant increase in traffic congestion, travel time and transportation cost.

10.4 Road Repair and Development: Gradual upgrading of all the highways into minimum four-lane roads is very important now. Upgrading the lower classified bridges and sealing of the road-shoulders to prevent unauthorized entry and encroachment is also vital for our national highways. Major roads like Dhaka-Chattogram, Dhaka-Rangpur, Dhaka-Rajshahi, Dhaka-Sylhet and Dhaka-Khulna Highways should be upgraded to six-lane roads gradually. Encroachment of road shoulder along the highways by small traders and markets needs to be prevented at all cost. The tendency to link local roads with the highways should be curbed to stop entry and exit of different types of non-mechanized vehicles with the highways.

10.5 Increase East – West Connectivity: The lack of east-west connectivity in the road network of Bangladesh is also a serious limitation in our road network system due to the existence of mighty rivers Padma and Jamuna. The Bangabandhu Jamuna Multipurpose Bridge (BJMB) over Jamuna is the only direct east-west link to connect

with north-eastern part of the country, while the south-eastern part across the Padma River is connected through ferry services, or with a long detour through BJMB. However, the 6.15-kilometer-long Padma Bridge, which is under construction now will facilitate the east-west link and improve connectivity with Mongla Port.

10.6 Stop Multiple Mixes of Transports on the Same Road: Another issue of grave concern is that, the multiple mix of traffics on the roads of Bangladesh pose a major challenge to introducing an internationally accepted road communication system in the country. There are different categories of motorized and non-motorized vehicles plying on the highways of the country, many of which are indigenously developed with non-standard designs violating safety rules. Growth of these sub-standard and indigenous types of vehicles needs to be curbed. In addition, future development and extension of the highways should cater for the provision of separate roads for non-mechanized and local slow-moving vehicles.

10.7 Regulatory Measures on Drivers' License & Vehicle Registration: According to a rough estimate of BRTA, over three lacs of vehicles are plying on the roads without registration; and more than 55,000 vehicles are there, which do not have any road fitness. Some of the vehicles are operated by drivers, who do not have authorized license. This transgression has to be addressed to bring rule of law on the highways.

10.8 Division of Responsibility between BRTA and Police on Road Traffic: Although BRTA claims that they have frequent drives with mobile courts against the defaulters, they tend to avoid responsibility saying that such violations are the concerns of the traffic department of police. Therefore, unless a concerted drive is initiated by both these organization in coordination with each other, no fruitful remedy can be expected to this problem.

11. Concluding Remarks

Under the globalized economic milieu, it is undeniable that seamless transport connectivity, that enables movement of people, goods and services between countries are vital for mutual growth and development. Economic integration and transport connectivity are closely knit to each other. Connectivity across borders builds regional network of production and supply chain, generating productivity and economic activity. Studies of ADB on the developing countries of Asia show that basic infrastructures such as transport communication, road network and power are the key factors to help poorer countries climb up the poverty line (ADB, 2008). As regards to Bangladesh, this factor

has not been given adequate attention until recent now, where communication networks were developed to meet the domestic needs of transportation only. The state of our roads is among the worst in Asia as revealed in an opinion survey of the World Economic Forum. Same is the case with railway and the inland water communication systems, where the standard of the communication network and quality of public and cargo transportations are even worse than the ones on the roads.

In response to the recent regional, sub-regional and bilateral initiatives on cross border transport connectivity, the Government of Bangladesh has also mobilized its action plans to develop road, rail and river transport networks of the country. It is indeed a challenging undertaking for the Government now to revamp the current fragile state of communication system and transform it into a viable one that will fit the international standard, and at the same time generate revenue, growth and economic activity. The problems in each communication sector therefore need to be identified keeping in view the needs of increased volume of traffic with different size, weight and categories of transportation. Since the tasks are vast and multi-dimensional, the development works are to be chalked out after physical assessment of their order of priority and then executed with time bound specific objectives. Corresponding institutional and legal framework should be prepared in conjunction with the infrastructural developments to facilitate smooth and functional system of cross border movement. The development plans should be all encompassing to integrate all modes of transportation that are mutually supportive to each other. A judicious infrastructural and institutional development plan, if systematically executed, is expected to boost economic activity in the region and offer a win-win situation for all.

References

- ASEAN(2016). *ASEAN Transport Strategic Plan 2016-2015*. Jakarta: ASEAN Secretariat.pp.3-7.
- Asian Development Bank. (2008). Transport Infrastructure and Trade Facilitation in Greater Mekong Sub-region Time to Shift Gears. *ADB Evaluation Study* Reference Number: SAP: REG: 2008-86. Manila: [Online]. <http://www.adb.org/documents/transport-and-trade-facilitation-greater-mekong-subregion-time-shift-gears>. 27 February 2017.
- Asian Development Bank. (2010). *Bangladesh: TA Support to Transport Sector, Sub-regional Transport Facilities*, ADB
- Asian Development Bank. (2011), *Greater Mekong Sub-region Cross Border Transport Facilitation Agreement- Instruments and Drafting History*. Philippines: [Online].

- <http://www.adb.org/documents/greater-mekong-subregion-cross-border-transport-facilitation>. (Accessed on 12 March 2017).
- Asian Development Bank. (2016). *Connecting Bangladesh: Economic Corridor Network*. ADB South Asia Working Paper No. 49. Philippines. December 2016. ADB. Pp.30-35.
- Bayron, R.K., and Palma, P. (2019). India's Transit through Bangladesh: Challenge is to Reap Benefit, *The Daily Star*. 29 Nov 2019. Dhaka. p-1.
- Bhattacharayay, B., Kawai, M. and Nag, R. (2012). eds, Infrastructure for Asian Connectivity. *Asian Development Bank Institute., Cheltenham, UK: Edward Elger Publishing Ltd*.pp.1-5.
- BIWTA Protocol (2015), Protocol on Inland Water Transit and Trade, signed on 06 June 2015, *Ministry of Shipping. Government of Bangladesh, Dhaka*
- Bose, S. R. (2011). Regional Cooperation for Development in South Asia. Ahmed, J. (ed), *Dhaka: The University Press Ltd*. pp.9-12.
- BRTA (2018), BRTA Monthly Report – March 2018, Web: [//brta.portal.gov.bd/sites/default/files/monthly/report-march-18-pdf](http://brta.portal.gov.bd/sites/default/files/monthly/report-march-18-pdf)
- Cameron, F. (2010). The European Union as a Model for Regional Integration. WORKING PAPER. *New York: Council on Foreign Relations*. [Online]. www.cfr.org. (accessed on 15 March 2015)
- Chawla, V. (2017). India-Bangladesh Maritime Trade: Protocol on Inland Water Transit and Trade. *New Delhi: National Maritime Foundation*. [Online]. www.meritimeindia.org.
- Financial Express. (2018). *Chinese Company Set to Win 48 Kilometer Dhaka Bypass Road*, 10 March 2018,
- FYP. (2015). Sixth Five Year Plan - 2016-2020. *Ministry of Planning. General Economic Division. Dhaka*.
- Grof, S. (2014). Strengthening Connectivity for Enhanced Competitiveness in Southeast Asia, Presentation at the OECD Southeast Asia Regional Forum: Fostering Regional Competitiveness and Sharing the Benefits of Sustained Growth. Bali, Indonesia: [Online] <https://www.adb.org/news/speeches/strengthening-connectivity-enhanced-competitiveness-southeast-asia-stephen-p-groff>, accessed on 08 October 2017.
- Khaled, S. (2017), Precarious State of Roads and Highways, The Independent (Internet Addition), 07 September 2017. Dhaka. [Online]. <http://www.theindependentbd.com/post/113667>, accessed on 10 September 2018.
- MOU (2015), Passenger and Cruise Services on the Coastal and Protocol Route, *Ministry of Shipping, Government of Bangladesh*, 16 November 2015, Dhaka.

- Pal, P. (2016), Intra-BBIN Trade: Opportunities and Challenges. *ORF Issue Brief*: New Delhi. *The Asia Foundation*, pp. 2-5.
- Planning Commission. (2012). Perspective Plan of Bangladesh: 2010-2021. *Making Vision 2021 a Reality*, Ministry of Planning, General Economic Division, Dhaka. pp.2-10.
- Planning Commission. (2015). Accelerating Growth and Reducing Poverty:Seventh Five Year Plan 2016-2020. Ministry of Planning, General Economic Division, Dhaka. pp. 386-390.
- Rahman, M., Sadique, M. and Saha, N. (2015). Trade Facilitation in South Asia Through Transport Connectivity: Operationalizing the Motor Vehicle Agreements, Rahman, M. (Ed) *Toward Regional Integration in South Asia - Promoting Trade Facilitation and Connectivity*, Dhaka: Centre for Policy Dialogue. pp.104-120.
- Rahman, M. (2019). Planning it bit by bit: An Interview with the Daily Star about Transit for India. *The Daily Star*, 29 Nov 2019. Dhaka. p-1.
- Rahmatullah, M. (2006). Promoting Transport Cooperation in South Asia, Sobhan, R. (ed). *Regional Cooperation in South Asia – A Review of Bangladesh’s Development*. Center for Policy Dialogue. Dhaka: *University Press Ltd*. pp.373-377.
- Rahmatullah, M. (2009). Regional Connectivity: Opportunities for Bangladesh to be a Transport Hub. *Journal of Bangladesh Institute of Planners*. Vol. 2. Dhaka: pp.12-16.
- Rahmatullah, M. (2013). Regional Transport Connectivity: Its Current State. *The Daily Star*, <http://archive.thedailystar.net/beta2/news/its-current-state> (accessed on 24 February 2015).
- Road Master Plan. (2009). Road Transport and Highways Division. Ministry of Communication. Government of Bangladesh. Dhaka
- RTHD (2016). Regional Road Connectivity - Bangladesh Perspective. Ministry of Road Transport & Bridges. Government of Bangladesh, Dhaka.
- RTHD (2017-2018), *RTHD Annual Report 2017-2018*. pp. 29-30, Ministry of Road Transport & Bridges. Government of Bangladesh, Dhaka.
- Sobhan, R. (2006). Setting the Enhanced Agenda for Regional Cooperation for Next Decade. Sobhan, R. (ed). *Regional Cooperation in South Asia– A Review of Bangladesh’s Development*, Center for Policy Dialogue, Dhaka: The University Press Ltd. pp. 7-14.
- SRMTS, (2006), Final Report on SAARC Regional Multimodal Transport Connectivity, World Bank. (2008). Trade and Transport Facilitation in South Asia – Systems in

Transition. Vol. II. South Asia Region, Report No. 44061. *Washington DC*. pp.2-8, 124

WEF (2017), The Global Competitiveness Report 2017. Best and Worst Countries for Road Quality: Global Ranking of Asian Countries, Retrieved from <https://www.thedailystar.net/country/bangladeshs-roads-among-worst-asia-1541335>,

WEF (2018), The Global Competitiveness Report 2018. *The Global Ranking of Asian Countries*. pp. 53-55.

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Belt and Road Initiative-A Future Trance; Likely Hurdles Ahead

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Abstract

Chinese history of civilization can be traced back to 5000 years from now. Today when China is focusing on revitalizing its glorious past and emerging as economic power of the world, its present leadership unveiled the initiative of jointly building the Silk Road Economic belt and the 21st Century Maritime Silk road – more popularly referred as One Belt One Road (OBOR). This aims at connecting over 60 countries of 3 continents, benefiting 4.4 billion people which are about 63 percent of the global population, who own \$22 trillion of GDP. When China initiated the very promising and pragmatic OBOR initiative, it was only natural that positive vibes were felt by the countries concern. It envisaged a gateway to global communication, economic expansion, international cooperation and more. Prospects and opportunities which can be offered by OBOR are Mutual Connectivity, Productivity Level, Trade Opportunities, Investment, Multilateral and Industrial Cooperation, Financial Cooperation, Reduce Technological Gap, Employment Opportunity, Conducive Environment to Defuse Tension. No doubt OBOR offers a range of opportunities not only for China but also for the countries along the road. Some work has started with formation of financial platforms, yet much to be done both domestically and internationally. Some of the significant domestic issues that China needs to look at are Unequal Development, Energy Security, Awareness Building. Few international challenges are awareness and confidence building, political risk, financial risk, security risk, cultural and environmental risk, 21st Century dimension, breaching capability gaps, global oppositions. For an effective materialization of the conceptualized initiative China needs to move forward with open, transparent and all-inclusive approach. In the process China needs to improve her image and track record of successfully completing mega project's, ensuring win-win deals visibly. At the end of this paper few recommendations are made regarding International Governance structure, equality, coordinated plan, progressive way based on OBOR.

Keywords: One Belt One Road (OBOR) initiative, silk route, economic corridor, financial diplomacy, investment, infrastructue.

1. Introduction

Chinese history of civilization can be traced back to 5000 years from now. Home grown various innovative and useful products had much to offer to connect the other part of the world. To materialize that, people opened up several routes for trade and commerce. As part of that endeavor the reputed ancient ‘Silk Road’ connected civilizations of Asia, Africa and Europe two milieus ago. The underlying spirit of the ‘Silk Road’ was peace, development, exchange and connectivity and communication. Historically, this route contributed connecting many nations and states. However, with wake of great rivalries and new dimension of trade went to the back bench failing to cope up with the modern day’s trends.

Today when China is focusing on revitalizing its glorious past and emerging as economic power of the world, its present leadership unveiled the initiative of jointly building the Silk Road Economic belt and the 21st Century Maritime Silk road – more popularly referred as One Belt One Road (OBOR). This aims at connecting over 60 countries of 3 continents, benefiting 4.4 billion people which are about 63 percent of the global population, who own \$22 trillion of GDP. The graphical representation of the OBOR is at appendix 1. The modern Silk Road is the brainchild of the fifth generation Chinese leadership and architect of ‘Chinese Dream’ President Xi Jinping.

When China initiated the very promising and pragmatic OBOR initiative, it was only natural that positive vibes were felt by the countries concern. It envisaged a gateway to global communication, economic expansion, international cooperation and more. Businessmen, academicians, professionals and people of all walks of life were excited. This was a futuristic vision ready for implementation here and now. Of course, there were skeptics. India has openly expressed its reservations about the plan, worrying that it is an attempt to build a vast zone of Chinese influence. The US, not quite comfortable with China’s fast escalation to top world order, a place which America has long taken for granted, is also speculative about the initiative. However, sheer geographical distance, perhaps makes it less of a looming issue for them.

2. Objectives

Objective of this research are as follows:

- a. To examine the prospect and opportunities offered by belt and road initiative to facilitate trans border connectivity.
- b. To identify the major challenges to establish OBOR initiative and how to overcome those challenges.

3. Methodology

This study is carried out as part of a research on new silk route connectivity. The study was carried out by analysis of primary and secondary sources of information from research articles, magazines, books and journals, news etc. After collecting adequate information second stage of the study began with map analysis, considering geo-economic, geopolitical, social and cultural issues of countries along the new silk route. Finally, this study focused on analytical study of opportunity and challenges involved in establishing OBOR.

4. Literature Review

OBOR—the Silk Road Economic Belt and the 21st Century Maritime Silk Road—was presented in autumn 2013 and has become the central foreign policy project of Chinese President Xi Jinping (Fasslabend, W. 2015).China’s state-owned XinHua news agency has started publishing a series of articles called New Silk Road: New Dreams and has published a map of the route that has come to be called the ‘Xin Hua version’ (XinhuaFinance Agency 2015).

The Belt and Road, unveiled by President Xi Jinping in late 2013, is China’s most ambitious geo-economic and foreign policy initiative in decades, combining a land-based Silk Road Economic Belt and a sea-based 21st Century Maritime Silk Road which connect China to Europe (Nicola Casarini 2016).OBOR is not limited to physical infrastructure and commerce. President Xi Jinping has talked about “five factors of connectivity”, namely policy communication, road connectivity, unimpeded trade, monetary circulation and understanding between peoples, including intellectual exchanges and flows of tourists and students (Fu M., and Lou C. 2015).

The implementation of the first projects related to the Belt and Road began in Central Asia in March 2014, when Chinese Premier Li Keqiang and Kazakh Prime Minister Karim Masimov oversaw the signing of 33 deals worth USD 23.6 billion, including projects in the steel, non-ferrous metals, sheet glass, oil refining, hydropower and automobile industries (Alam, O. 2015).

The biggest obstacles will be the huge differences between the economic, political, cultural, social and legal systems found in the Eurasian and African regions and the countries between them. The need to create harmonised and secure conditions will be a great challenge (Fasslabend, W. 2015).

The Silk Road concept certainly has to be taken seriously. It will be China's predominant geo-economic, geopolitical guideline for the next decade. Moreover, it clearly shows that China has learned to sell its world power ambitions by means of a nostalgic public relations concept (Fasslabend, W. 2015).

Researchers have also emphasized the geopolitical and foreign policy aspects of China's new Silk Road – both the land-based and maritime routes – raising questions as to whether, and to what extent, the OBOR serves to expand Beijing's sphere of influence in Eurasia while countering US policies in the Asia Pacific (Chaturvedy, R. R. 2014). Europe has clearly become the preferred destination for Chinese investors. According to the China Global Investment Tracker, between 2005 and 2016, China invested nearly USD 164 billion in Europe (including non-European Union countries). During the same period, it invested USD 103 billion in the US (China Global Investment Tracker).

5. Prospect and Opportunities Offered

5.1 Mutual Connectivity. Gradual engagement of 60 countries and regions will certainly promote the inter connectivity allowing more engagement not only at the government level, but also at organizational and people to people level.

5.2 Productivity Level. Collective efforts and avoidance of duplication likely to enhance the productivity level. These will contribute in more job opportunity and reduce the gap between supply and demand.

5.3 Trade Opportunities. As the production goes up and multiple projects undertaken will generate more scope for multi-level trades thus assumed to see increased commerce around the belt.

5.4 Investment. Both financial and raw material investment will see a rise having diversified sources and increased number of projects being implemented.

5.5 Multilateral and Industrial Cooperation. Multilateral cooperation to complement and enhance the industrial boom as the initiative progress along.

5.6 Financial Cooperation. With the formation of BRICS (Association for Brazil, Russia, India, China and South Africa), AIIB (Asian Infrastructure Investment Bank) and many more to come will strengthen the financial cooperation with increased volume of investment. Thus free fund flow is likely to gain momentum.

5.7 Reduce Technological Gap. Through implementation of mega projects more advanced technologies are likely to transfer to the less advanced countries. This in turn will enhance to achieve Common Standing.

5.8 Employment Opportunity. Multiple works will create job making greater employment scopes.

5.9 Conducive Environment to Defuse Tension. For common interest once projects will be undertaken and implemented this may lead to further negotiation and even defusing some of the **bilateral / regional** tensions. This may positively contribute to build a peaceful world.

6. Likely Hurdles Ahead

No doubt OBOR offers a range of opportunities not only for China, but also for the countries along the road. At this stage some works have started with formation of financial platforms like BRICS and the AIIB and engagement like BCIM (The Bangladesh, China, India and Myanmar) Economic Corridor and China-Pakistan economic corridor, yet much to be done both domestically and internationally. For sure such a mega initiative will not be devoid of hurdles to be overcome jointly. Some of these are domestic and some are international challenges, as discussed in following paragraphs:

6.1 Domestic Challenges

Some of the significant domestic issues that China needs to look at are as followings:

6.1.1 Unequal Development. No denying the fact that China over the past decades after opening up and reforms have progressed and developed much faster than any other country in the world. Yet today China faces many challenges from uneven, unequal, uncoordinated and unstable economic development. Without developing equally internally may not be viewed positively by the people of the backward areas. This may put the leaders with multifaceted challenges within. This issue needs to be dealt with very carefully because such opposition from inside China will seriously question the credibility of the host nation.

6.1.2 Energy Security. Any development projects will give rise to the increased use of energy. Moreover the domestic use is also on the rise at a very high speed. To meet the growing demands to China, the imported petroleum in the total consumption has risen from 32 percent at the beginning of the 21st century to the present 57 percent. Most of

these imports are directly linked to rapid industrialization and growing demand of urbanization. The security of these supplies in the wake of tensions around the globe and the fluctuation of markets, make it more difficult to maintain her energy security today than ever before. If China can't secure energy the whole initiative may be put to jeopardy.

6.1.3 Awareness Building. National level leaderships while travelling abroad, in various forums unveiling this initiative. This was seen during recent visits of President Xi Jinping to US, UK, Singapore, G-20 and APEC summit. The same was done by the prime minister also. But as China is the initiator, its people, both at grass root level and also various entrepreneurs level will be the key players in its physical implementation. But much effort is not yet visible internally. More so both people and the various organizations will have to prepare themselves for implementing various projects, otherwise the dreams may not see the lights in reality. This is also likely to be a daunting task as China's internal development has not reached its saturation point yet.

6.2 International Challenges

Starting from its conceptualization towards its publicity, convincing other states and implementing projects a number of challenges are likely to emerge. Some of them are already talked about and some are likely to come up as the journey begins. Significant few are highlighted as follows:

6.2.1 Awareness and Confidence Building. Transforming Chinese dream to "Ours Dream" in a common perspective, will be a big challenge for the Chinese leadership. If the other participating countries, do not feel part of this initiative, then engagement will become difficult one. Political leaders of other countries are likely to face internal resistance. Through various awareness building initiatives China needs to take a lead role to assure others that this initiative though conceptualizes by China, yet all have something common to share for prosperity, obviously not giving away anyone's interest. Beside given Chinese construction companies' poor track record operating in foreign countries (including frequent mistreatment of local workers), a major increase in the scale of their external activities increases the risk of damaging political blowback that could harm Beijing's image or lead to instability in host countries-particularly if the efforts do not generate lasting benefits for local economies. This effort will have important foreign policy implications for a number of key regional players, including Japan, India, and Russia. Moscow is particularly concerned about the initiative translating into increased Chinese influence in Central Asia. China as the leader needs to address all these issues very carefully. Beside China needs to assure her neighbors' and other competing even

outside of the belt that this will not put them at great risk or unhealthy and unequal competition.

6.2.2 Political Risk. While describing the initiative no specific legal or political framework has been outlined so far. This is also true that one set or a specific model will not suit the entire gamut of this mega involvement. Many OBOR projects will be a high-profile construction project, which means that the deals will be made with the heavy involvement of the destination country's government. Absent of any clear direction or guideline will keep the countries in dilemma and thus will make their building of national consensus more difficult. In same token legal frame has to be made in place to keep the projects on track. Alongside, these two guidelines will have to be further complemented by mutual arrangement of governance. All projects must have to be carefully weighed against possible political changes of host nation and its impact, regional instability risk and default provisions. China alone actually can't develop all these, rather has to be engaged in a series of dialogue and negotiation with various stakeholders and partners of this initiative. Without having done this involving in mega scale projects may turn to be premature with great setbacks. Different political system of various countries itself will serve as great hurdles which has to be overcome.

6.2.3 Financial Risk. Though this initiative is viewed as a greater window of opportunity for financial investment progress, yet factors like unequal partnership and investment capability, fluctuating exchange rate, sudden economic recessions etc can't be ignored. China's biggest investment has already been branded by some western media and think tank as Chinese financial diplomacy / aggression (Georgiev, G. T. 2015). Inside China most of the investment abroad still regulated by state owned enterprises (SOE). But many countries prefer free market involvement where Chinese companies have to be in action beside SOE's. Both their capacity and regulation conducive to their involvement has to be materialized. Cost risk analysis has to be done beforehand and agreed upon, otherwise may stall any project on the way. Various issues related to tax, tariff and financial regulation specific to nations or regions to be addressed too. The confidence of the weaker side that they will not be at financial risk will assume to be of great importance, which China as bigger investment partner has to ensure. Chinese negotiators have to be prudent to deal with conflicting rules and laws of different countries. In reality, developing countries are littered with cases of failed, stalled, or at least troubled Chinese projects due to local opposition, corruption, regulatory issues, and legal problems, which policy makers have to cater for certainly.

6.2.4 Security Risk. In its implementation path traditional issues like Korean peninsula, South China Sea issues will come to the front. More so the road will pass through the volatile region of Afghanistan, Middle East and North Africa. Present foreign and defence policy stand of China suggests non involvement in internal of regional issues. This stand point may not assure many countries and will put the dilemma on their part to actively being engaged with the process. Three hot spot area is very vital for both belt and maritime Silk Road witch can't be ignored. Regional or even neighboring states complexity will also arise if the one project seems to give an added advantage to one negate the same to others. Projects running across the border may have encountered the effects transnational / border issues. As some of the area falls within the extreme disaster hazard zone, risk emanating thereof have to be also catered for. Account of terrorism and saboteur activities targeting projects will be of great significance. For this military or security engagement has to be made in place, which may demand legal frame work with long term engagement increasing the overall coast.

6.2.5 Cultural and Environmental Risk. Projects will see the mix of many nations, many cultures embracing many heritages and traditions. This will create a complex situation where one has to clearly understand the sensitivity involved and make sure that all are made aware of that. With the influx of Chinese people in some particular area local people even may feel disturbed or be threatened of cultural disorder if not threatened. In the article director Wang Yiwei suggest engaging Hong Kong for the projects across Europe as they are better accustomed with their traditions (Yiwei, W. 2017). China has to be careful enough not to pick up any sensitivity which may jeopardize the effort. Dealing with local or even regional environmental issues will also have to focus. Many of the activists have already raised their concerns as this will involve land and infrastructural development. China's relatively low end standing will give more scope to the opposing entities to exploit it further and will help them to negatively motivate the local activist also. Careful impact study and there after a counter measure has to be made in place before undertaking any such projects with sufficient publicity taking the masses on board.

5.2.6 Dimension of 21st Century. Present initiative mainly focuses on building road and maritime route. But this century is witnessing ever growing involvement of air route and information superhighway much contributing for enhancing connectivity contributing faster growth. Designers will have to go further to integrate this two route, otherwise the initiative may well be branded as traditional one and rejected by vast techno friendly youth population and be devoid of new diversifies commerce based on information

technology. Air trade becoming popular day by day, and can contribute immensely, while due to unavoidable circumstances other traditional routes may not be available. Those two will be essential to gain momentum making it popular and more acceptable to new generation opening up the window of opportunity for them. In the question and answer session at CDS on October 31, 2018 the Ex Belarus ambassador to China also opined the same.

6.2.7 Breaching Capability Gaps. Countries involved ranges hugely in terms of their various capabilities. This is in the field of technology, raw material resources, project implementation ability, governance experience and above all required skilled manpower. This phenomenon poses great difficulties for project development and also for its implementation. This will also keep the low end countries entangled in great dilemma about their participation in the initiative because of their inability to articulate and ascertain gains from it. China's willingness for technology transfer and training required manpower in advance can help improve in this regards.

6.2.8 Global Oppositions. It is no denying the fact that everybody is not taking this initiative of China so positively. US have declared rebalancing strategy to contain and dominate this part of the world. Alongside to counter it financially has launched Trans-Pacific Partnership Agreement (TPPA). India's project 'Mausam' is another such advent on the wake of Chinese initiative, which focuses both macro and micro level engagements. Though overtly all these are described as another initiative, but certainly will compete with OBOR. This negative impression of US allies, some of the South China Sea littoral state and specially opposition of Japan and Russia will have significant impacts. Some of the countries who already have engagements with those countries may adopt the strategy of wait and see or else try to maintain balance thus not committing fully. China's foreign office has to show the initiative in engagement level to negate the effects of this trend of global opposition and still carry forward the dream.

7. Recommendations

While it is true that China's economic and strategic interests are intertwined, it would have been beneficial for the OBOR initiative to be planned more holistically in order to give due consideration to the economic and political interests of other participating countries.

7.1 International Governance Structure. For a large project like OBOR initiative, an international governance structure involving all the participating countries to

institutionalize objectives and safeguard the interests of participants has to be established now with a particular emphasis on the financial mechanism. The decision-making structure for the execution of OBOR initiative should be based on consensus.

7.2 Equality. Several sub-projects of various Chinese companies to receive political and financial support from the Chinese government are being touted as part of this initiative, but have nothing to do with it and should be de-coupled so that ambiguity can be cleared and only official OBOR initiative projects can be materialized. Participating countries should also get equal treatment in the financing of OBOR initiative, so that they can also reap the long-term benefits of the project, a step in this direction could be the revamping of the New Development Bank.

7.3 Coordinated Plan. A clear operational strategy for the entire project with an economic and political matrix should now be made to increase trust and transparency. This should clearly indicate relative as well as absolute potential losses and gains of participating countries. Active participation of global institutions such as the United Nations, the International Court of Arbitration, and International Court of Justice should be included for reliability as well as to resolve a potential dispute.

7.4 Progressive Way. OBOR initiative should be executed in a selective manner with a focus on economically viable sub-projects developing trade and economic corridors, for example a Bangladesh-China-India-Myanmar Corridor in the case of South Asia.

8. Conclusions

The OBOR initiative is the resurgence of the ancient Silk Road of China in 21st century perspective. The spirit, principles and motivation are though said to have remained same, but surely is much different in its implementation level. Today the geopolitical environment is different, security situations are different too, and the world is witnessing desperate efforts to counter the uni-polar to multi-polar world system, and describes the trend as irreversible one.

For an effective materialization of the conceptualized initiative China needs to move forward with open, transparent and all-inclusive approach. In the process China needs to improve her image and track record of successfully completing mega project's, ensuring win-win deals visibly. Beside to stable hot spots along the road more proactive strategy has to be adopted. Security force to ever remain prepared for more challenging nontraditional threats. Above all earning confidence of the development partner can help in making China's dream comes true.

References

- Alam, O. (2015). China-Pakistan Economic Corridor: Towards a new ‘heartland’. *LSE South Asia Centre blog*, 16 November 2015.
<http://blogs.lse.ac.uk/southasia/2015/11/16/china-pakistan-economiccorridor-towards-a-new-heartland/>.
- Chaturvedy, R. R. (2014). New Maritime Silk Road: converging interests and regional responses. *ISAS Working Paper n. 197*. Singapore: *Institute of South Asian Studies*, October 2014.
- China Global Investment Tracker, interactive map. <http://www.heritage.org/research/projects/china-global-investmenttracker-interactive-map/china-global-investment-tracker-interactive-map>.
- Georgiev, G. T. (2015). The Chinese “One Belt, One Road” initiative—new opportunities for the European Union and its neighbours in the Black Sea region. *KSI Transactions on knowledge society*, 8(2), 33-40.
- Fasslabend, W. (2015). The Silk Road: A political marketing concept for world dominance. *European View*, 14(2), 293-302.
- Fu M., and Lou C. (2015) Building the Maritime Silk Road of the 21st Century. *Contemporary International Relations* 25, no. 3 (May-June 2015): 1–21
- Nicola Casarini (2016) When All Roads Lead to Beijing. Assessing China’s New Silk Road and its Implications for Europe, *The International Spectator*, 51:4, 95-108, DOI: 10.1080/03932729.2016.1224491
- Xinhua Finance Agency. (2015). One Belt and One Road. <http://en.xinfinance.com/html/OBAOR/>. Accessed 6 October 2015.
- Yiwei, Wang. (2017), ‘Belt and Road’ offers route to cooperation in Europe, *Global Times Business, China*.
- Yiwei, W. (2016), The Belt and Road Initiative. Beijing : *The New World press*.

OBOR & BCIM ECONOMIC CORRIDOR



Figure 1: OBOR

Source: <http://silkroutes.net/OBOR/MapsMaritimeSilkRoadRoutesChina.htm>



Figure 2: Bangladesh, China, India and Myanmar (BCIM) Economic Corridor

Source:<https://www.bing.com/images/search?q=BCIM+map&view=detailv2&qpv=BCIM+map&id=C88C1965F786894192D4C8D361E27D66A2CB71FA&selectedIndex=4&ccid=MuY3ZtNB&simid=608009409605927143&thid=OIP.M32e63766d3413378e6b9d7ea4b0798cco0&setmkt=zh-CN>

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Zero Error Syndrome: A Barrier for the Young Managers' Cognitive Development in the Business Organizations of Bangladesh

Lieutenant Colonel Md Ashraful Islam, psc

Abstract

Cognitive development embodies the ability to process knowledge through creative thinking and logical reasoning for the legitimate judgment. This attribute is one of the principle yardsticks for the young leaders to achieve professional excellence. In the business organizations of Bangladesh, top management often sets an aggressive goal and remain over career-conscious to accept any error that result in Zero Error Syndrome (ZES). As an outcome of the detrimental effects of ZES, young managers cannot use their creative domain in the professional arena. The study first determines attributes that govern ZES in the organization and uncover antecedents for the cognitive development. Through quantitative and qualitative analysis, it also evaluates how each attribute of ZES affects antecedents of cognitive development. This is an exploratory and descriptive study. The literature study explored that no such study portrait the relationship between ZES and cognitive development. Also, no previous study figured out the ways how young managers can excel their cognitive ability in the business domain of Bangladesh. This research data is the spontaneous response of young managers and pursued response of the top and mid-level managers of different business sectors. The research proposes a three-dimensional ZES elimination cycle combining role of effective leadership, ethical business management and sincere conduct of young managers. This team building strategy will eliminate ZES to substantiate young managers' cognitive development.

Keywords: Error, Cognitive, Development, Business, Managers

1. Introduction

The young managers represent the largest segment of junior leadership chain of any business organizations. They trigger the kernel of leadership from the lowest tier of management ladder to conform to the organizational goal. To expedite the goal achievement of the organization, the young managers apply their innovative ideas and professional competencies. Besides, the present business era of the world demands adaptability with situational changes and desires quick crisis management ability. To

attain this emerging management diversity skill, young managers must cultivate their cognitive domain. The capacity to think freshly and to recognize the value of new thinking as it emerges are important cognitive skills for the manager (Dalton, 2010 p. 39). To entrust in such a domain, a business organization must ensure a congenial working environment in the norm of participatory leadership atmosphere.

The present mindset to expect 'error free' outcome amongst top management in many business organizations keeps the young managers away from evolving such cognitive skills. But errors are a natural by-product of attempting challenging learning tasks and they may, in particular, provide learning opportunities (Van Lehn, 1988). Nevertheless, 'trends in the corporate world to use intolerance as a tool to carpet own incompetence by snubbing subordinates over mistakes and keeping less important junior people under pressure, are getting common day by day' (Raja, 2011). It curbs young leaders' initiative and develops a lack of self-confidence in them. Besides, expectation of the perfect result and fear of failure by the superior authority are two potential catalysts that encourages an error free environment. Few management hierarchies consider accepting error as a detrimental catalyst to nurture leadership. This mindset of not accepting any error by the top management termed this 'error phobia' as Zero Error Syndrome (ZES). In the business environment of Bangladesh, this detrimental effect of ZES work as a major barrier to develop the cognitive potentials of the young managers. The gradual aggressive dominance of this age-old problem in the business environment needs immediate attention to cultivate young managers' cognitive skills.

This syndrome encourages top management to focus only specific business perspective that suppresses the institutional attachment of the young managers. Again, absence of delegation of authority keeps the young managers dependent on top management's specific decision for executive orders. Young managers stay hesitant to use their cognitive aptitude to tackle an emergency when they envisage tough criticism and administrative actions resulting even from unintentional mistakes. Often, the top management does not entertain the young leaders' unorthodox approach beyond the typical framework set by the organizational rule. Such regular experience instigates the young leaders to shrink the organizational affiliation and prompts to switch jobs. It not only affects the administrative climate but reduces the efficiency of the young managers. Thus, ZES is a great impediment in developing individual skill and promoting to nurture the cognitive domain.

This paper first unveils whether ZES prevailing in the business organizations of Bangladesh affect the cognitive practices of the young managers. Later, it focuses on the

elimination of barriers against nurturing cognitive domain of the young managers to contribute to the business excellence of the country. Finally, the study will tend to propose a model to eliminate ZES from the business organizations in a methodical approach.

2. Theoretical Background

2.1 Cognitive Domain

Cognitive thinking constructs the evaluation process beyond the basic understanding which includes knowledge, perception, reasoning and judgment for the decision-making. 'The Blooms Taxonomy of Thinking' represents the most acceptable understanding of the cognitive domain. As Borich (1996) portrays, the domain encompasses knowledge, comprehension, application, analysis, synthesis, and evaluation stage. The sphere of knowledge covers remembering or recalling information such as facts, terminology, problem-solving strategies and rules. Comprehension stage demands understanding the information and interpret the consequences from the information. Application stage identifies logical errors of consequences, draw relations among ideas and conclude the derived hypotheses. The synthesis stage combines all findings and evolve a unique solution to the problem. At last, evaluation stage provides the best judgement through logical evaluation of the solution. Borich (1996) further explained that intellectual capacity is a cognitive ability of a person to investigate, analyze and synthesize problems to propose workable solutions in a higher order. The cognitive development is the single most influential characteristics of a human being to act in a leadership role.

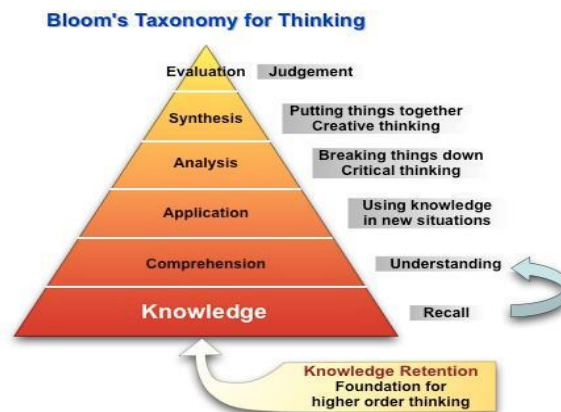


Figure 1: Bloom's Taxonomy for Thinking-Cognitive Domain

Source: Taken from <https://www.propofs.com/flashcards/story.php?title=blooms-taxonomy-thinking> (Accessed on 10 April 2019)

2.2 Zero Error Syndrome

The word 'error' is a Latin word meaning 'wandering' signifies to deviate from accuracy or correctness. Wikipedia defines error as a 'mistake' caused by a fault: the fault being a misjudgment, carelessness, or forgetfulness. In portraying the contextual evidences of ZES prevailing at present, Raja (2011) stated that 'though highly skilled human resource graduated from best professional institutions is available in the market, yet the bosses also expect them to work round the clock without committing a single mistake'. He further added: 'Zero Error Syndrome has, slowly and gradually, crept in present day working environments as a permanent feature'. ZES is 'the attitude of expecting a perfect result and the strictness for not accepting any error'. Some professionals enforce the ZES from the fear of unknown and consider it as the professional career building tool. Again, the top managements of the organization often impose the ZES to the subordinates as the yardstick to achieve the goal of the company. They misrepresent the ZES as the leadership tool for handling the command and control of the organization.

3. Literature Review

The young manager of today is the future senior leadership of the organization. Their cognitive development sets the pillar of a business organization. Therefore, many researchers conducted a good number of researches, individual papers and project studies in the business organization to find steps to foster their professional development.

Fuller (1936) pointed out that interference in the works of subordinates curbs their professional development and originality. He narrated by referring Archduke Albertm that 'there are plenty of small-minded men who, in time of peace, excel in detail, are inexorable in matters of equipment and drill, and perpetually interfere with the work of their subordinates. ... they above all do mischief in preventing development of individuality, and in retarding the advancement of independent and capable spirits' (1936, pp. 32-33).

Jelenc and Swiercz (2010) figured the relationship as how the cognitive thinking strategy of the top management affects the institutional performance. Through empirical examination, he drew a relationship pattern between cognitive models of strategic thinking and organizational success. Goodhew (1998), in his research work analyzed how managers' cognitive thinking affects their performance. He defined cognition as a variable and portrayed a relationship between the managers' cognitive map and their

performance result in the organization. He pinpointed the cognitive factors responsible to promote and reduce the managers' management performance.

Tulis, M., G. Steuer, et al. (2016) argued that the errors form the potential to enhance the professional knowledge and offer learners a conclusive urge to learn newer. The researcher devised a theoretical framework model on how to learn from errors through a self-regulatory process. Dörfler, V. and J. Szendrey (2008) described the 'autopoietic systems' idea that knowledge is one of the key cognitive potentials. He presented a conceptual framework of cognitive domain decomposing it into three further potentials: instincts, emotions, and transcendence. He derived that the cognitive domain creates the urge to gain knowledge, regulate emotion and leads to perfection.

Vurdelja, I. (2011) asserted how cognitive development enables organizations' executive leaders reasoning abilities to encounter the non-linear nature of the transition and accord to a complex situation. He used Laske's (2009) dialectical thought form (DTF) framework to figure the phases of the cognitive domain. The phase wise impact of cognitive domain brings an effective change in leaders' behaviour to face any transformational change. Vanharanta, M. and G. Easton (2010) argued that cognitive thinking translates the managerial experience into 'focal network response'. This response addresses the complex environmental challenges in the business domain.

Most of the research works focused on the theoretical framework of cognitive domain and describe the positive flow of errors. Most of the papers retrieved a relationship between cognitive domain and its effect on senior leadership or top management. Some papers identified ZES as one of the debilitating factors to improve Young Managers' professional development and recommended removing those. But, none of the researcher or writer established relationship between ZES and young managers' cognitive development in the Business Organization. Besides, no researcher conducted any study on such relationship of young managers in Bangladesh perspective. Therefore, this study is a primary research.

4. Objective and Hypothesis

4.1 Research Objective

The research finds how the zero-error-syndrome of the top-level management is affecting the young managers' cognitive domain. Having identified the research problem, it pursues answers of the following questions in this research:

- a. Primary Question: Does ZES affect Young Managers' cognitive thinking in the Business Organization?

b. Secondary Questions: To answer the primary question, the research will answer the following secondary questions:

- (1) What is the present state of Young Managers' cognitive thinking in the Business Organization?
- (2) What is the effect of ZES on Young Managers' cognitive thinking in the Business Organization?
- (3) How to eliminate ZES from the business organizations of Bangladesh?

4.2 Research Hypothesis

The research hypothesis is: ZES affects Young Managers' cognitive development in the Business Organization of Bangladesh. This research will validate this hypothesis in following ways:

- a. First, the study will identify the attributes of ZES and antecedents of Young Managers' cognitive development in the Business Organization.
- b. Then, the researcher will assess the present state of Young Managers' cognitive state in the Business Organization.
- c. At last, the research will furnish the effects of the attributes of ZES on the antecedents of Young Managers' cognitive development.

5. Research Design and Methodology

5.1 Research Design

The study is an exploratory and descriptive research that combines both qualitative and quantitative approaches. The qualitative approach has been used to gain insights about the attributes of ZES and antecedents of cognitive development. The study converted those qualitative information into quantitative findings for analysis. The quantitative research has been used to determine present state of Young Managers' cognitive practice in the Business Organization. Again, by qualitative approach a relationship was formed to figure out whether every attributes of ZES affects every antecedents of Young Managers' cognitive development. Finally, the quantitative research validated the research hypothesis and pinpointed methods to eliminate ZES from the business organization of Bangladesh.

5.2 Target Population and Sampling

From different business sectors of Bangladesh, the young managers, mid-level managers and top-level managers were the target population of the study. In the research, the top-level managers are the General Manager (GM), Managing Director (MD), Chief Executive Officer (CEO) and Board of Directors (BOD) of different business organizations from Bangladesh. The mid-level managers are the Branch Managers, Departmental Heads and Plant managers. The young managers or the first-line managers are the Supervisors, Team Leaders, Assistant Managers and Shift Managers who forms the first layer of leadership. This branching varies depending on the organizational framework design and job requirement the company offers. Besides, the study adopted probability sampling and judgment sampling methods in selecting the different level of managers from different business organizations and demography of Bangladesh. The researcher selected 5 experienced business leaders and 5 veteran teachers of management faculty using non-probability sampling technique for the Key Informant Interview (KII) session. Out of randomly selected 63 managers of different levels from different regions, 54 managers could complete the survey. Thus, a total of 64 error-free survey results were included in the analysis.

5.3 Data Collection and Measurement Tools

The study focused on both qualitative and quantitative methods for data collection. It constructed questionnaires on Likert scale to measure the responses and processed through Statistical Package for the Social Sciences (SPSS)-version 20. To form the problem structure, the primary source of data for quantitative analysis was the sample survey.

The Content Analysis was the secondary data collection method. It encompasses various books, publications, journals, articles and internet sites. The research also carried out the qualitative analysis. Content Analysis was a tool of secondary data collection method for quantitative analysis. This method converts words into numbers. It transformed the verbal, non-quantitative findings into quantitative data. For survey analysis, the responders received close-ended self-administered questionnaires.

Besides, to extract the expert and experienced based opinion, few senior officials of the top management and expert teachers of the management fields faced self-administered questionnaires in the personal interview. The study then converted the qualitative information into precise quantitative findings. The respondents are from different

business organizations of various demographic profile. Therefore, variations in opinions prevailed. However, respondents were neutral in divulging their opinions.

6. Discussion and Findings

6.1 Attributes of ZES

The study identified the attributes of ZES by statistical analysis followed by a qualitative analysis in the form of discussion. It also unveiled that attribute of ZES varies among different level of respondent managers. Primitive analysis uncovered several attributes of ZES from both organizations' and individual perspective. Amongst many, the survey picked the top six influential attributes of ZES setting a benchmark of over 60% average responses from the respondents. Attributes of ZES are: over supervision, lack of empowerment, strict traditional rule, lack of flexibility felt in the organizational, lack of initiative and lack of confidence.

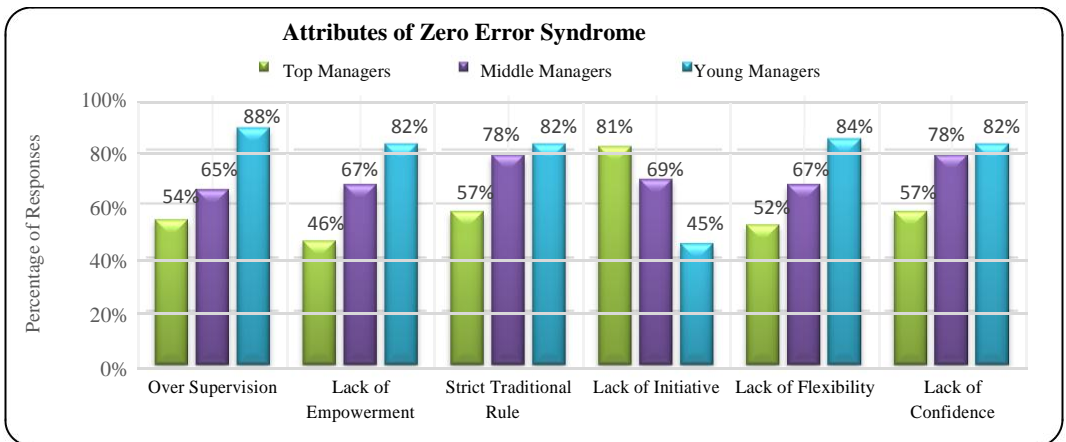


Figure 2: Attributes of Zero Error Syndrome

Source: Survey Analysis

The survey findings showed that where ZES prevails, the organization shows strictness to the traditional rule to meet the organizational goal. Also, the management often sets rules for subordinates that hinders the flexibility of empowerment. As a result, the young managers lack initiative and confidence that deficit the sense of belongingness for the organization.

6.2 Antecedents of Development of Cognitive Domain

To find the key antecedents of the cognitive development in the business sphere, the study extracted quantitative responses from participants. The following survey result

identified only score rating over 3.5 out of 5 as the most effective antecedents of cognitive evolution:

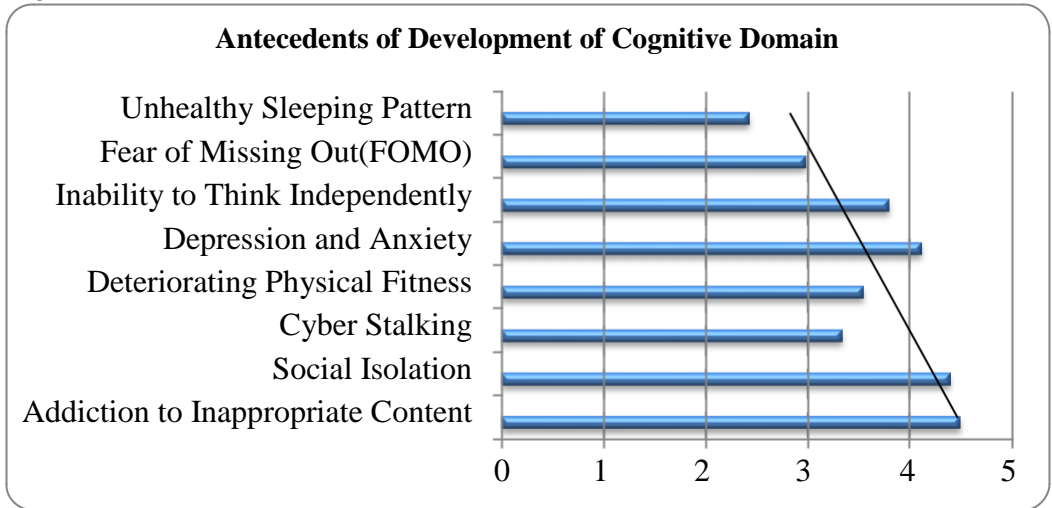


Figure 3: Antecedents of Development of Cognitive Domain

Source: Survey Analysis

As per survey result, the congenial business environment in the organization scoring highest rating 4.5 is the most significant antecedent to develop cognitive domain. Because ‘creative thinking requires an environment where the thinker has the freedom to think what he likes, and able to organize his experience independent of external restraints’ (Nazareth, 1976, p.92). Besides, Manekshaw (2003) stated that ‘the first, the primary, indeed the cardinal attribute of leadership is professional knowledge and professional competence’ (taken from Kariappa, 2001, p. 26). Again, ‘Initiative is demonstrated by taking action in situations where something must be done, even in the absence of direction from a superior’ (Malone, 1983, p.38). The survey findings found that professional competence and initiative are two driving factors of the cognitive development scored 4.4 and 4.25.

The survey result identifies that empowering the young managers with authority and training is another key antecedent of the cognitive development. ‘Delegation indicates you trust your subordinates and will make them want even more responsibility’ (US FM 22-100, 1990, p.7). Batin (2009) quantified that empowering subordinates by delegating authority is a prerequisite for tapping their potentials (2009, p.10). The survey displays that empowerment by authority and training scoring 4.15 is one of the most effective catalysts for developing the cognitive domain. Newman (1987) simplified that there is no

simple answer to how and when and to what degree authority can be delegated, but not the responsibility (1987, p.165).

Creative thinking involves the intentional production of novelty (Weisberg, 1993). According to Business Dictionary, Creativity is 'Mental characteristic that allows a person to think out of the box, which results in innovative or different approaches to a particular task'. The survey and expert opinion illustrate that 'recognition to creative job' is another important role player in cognitive development which scored 4.12 in the overall rating. As the survey findings shows, participatory leadership is another key factor contributing to cognitive development. 'A participative leader must have a pioneering, imaginative and adventurous mindset to empower employees to decide involving the organization' (Kamal, 2013, p. 57).

Flexibility interlinks with accountability which enables an individual to work according to one's plans and without over-supervision. In the survey, the participatory leadership and flexibility in assignment had substantial score rating of 3.8 and 3.7. The last antecedent identified is the intellectual harmony between top management and young managers of the business organization. The intellectual harmony is the adaptability in academic qualification and professional competence of a young manager with the senior leaders of the organization. Most of the top managements opines that gap of intellectual conformity often led the management to prescribe a formatted role for the young managers. As a result, the young managers cannot improve their intellectual domain in the professional dealings.

6.3 Present State of Cognitive Nurturing in the Business Organization

The foregone survey aptly shows the differences in opinions on selecting the most effective antecedents of Young Managers' cognitive development in the Business Organization. Young Managers' intellectual nourishment is a prerequisite for rolling a Business Organization with a progressive vision and a sustainable future. Therefore, it was necessary to find out whether they are nurturing cognitive domain in the business organization. This research analyzed eight antecedents to figure out the present state of Young Managers' cognitive development.

Congenial working environment is the sine qua non for enhancing Young Managers' cognitive development. Most of the participants admitted that they keep a congenial working environment in their respective Business Organizations. Besides, the top-level managers believe that they are recruiting the most competent young managers filtering the applicants' educational qualification and professional excellence. Again, initiative is the prime mover for any individual to undertake any assignment. Young Managers'

reluctance to take individual responsibilities is an indicator of fear of failure being prevalent.

Most of the Young Managers opined that they do not enjoy the flexibility that tend them to use their innovative dimension to work. However, the top management does not entrust flexibility to young managers when they infer failure in assignments. At the end, it warrants over-supervision by superior officers. Delegation of authority is another much-needed constituent for Young Managers’ capacity building. Proper delegation allows flexibility and encourage initiative. The top management often assumes that delegation of authority would reduce their exercise of authority over young managers and can reduce the chances of failure. Again, the lack of experience in dealing business norms often creates a gap with the top leadership. Therefore, participatory leadership and intellectual harmony often pose challenges for the young managers. Because, young managers cannot inculcate these attributes overnight, they need a methodical approach to build within them. However, the present business environment in most of the organizations values the creative works with incentives and promotions. But the typical structured framework for performing any assignments offer no scope to explore their creative domain in the business organizations. The study deduces that most of the constituents of developing young managers’ cognitive domain is not present in the business organizations.

To substantiate the findings, the researcher further took the respondents’ opinion. Most of the participants confessed that the young managers do not enjoy enough opportunity to nurture their cognitive potentials in the business organization of Bangladesh.

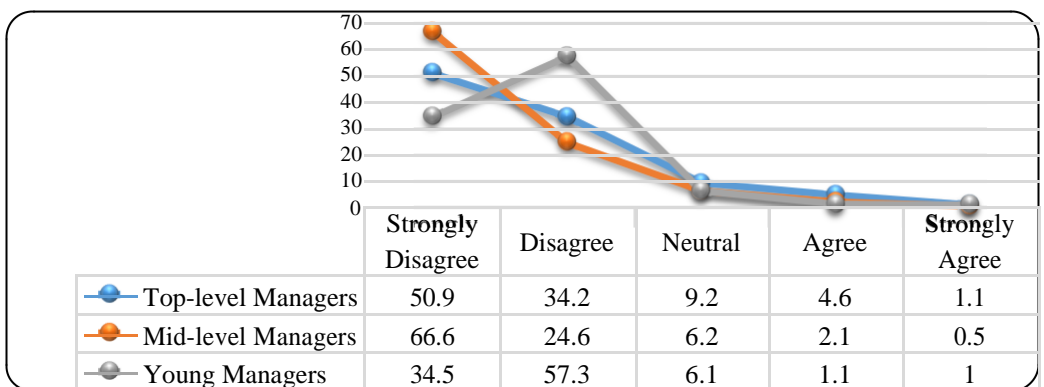


Figure 4: Respondents' Opinion Whether Young Managers can Nurture their Cognitive Domain in the Business Organizations

Source: Survey Analysis

The study showed that attributes of ZES prevail amongst most of the antecedents of cognitive development. If so, the question remains why ZES prevails and how the attributes of ZES affects the antecedents of the cognitive development.

6.4 Causes of ZES

The focus group discussion deduced that organizational environment and individual attitude both are responsible to nurture this syndrome. Therefore, analysis of organizational systems and managements' attitudes that radiate this syndrome would find the causes of ZES. Again, 'organizational cultures offer people with a direction, a framework within which to interpret events, an inspiration, a sense of unity, and an opportunity to transcend the routine of their work lives' (Bryman, 1986, p.186). 'Attitudes form directly as a result of experience. They may emerge due to direct personal experience, or they may result from observation' (about.com, n.d.). Therefore, the study ramified the causes of ZES into two standpoints: organizational systems and individual attitudes. In the organization, the prime causes of ZES are: aggressive goal reaching strategy, unhealthy competitions within similar organizations and faulty HRM approach. In individual platform, the superior mindset, image-concern, high expectation of superior officers and ineffective leadership practice are the main causes of sensing ZES in a working environment.

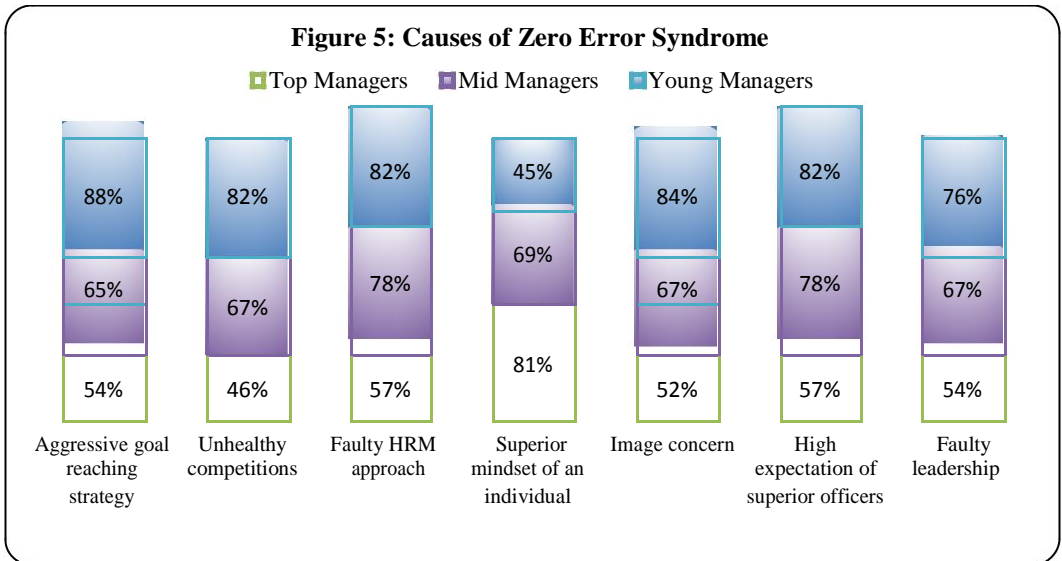


Figure 5: Causes of Zero Error Syndrome

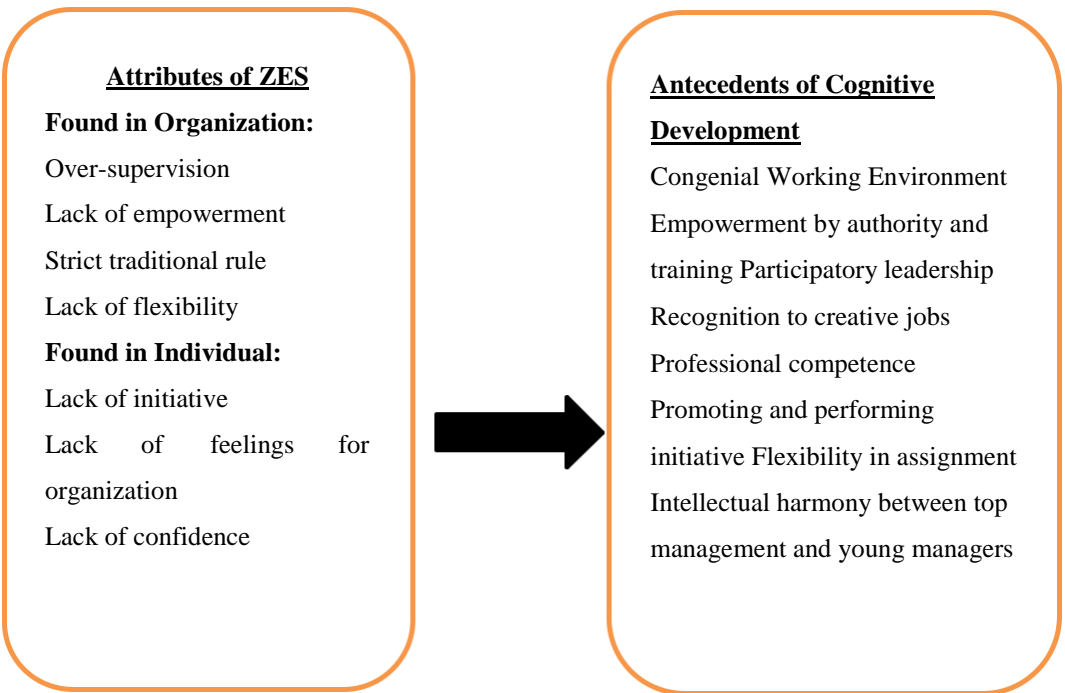
Source: Survey Analysis

6.5 ZES Vis-à-vis Cognitive Development

To understand how ZES affects the cognitive development, it is imperative to list down findings of all the attributes of ZES and antecedents of Cognitive Development. The subsequent study will alleviate how each attribute of ZES influences the antecedents of young managers' cognitive development.

6.6 Effects of ZES on Young Managers' Cognitive Development in the Organization

Table 1: Attributes of ZES and Antecedents of Cognitive Development



Source: Survey and Content Analysis

The researcher assessed effects of every single attribute of ZES on the antecedents of young managers' cognitive development in the business organizations. The findings reveal that congenial working environment exists in the organization. Besides, the organizations recruit the competent young managers with professional excellence and good communication skill. Accordingly, the researcher did not analyze the effects of the attributes of ZES on these two antecedents of cognitive development.

The analysis explicated that every single attribute has the significant effects on the antecedents of young managers' cognitive ability with varying magnitude. The study pinpointed that though the young managers possess professional competence, but with the effects of the ZES attributes, the competence gradually diminishes. However, the professional competence is the most important ingredient for capacity building. The following table illustrates the effect of the attributes of ZES on the single antecedent of the cognitive domain. It replicates the effect of each attribute on the antecedents of Cognitive development:

Table 2: Effects of all ZES Attributes on the Antecedents of Cognitive Domain
(Graded out of 5)

	Empowerment	Intellectual harmony	Recognition to creativity	Empower Initiative	Flexibility	Participatory leadership
Over-supervision	4.6	4.56	4.5	4.47	4.55	4.45
Lack of empowerment	5	4.45	4.25	4.1	4.2	4.5
Strict traditional rule	4.4	3.52	4.22	4.75	4.7	4.58
Lack of flexibility	4.54	3.75	3.45	4.8	5	4.1
Lack of initiative	4.2	3.65	4.1	5	3.9	2.85
Lack of Confidence	4.52	4.76	4.3	3.9	3.54	3.92

Source: Author Compiled from the Survey

6.7 Mean of the Effect of All Attributes of ZES on Antecedents of Cognitive Domain

The following figure shows the mean of the effects of attributes of ZES on the antecedents of the cognitive domain. The analysis shows that 'empowerment with authority and training' and 'promoting initiative' for the young managers are the most affected areas with score 4.54 and 4.5. These two antecedents are the cardinal points of their cognitive development. Again, the attributes of ZES affects the organizational approach to offer flexibility in accomplishing any assignments. These attributes curtail the organizational initiative for creative works and restrains to recognize their ingenuity. 'Flexibility in assignments' and 'recognition to creative jobs' are the third and fourth most affected antecedents scoring mean value 4.32 and 4.14. The analysis reveals that

most of the attributes confines the growth of the young managers professional horizon. This result further exaggerates the intellectual gap with top-level managers. With such deficient intellectual harmony, the influx of participatory leadership diminishes. Thus, the attributes of ZES affect intellectual harmony and participatory leadership traits. These two antecedents of the cognitive domain registered the mean score 4.12 and 4.07 respectively.

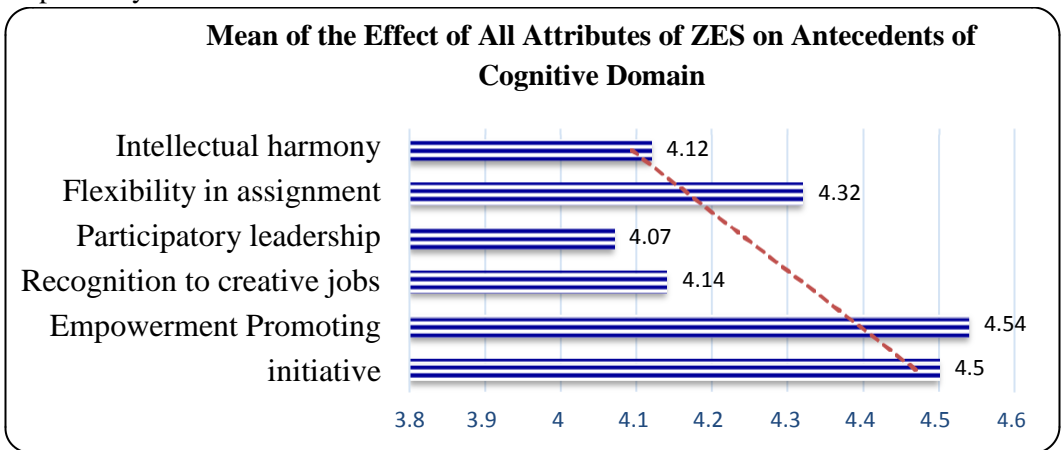


Figure 6: Mean of the Effect of All Attributes of ZES on Antecedents of Cognitive Domain

Source: Survey Analysis

The analysis identifies that all the attributes of ZES affects almost every antecedents of young managers’ cognitive development. However, the Pearson Chi-square test is a stronger tool to assess the level of significance of effect of ZES attributes on the antecedents.

6.8 Findings and Analysis on Levels of Significance

The Pearson Chi-square test measured the level of significance by testing effect of each ZES attributes on all the antecedents of Cognitive Development. The survey results explicate that most of the responses are positively significant. On the contrary, effects of strict traditional rule on intellectual harmony (.199) shows a nonsignificant value. Again, the analysis proves that effects of lack of flexibility on intellectual harmony and on recognition to creativity show insignificant values (.125 and .155). Then, effect of lack of initiative on intellectual harmony and on participatory leadership between top and young managers are not significant (.092 and .065). The survey findings display that effect of lack of confidence on flexibility exposes insignificant value (0.72).

However, analysis on the mean of the values of significance showed that the ZES attributes displays strong significance on each antecedent. The following figure shows the mean significant value of the effect of all ZES attributes on antecedents of cognitive development. The analysis used 'Pearson Chi-square test' at the level of $p < .05$.

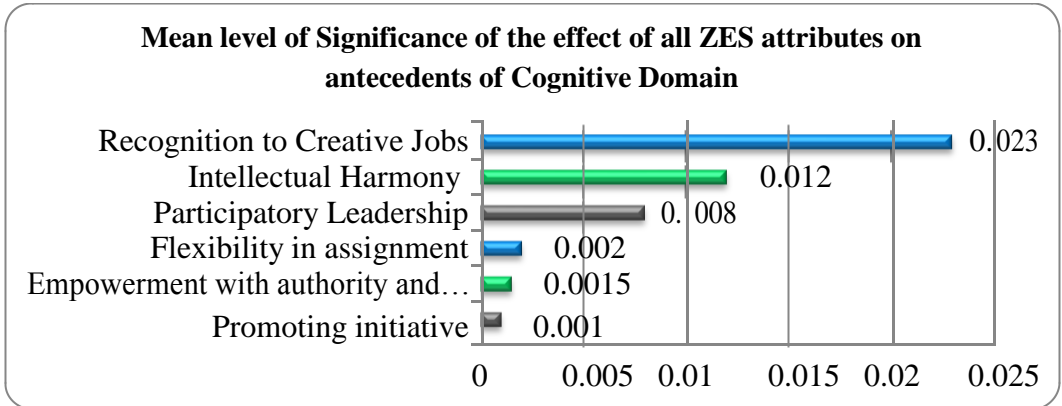


Figure 7: Mean Level of Significance of the Effect of all ZES Attributes on Antecedents of Cognitive Domain

Source: SPSS Analysis

Considering most of the results, it is imminent that the samples' responses functionally represent the population. Thus, researcher tested the hypothesis and found it to be correct.

7. Validating the Hypothesis

The study first identified few attributes of ZES and antecedents of cognitive development. Taking these two core issues as yardsticks, the study tested that young managers cannot nurture their cognitive domain in the organization. Later, to figure the effects of ZES, the study analyzed the antecedents of young managers' cognitive development. Afterward, the statistical analysis proved that attributes of ZES affects most of the antecedents of cognitive development. Therefore, ZES affects the nurturing of Young Managers' cognitive domain in the business organizations. To attain the purpose of the research, the study will examine whether eliminating ZES positively contributes Young Managers' cognitive development. At last, the analysis will propose a three-dimensional ZES elimination model to promote young managers' cognitive development.

8. Recommendation

A Proposed ZES Elimination Model for a Business Organization

To shed the ZES and ensure an atmosphere to develop cognitive domain, the researcher constructed a three-dimensional ZES elimination cycle. This cycle combines leadership role, business management activities and managers' function in a single framework. The top-level managers will act in both the role of leadership and business domain. Then, the mid-level managers will represent their role as the bridge between business management and young managers. Young managers will form the spine of the business organization as the practitioner of innovation, responsibility, esprit de corps and professional competence. These three tiers must work in harmony and give due importance to each other for achieving the common goal of the organization. Before assigning any task by higher tiers, the patron must assert the righteousness of the cause to strengthen the team spirit. The cyclic mentoring will wipe out the ZES and portray the way to develop the young managers cognitive domain.

The following figure affirm the ZES elimination model which instills the nurturing of the cognitive domain of the young managers:

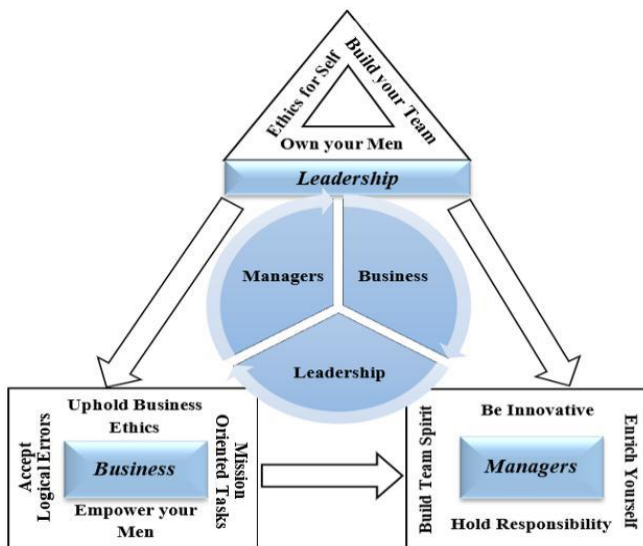


Figure 8: Proposed ZES Elimination Mode

Source: Researcher's own Construct

Holding ethics as the prime mover, the 'leadership layer' of business organization will set a sustainable goal for the organization. They will use the essence of participatory leadership to build a sense of belongingness to the organization. In process, they will capitalize the esprit de corps to assign responsibility for the best-chosen team to carry out any mission. The 'business management' team will focus on the 'business ethics' to set the organizational goal and to run administration. They will empower the managers with enrichment facilities for attaining professional competence. They will also accept logical errors in performing any assignments by the lower tier. The business model will promote initiative from the managers and assign them 'mission-oriented task' with enough flexibility. This dimension will excel the team building approach amongst different tiers of the organization. In the managers' role, they will enrich professional competence, generate innovative ideas and hold responsibilities for the organizational goodwill. They will substantiate their sense of belongingness for the organization by emphasizing on 'work as a team'. Thus, the top-down approach within leadership, business management and managers will eradicate essence of ZES and promote the young managers' cognitive development.

9. Conclusion

ZES fosters a negative climate detrimental to organizational efficiency. Young managers forming the first tier of leadership often become subjugated by this syndrome. The negative effect of ZES prevents them from nurturing cognitive development. It raised as a point of concern since organizational development largely depends on the Young Managers' cognitive development. This study is an effort to delve the relationship between ZES and Young Managers' cognitive development in the organization. At last, the research proposes a model to prevent ZES from the business organization. Since no research work combining a relationship with ZES and cognitive domain prevailed, this research is the first of its kind.

At first, the study pinpointed attributes of ZES and antecedents that contribute to enhance young managers' cognitive development as the yardsticks for evaluation. The study disclosed that that antecedents liable to develop junior managers' cognitive habit are not much exercised in the organization. Afterward, the study identified effects of ZES on Young Managers' cognitive development. During the survey, most of the respondents opined that every single attribute affects either or more antecedents negatively. As a whole, attributes of ZES has significant effects on antecedents of young managers' cognitive development. The study proposed a top-down and integrated approach to

eradicate ZES from the business environment. To attain this, participatory leadership, ethical business management, empowering junior leaders and developing belongingness for the organization are essential prerequisites.

The research theme is a new dimension of thought for the HRM sector to predict the barriers young managers experience in using their cognitive potentials. This study explores the opportunity for the HRM affiliates to conduct future studies on the ZES elimination cycle model. The researcher believes that the model demonstrates approaches to adopt the full cognitive potentials of all tiers of managers in the business organization of Bangladesh.

References

- Allen, Louis A. (1958). *Management and Organization*. Tokyo: McGraw-Hill Kogashua Ltd.
- Borich, G.D. (1996). *Effective teaching methods*. 3rd Ed. Englewood cliffs, NJ: Merrill.
- Bryman, Allan (1986). *Leadership and Organization*. London: Routledge & Kegan Paul.
- Dalton, Kevin. (2010). *Leadership and Management Development*. Financial Times/Prentice Hall.
- Dörfler, V. and J. Szendrey. (2008). *From Knowledge Management to Cognition Management: A Multi-Potential View of Cognition*. Conference: OLKC 2008: International Conference on Organizational Learning, Knowledge and Capabilities, At Copenhagen, Denmark
- Fuller, Major General J.F.C. (1936). *Generalship - Its Diseases and Their Cure*. Harrisburg, USA: *Military Service Publishing Company*.
- Goodhew, G. (1998). *Cognition and Management Managerial Cognition and Organisational Performance*, University of Canterbury. Doctor of Philosophy.
- Headquarters, Department of the Army. (1990). *US FM 22-100, Military Leadership*. Washington: HQ TRADOC.
- IDR News Network. (2019). *SAM Manekshaw on Leadership and Discipline*. Net Edition, Published in 03 Apr 2019, <http://www.indiandefencereview.com/spotlights/sam-manekshaw>, 14 April 2019.
- Imani, Major A B M Abdul Batin. (2009). *Platoon Level Leadership in Infantry Battalions of Bangladesh Army and Ways of Improvement*. Dhaka: Defence Services Command and Staff College, *Individual Research Paper*, 2009.

- Jelenc, L. and P. Swiercz. (2010). Cognitive Models of Strategic Thinking and Firm Performance: The Croatian Experience.
- Kariappa, Field Marshal KM. (2001). Memorial Lectures, 1995-2000. New Delhi: *Lancer Publishers*.
- Laske, O. (2009). Measuring hidden dimensions of human systems: Foundations of requisite organization. (Vol. 2). Medford, MA: *IDM Press*.
- Malone, Col. Dandridge M. (1983). Small Unit Leadership-A Commonsense Approach. Novato, CA: *Presidio Press*.
- Mamun, Maj Md Kamal. (2013). Participatory Chain of Command – An Expectation, Not an Exception: Dichotomy Analysis. *Bangladesh Army Journal*, June 2013.
- Nazareth, Brig. J. (1976). Dynamic Thinking of Effective Military Command. New Delhi: McGRAW-HILL.
- Newman, Maj. Gen. Aubrey. (1990). What are Generals Made of? New Delhi: Lancer International.
- O'Sullivan, M. (2018). Developing the Cambridge Learner Attributes. IGSE.
- Raja, M. A. J. (2011). Zero Error Syndrome (Of Bosses, Mistakes, Tolerance and Acceptability). 47.
- Roberto, M. (2009). The Art of Critical Decision-Making. Chantilly VA: *The Teaching Company*.
- Rosen, Michael & Salas, Eduardo & Lyons, Rebecca & Fiore, Stephen. (2009). Expertise and Naturalistic Decision Making in Organizations: Mechanisms of Effective Decision Making. The Oxford Handbook of Organizational Decision Making. 10.1093/oxfordhb/9780199290468.003.0011.
- Sdmayberry. (2009). Blooms Taxonomy for Thinking. Retrieved 10 April, 2019, from <https://www.proprofs.com/flashcards/story.php?title=blooms-taxonomy-thinking>
- Tulis, M., G. Steuer, et al. (2016). Learning from errors: A model of individual processes. *Frontline Learning Research* 4(2).
- Vanharanta, M. and G. Easton. (2010). Intuitive managerial thinking; the use of mental simulations in the industrial marketing context. *Industrial Marketing Management* 39.
- Van Lehn, K. (1988). Toward a theory of impasse-driven learning. In H. Mandl & A. Lesgold (Eds.), *Learning issues for intelligent tutoring systems*, 19-41. New York: Springer.
- Vurdelja, I. (2011). How Leaders Think: Measuring Cognitive Complexity in Leading Organizational Change. Leadership and Change, Antioch University, PhD Program.
- Weisberg, R. W. (1993). *Creativity: Beyond the myth of genius*. New York: Freeman.

Williams, Michael (2006). *Leadership for Leaders*. New Delhi: *Viva Books Private Limited*.

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Communication of Employees’ Grievance in the Small Industries: A Study on Khulna Region

Mir Sohrab Hossain

Tania Afroze

Tithi Saha

Abstract

The research aims at finding out the existence of grievances, grievance communication status with the management in small industries particularly in Khulna region. Convenience sampling technique has been used to conduct this research. Structured questionnaires have been used including both close ended and open ended questions to get grievances, communication channel, reasons for not communicating grievances and management reaction after communicating grievances. It is difficult to find available employees of different positions from different small industries for conducting the study. The study has found the presence of grievances and moreover no rules & regulations regarding the grievance reduction have been found in most of the organization. As a result, they make various arbitrarily iniquitous behaviors with employees. This research would like to find out the grievance situation of small industries. It has given an idea about the employee and management relationship status. It can be helpful for the organization to develop grievance communication procedure as well as for employees’ grievance awareness and grievance redressal procedure.

Keywords: Grievance Theory, Small Industries, Grievance Communication, Grievance Handling.

1. Introduction

In today’s democratic environment, it is widely acknowledged that the employees should be allowed to express their dissatisfaction, whether it would be a minor frustration or a serious problem (Khan and Taher, 2015). In Bangladesh, in some factories, workers’ pay grades are systematically altered so that they can be paid less. Due to the poor regular income, workers make major amounts of overtime to add to their regular earnings. In many cases, the payment of overtime is lower than lawfully required. Workers habitually do not receive minimum wages and have no access to social security. Fire and building safety of the factories has been a most important concern for most stakeholders. Although there have been improvements in the recent years guided by regulations and enforcement of the law, constant training is still needed to raise awareness on safety and improved

knowledge of accident prevention. The relationship between management and labor is a very integral part of human resource management in many firms. Managers need to understand the legal and procedural elements of unionization, the practice of collective bargaining and the magnitude of a grievance system (Griffin, 2003). Employee grievances are one of the main obstacles to enhance those small industries to become a larger organization in terms of economic context. Lack of proper identification of grievance will reduce the productivity of the industries and mislead to achieve the goals. Grievance is the factor involving wages, hours or conditions of employment that is used as a complaint against the employer. Sometimes, awful relationships between supervisor and subordinates is often the cause of grievances for instance. Organization factors such as automated job or unclear job descriptions that frustrate employees are also called grievances. Grievance is any factor involving wages, hours or conditions of employment that is used as a complaint against the employer (Dessler, 2003). Union activism is another cause; the union may solicit the grievances from workers to underscore ineffective supervision. In many organizations, when employees experience mistreatment, they can file (Boswell and Olson-Buchanan, 2004). When any employee suffers from grievances, he or she does not focus well and does not pay attention to their works, which affects teamwork, synergy and overall employees' morale (Khan and Taher, 2015). If employees are downhearted with the authority of the organization, then their motivation level will decrease and it will have a direct influence on the organizational productivity (Samarasinghe, 2017).

2. Objectives

As mentioned earlier, the main objective of this research is to investigate the issue of employees' grievance, its communication to and response of the management to it. This broad objective has been broken down into following specific objectives:

- a. To investigate the types and nature of grievances of the employees.
- b. To investigate whether or not and through which channel they communicate their grievance to the management.
- c. To investigate the reasons for not communicating grievance with the management if such instances are found.
- d. To investigate management responses when employees' grievances are communicated.

3. Literature Review

A grievance system is an argument resolution instrument that permits explanation of collective bargaining contracts over the life of the agreement (Fryxell and Gordon, 1989). The grievance management system is supposed to help employees to make formal complaints about official acts or omissions where they feel aggrieved (Setsetse, 2008). More specifically, employees may react to perceptions of unfair treatment by engaging in behavior restoring feelings of justice or by leaving the organization (Adams, 1965). Participants experiencing mistreatment have subsequently lower job performance and higher intention to quit participants who do not experience mistreatment (Boswell and Olson-Buchanan, 2004). Overall, in many organizations, when employees experience mistreatment, they can file (Boswell and Olson-Buchanan, 2004). Hence, some organizations have put mechanisms such as grievance, system in place to provide an outlet for employees' voicing the participations of mistreatment (Boswell and Olson-Buchanan, 2004). Many organizations have developed formal and informal programs to ensure that managers understand employee concerns and employees know that managers will hear their voiced concerns (Wilkinson and Fay, 2011). According to the Khan and Taher (2015), grievance can be defined as any discontent or dissatisfaction with any aspect of the organization. It can be real or imaginary, legitimate or ridiculous, written or oral. It must, however, find expression in some form or other. The General Grievance is a grievance that affects a group of employees. The Individual Grievance is a grievance affecting one employee and requires a one-to-one approach

3.1 Sources of Grievances

Khan and Taher (2015) mentioned that grievances may occur for various categories of reasons. Financial sources including salary fixation, wage computation, over time unfairness, bonus injustice, and insufficiency of leave facilities etc. These are sources of group grievances. Working Environment sources like poor working conditions such as building infrastructure, improper ventilation system, defective equipment and machinery, tools, materials, etc. Supervision sources such as the awful approach of the supervisor or manager towards the employees causes individual grievances. Organization sources such as practicing rigid and unfair rules, too much or too less work responsibility, lack of recognition will cause grievances.

3.2 Effects of Grievances

Office of the Director of Equal Opportunity in Public Employment (1996) have mentioned in their Dealing with Employee Work-related Concerns and Grievances,

Policy and Guidelines paper that when employees feel they are experiencing mistreatment from authority then they change their work-related attitudes. As a result, employees' turnover increases. Beside this, some consequences like lower productivity; lower quality of work, product, customer services; distraction from organization goals; loss of confidence & communication between employees, managers and supervisors; low morale and job satisfaction which can lead to industrial problems; increase absenteeism and increase staff turnover; loss of reputation as an employer and service provider; loss of reputation to the employee. Khan and Taher (2015) have mentioned that sensitivity and sympathy are necessary in handling grievances well. It is significant to have the grievances reduced at the level at which they occur.

3.3 Grievance Communication

Differences in demography, personality and attitudinal characteristics have contributed to the variance in employee's grievance filing behavior (Dalton and Todor, 1982). Wage levels, technology, type of work force, company and union organization, and other factors may be more essential than personality variables in union-management relations. These factors, along with others may affect the decision of an employee to initiate or forego the grievance process. On a given incident, an employee's decision to initiate the process does not mean a grievance will formally be filed. Conversely, an employee's decision not to initiate the process does not usually dismiss the possibility that a grievance will be officially filed over the incident. Specifically, union stewards have a variety of discretionary behaviors that affect the employees' propensities in respect to grievance behavior. Individual differences may account for initial decisions to file or not to file. Therefore, individual differences in union stewards affect whether or not a grievance will be formally filed. Moreover, the filing of a grievance may be a direct reflection of an employee's attitude on a given incident (Dalton and Todor, 1982). According to the Bangladesh Bank, Small Enterprise refers to the firm/business which is not a public limited company and complies the criteria those have a fixed other than land & building (BDT) fifty thousand to 1.5 Million and the number of employees is not above fifty.

4. Methodology

The convenience sampling technique has been used in this study. A non-probability sampling technique attempts to obtain a sample of convenient elements. The selection of sampling units is left primarily to the interviewer. Often, respondents are selected because they happen to be in the right place at the right time. This study uses

convenience sampling as it is the least expensive and least time consuming of all sampling techniques (Malhotra and Dash, 2010). A population is the entire set of individuals or objects of interest or the measurements obtained from all individuals or objects of interest (Lind and Marchal, 2010). The target population of this study is all the small industries in Khulna region. Bangladesh Bureau of statistics published districts statistics report in June 2013 for Khulna region. This report has mentioned that 27,597 people are engaged in working with 2,443 industries including rice mills, bakeries, saw mills, wooden furniture, cottage mills, sea foods industries, flour mills etc described in Table 1. The survey has taken such industries around Khulna city. The study has taken 105 samples from 14 industries on the basis of their availability. Taro Yamane (1967; Israel, 1992) provides a simplified formula to calculate sample sizes. This study found more than 25,000 people working in different small industries in Khulna region. Israel (1992) constructed Table 2 and is shown below by the use of this formula to calculate the sample sizes. A 95% confidence level and $P = .5$ are assumed for the below equation.

$$n = \frac{N}{1 + 0.5}$$

Where,

N= Population

1=Constant

e=Degree of error expected

n=Sample Size

The study has found the existence of grievances, communication channel status and outcome of the responses of authority of small industries in Khulna region by descriptive analysis on the basis of primary data. The analysis has been conducted by SPSS (Statistical Package for the Social Sciences) 25 Version.

4.1 Data Analysis

This study has worked on 105 respondents from which majority (76.2%) of the employees of such small industries are male (Table-3). From 105 respondents, most of them (52.38%) are young (Table-4). Most of the respondents quit their job from the current organization within 5 years which is around 50% (Table-5). They found one holiday per week (95.24%) which satisfied labor rules (Table-6). The study has found that around 66% of employees are working more than 48 hours in a week (Table-7).

4.2 Nature and Types of Grievances

Salary & wages are playing the most crucial role for motivation of employees in an organization (Dessler, 2003). The survey found that the majority (more than 50%) of the employees of small industries have been struggling to meet most basic needs. As a result grievance arises because of inadequate salary (Table-8). On Time payment has increased the satisfaction level of employees otherwise it increases grievance. According to Bangladesh Labor Code-2006, Section 123, "The wages of every worker shall be paid before the expiry of the seventh day after the last day of the wage period in respect of which the wages are payable". The study has found more than 66% employees have got their payment on time which has satisfied the labor law and less than 30% have violated labor rules (Table-9). Along with salary and payment time there are no mandatory systems or any written constitution of festival bonuses which increases grievances among employees. More than 50% responses have shown that the organizations have given festival bonuses (Table-10). But performance bonus is never given (78 respondents-74.3%) (Table-11). Performance bonus has been found totally in a terrible condition. It decreases employee's motivation and enhances their grievances. Though the performance bonus is motivating employees and the end result is increasing productivity, this factor is almost absent. More than 65% workers (frequency 72) have not responded which assumes that they have no idea about the fringe benefits system or they aren't given that benefits (Table-12). A workaholic person who compulsively works excessively hard and long hours will be demoralized after a certain period of time. The survey has found 81% of no choice but to work. They have to work which is the most significant cause to increase grievances (Table-13). Bangladesh Labor Code-2006, Section 100 describes daily working hours. It says that no adult worker will ordinarily be required or allowed to work in an establishment for more than eight hours in any day. The survey has found that 58% of total respondents have told that they have a fixed working hour which is more than 48 hours per week. Additionally 28% of them have no fixed working hours without overtime. This extra working hour increases frustration of the employees which increases grievance. Bangladesh Labor code-2006, section 102 also describes that subject to provision of section 108, an adult worker may work for more than forty-eight hours in a week. It has been found that the majority (42.9%) of the workers gets very minimum overtime, and some workers (35.2%) get reasonable overtime (Table-14). Besides, ventilation, lighting, temperature & building condition levels are good (around 55%) (Table-15.a-d).

4.3 Communication Channel

Management shows no concern when the employees quit their job anytime because of dissatisfaction (48 respondents-45.7%) (Table-16). Section 115 of Bangladesh Labor Code 2006 has described that every worker should be entitled to casual leave with full wages for ten days in a calendar year and, it will not be accumulated or carried forward to the succeeding year. Additionally, Section 117 of “Bangladesh Labor Code-2006” describes annual leave with wages. According to this study very few small industries have given casual leave rather than recreation & earned leave (Table-17). This is making the assumption that they don’t get such leaves or they have no idea about it which violates the labor code. Written leave rule is very much crucial in structured organization for smooth operation. The study has found that there is no written leave rule in substantial cases in their organization (83 respondents-79%) (Table-18). Most frequently each leave includes casual leave, earned leave and recreation leave. A major portion of the respondents have not responded (more than 85%) (Table-19). It has been found that a large number of respondents (75 respondents-71.4%) haven’t taken any initiative to communicate their grievances (Table-20) and there are no such formal systems of communication (95 respondents-90.5%) (Table-21). Some respondents have not responded when the question was about the communication channel. In some special cases when they are feeling to communicate their grievances they directly communicate to the owner of the organization individually and informally due to the absence of any formal communication system (84 respondents-80%) (Table-22).

4.4 Reasons for not Communicating Grievance

Section 33 of Bangladesh Labor Code, 2006 describes grievance procedure. That is the right of employees. There are 75 respondents out of 105 (almost 71%) who have not tried to communicate their grievances to their authority. Among the 75 samples, almost 50% have not responded regarding this issue. So it can be assumed that they might be afraid of or they don’t know the procedure. Beside this the survey found that few of the management of such small industries are careless about the grievance of workers within the industry. On the other hand employees don’t have any idea about grievance handling procedure due to their lack of awareness (Table 23).

4.5 Management Reaction

Employees can reach their authority directly but they don’t get any fruitful solution from them because of the constraint of communication. Most of the respondents have not responded when the question was about the reaction of their management (99

respondents-94.29%) (Table-24). Few of them have replied that the authority heard their problem and assured to solve it, but the rest of them didn't take any action regarding this issue.

5. Hypothesis

5.1 Hypotheses Testing for Amount of Monthly Payment with Practiced Working Hours

The computed Chi-Square Value (Table-25), $20.232 > \text{Critical Value (15.51)}$ has proven that there is enough statistical evidence to reject the null hypothesis and accept the alternative hypothesis. The study has concluded that the amount of monthly payment doesn't increase with the increased working hours.

5.2 Hypotheses Testing for Gender and the Grievance Communication

Here, the computed Chi-Square Value (Table-26), $9.707 > \text{Critical Value (6.635)}$. It Indicates that there is enough statistical evidence to reject the null hypothesis and consequently accept the alternative hypothesis. The study has concluded that gender difference doesn't have any effect on the grievance communication.

6. Findings and Discussion

The study has found that employers preferred male workers more than female workers. This might increase the grievances of female workers. Besides, the job nature of male workers is preferable to employers as they can charge extra work load on them. The study has also found that most of the employees are young. Their ages differ between 15 to 30 years. Employee retention rate is very low in context of service length in an organization. It might be the reason for increasing grievance among them to quit their job within a short time. According to the Bangladesh labor rule 2015, Chapter 9 section 99, excluding the lunch and rest period the working hours should not cross 8 hours per day. But in special cases, including extra compensation benefits they can work within 10 hours per day. But the study found that most of them have worked more than 60 hours per week which means more than 10 hours working per day in a week.

6.1 Findings from Types and Nature of Grievances of the Employees

There are mainly two types of grievances available at a working place; one is general grievance and another is individual grievance. Some positive responses have been found in case of payment time, festival bonus, working environment including ventilation,

temperature, lighting, building condition. So, employees have become satisfied in such area. The study has also found that employees do their work in a risk free environment. So, a risk free working environment has been maintained by most of the industries. Additionally, employees have been moderately satisfied by their workloads with their wages in comparison to their colleagues. Contrarily, a number of employees have struggled to meet their basic needs by their wages. Performance bonus is not given ever in most of the industries. As a result, employees have not been satisfied with their wages and performance bonuses. These might drop down their dynamicity for working motivation and as a result grievances might be increased among them. On the other hand, they have no idea about fringe benefits. In consequence, a majority of respondents have not responded about it. According to the labor law 2006, employees have a right for extra payment which is two times of regular rate. But in that cases they have been deprived because they have no fixed working hours and overtime. This also might increase group grievances. Again, most of the industries have not any leave policy. But according to the labor law every industry should provide mandatory casual leave as well as sick leave. It is frequent that employees have been deprived of their leave system. Because of their lack of clear conception about earned leave and recreation leave, they haven't responded regarding this leave issue. Due to the absence of leave policy, when any worker has taken any leave for emergency purposes, sometimes they have been warned; sometimes they have been fired from their job; sometimes their salary has been deducted. Actually there is an opportunity for arising grievances which has affected their service length. Workers have been satisfied with their payment time, festival bonus, working environment etc. but they have been deprived of their performance bonus, extra working hours without overtime and leave policy. From the hypothesis testing it has been found that the amount of monthly payment doesn't increase with the increased working hours.

6.2 Findings from Communication Channels of Grievance to Management

Labor law 2006, section 33 has described grievance procedure. It has described that any worker, including that worker who has been laid-off, retrenched, discharged, dismissed, removed, or otherwise removed from employment, who has grievance in respect of any matter covered under this chapter, and intends to seek redress thereof under this section, will have to submit his grievance to his employer, in writing, by registered post within thirty days of being informed of the cause of such grievance. If the employer acknowledges receipt of the grievance, then the service by registered post won't be essential. The employer should inquire into the matter as well as give the worker an opportunity of being heard and communicate his decision within fifteen days of receipt of such grievance. It should be in written form. The Labor court should, on receipt of the

complaint hear the parties after giving notice to them and make such orders as it may deem just and proper. The study has found that most of the employees have not taken any initiative to conduct grievances to the authority. Industries have no formal system as well as no designated person to maintain such communication channels for grievances issues. From the hypothesis testing it has been found that gender difference doesn't affect the grievance communication. Due to the absence of a Collective Bargaining Agent (CBA) or Trade Union or any designated person to maintain communication channels, some of the employees have communicated directly to the owner of the industry.

6.3 Finding the Reasons for not communicating Grievance to Management

Because of the lack of awareness, most of the workers have not communicated grievances to management. The study has also found that they have no idea about the grievance handling procedure. Sometimes they have been afraid of their management lest they should lose their jobs. Sometimes the management has been careless about the grievance handling. As a result employees have lost their faith in management. For the ambiguity of labor code to the employees, they haven't felt their right and needs. Due to the indistinct idea, they don't know how to communicate with authority for grievance reduction. The study has assumed that consequences of the mishandling grievances of management might increase their dispirit level for not communicating grievances. In spite of being communicating with the authority, workers did not get any suitable action from them. For that reason they might lose their interest for communicating grievances; they might think that it is useless.

6.4 Findings of Management Responses after Communicating Grievances

Here, no response data rate has been found very high regarding this management response or reaction. It might happen that most of the workers are not interested to answer these questions for the continuous inactive mode of authority such as not taking any action, getting angry, threatening employees and so on. If the management can feel the importance of investigating grievance, then in most of the cases they have to take a role as investigator directly. In some cases, the owner plays that role directly. Due to the absence of any proper communication channel, management has not taken any responsibility to solve these grievances. Sometimes they are informed about it and assured to solve the problem but have not taken any action regarding those issues.

7. Conclusion

This study has highlighted the existence of grievances, communication channel status and the outcome or reaction of the management after conducting grievance communication. Extra working hours, overtime, performance bonuses have been found discontent. The management should take suitable initiatives to reduce these grievances which would increase their working motivation. Since the study has found the lack of awareness among employees and management about their grievances, it would like to recommend that such industries can take any formal policy for handling grievances. Since the study has found that no industries have a communication channel or dedicated person to conduct grievances and the labor laws have not been practiced properly, it would like to recommend that employees should be aware about their grievance procedure particularly for section 33 of labor law 2006. The reactions of authority have not been found satisfactory. Sometimes the management is not concerned if any worker quit his job for grievances. Indeed, the authority should take care about the constructive grievance reduction initiatives which may increase overall productivity of the organization. The findings of this study will not only help the concerned management to be aware of the grievances of employees in small industries in Khulna region but also make the management to know what to do for maintaining employee satisfaction and industrial relations in the small industries. However the findings of the research will give an idea about the grievances situation on such industries. For longitudinal studies this research will assist to find out the grievance redress mechanism on the relationship between management and workers. In future this research will give an opportunity to analyze the psychological impact of employee grievances on the productivity of industries.

References

- Adams, J.S. (1965). "Inequity in Social Exchange", *Advances in Experimental Social Psychology*, Vol. 2, pp. 267-299.
- Boswell, W. R. and Olson-Buchanan, J.B. (2004), "Experiencing mistreatment at work: The role of grievance filing, nature of mistreatment, and employee withdrawal", *Academic of Management Journal*, Vol. 47 No.1, pp. 129-139.
- Dessler, G. (2003). Human Resource Management. 9th Ed. Pearson Education, Inc., Delhi.
- Dalton, D.R and Todor, W. (1982), "Antecedents of Grievance Filing Behavior: Attitude/Behavioral Consistency and the Union Steward", *Academy of Management Journal*, Vol. 25, No. 1, pp.158-169.

- Fryxell, G. E. and Gordon, M. E. (1989). "Workplace justice and satisfaction as predictors of satisfaction with union and management", *Academic of Management Journal*, Vol. 32 No.4, pp. 851-866.
- Griffin, R. W. (2003). *Management*. 7th Ed. Houghton Mifflin Company, Boston, New York: P.442.
- Israel, G.D (1992), "IFAS Extension, PEOD6", Institute of Food & Agricultural Science, University of Florida, November 1992, PP.3 Available at:<https://www.tarleton.edu/academicassessment/documents/Samplesize.pdf> [Accessed 11 Mar. 2018].
- Khan, A. A. and Taher, M. A. (2015). *Human Resources Management and Industrial Relations*. 4th Ed. Dhaka: *Abir Publication*, pp.75-85.
- Labor Law (2006), Labor rules (Amendment) (2015), "Bangladesh Gazette", Tuesday , September 15, 2015. pp. 7315-7657, [online] Available at: http://dol.portal.gov.bd/sites/default/files/dol.portal.gov.bd/page/e56eea7e_0943_4fae_bfd5_5326_098_aad51/Labour%20Rules%202015.pdf. [Accessed 11 Mar. 18]
- Lind, D. A. and Marchal, W.G and Wathen, S.A (2010), *Statistical Techniques in Business and Economics*, McGraaw-Hill/Irwin, New York.
- Malhotra, N. K. and Dash, S. (2010). *Marketing Research: An Applied Orientation*. 6th Ed. Delhi: Dorling Kindersley (India) Pvt.Ltd. Office of the Director of Equal Opportunity in Public Employment (ODEOPE) (1996), *Dealing with Employee Work-related Concerns and Grievances, Policy and Guidelines*. Sydney, NSW.2000.
- Pallant, J. (2005). *SPSS Survival Manual: A step guide to data analysis using SPSS for windows (version 12)*, Allen & Unwin, Crows Nest, NSW. Project Clue.com, "How to determine a reliable sample size for your research work" Available at: <https://nairaproject.com/blog/its-taro-yamane-not-yaro.html> [Accessed 20 Mar.2018]
- Samarasinghe, P.H. (2017)," Study on effective factors on the employer, employee relationship for the motivation of associate level employees at ABChotel, Colombo" *International Journals of Scientific and Research Publications*, Volume 7, Issue 11, November 2017, ISSN 2250-3153.
- Setsetse, D. D (2008). "Strengthening Human Resource Management: The Grievance Management Challenge" *African association of public administration and management*, 30th AAPAM Annual Roundtable Conference, Accra, Ghana.
- Wilkinson, A. and Fay, C. (2011). New Times for Employee Voice. *Human Resource Management*, Vol. 50 No.1, pp. 65-74.

Appendix

Table 1: Sampling at a Glance

SL	Name of the Small Industry	Sample
1	Modhumoti Salt Industries	5
2	Arif Food Products	10
3	Faruk Sea Food	10
4	Green Cottage	8
5	M/S Hoque Trading	10
6	Modern Furniture	10
7	Modhumoti Timber & Saw Mill	4
8	Rahima Rice Mill	5
9	Rupali SeaFood	12
10	Saint Martin Sea Food Ltd.	4
11	Shamim Bekary	3
12	Shapla Rice Mill	5
13	Sohel Food Products	12
14	Shundarban Hard Board Mills Ltd.	7
	Total	105

Table 2: Sample Size for $\pm 3\%$, $\pm 5\%$, $\pm 7\%$ and $\pm 10\%$ Precision Levels Where Confidence Level is 95% and $P=.5$

Size of Population	Sample Size (n) for Precision (e) of:			
	$\pm 3\%$	$\pm 5\%$	$\pm 7\%$	$\pm 10\%$
500	A	222	145	83
600	A	240	152	86
700	A	255	158	88
800	A	267	163	89
900	A	277	166	90
1,000	A	286	169	91
2,000	714	333	185	95

3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
1,000,00	1,099	398	204	100
>1,000,00	1,111	400	204	100

a=Assumption of normal population is poor (Yamane, 1967). The entire population should be sampled

Table-3: Gender of the Respondent

Gender of the Respondent		
	Frequency	Percent
Male	80	76.2
Female	25	23.8
Total	105	100.0

Table-4: Age of the Respondent

Age of the Respondent		
	Frequency	Percent
Young (15-30 years)	55	52.38
Middle Age(30-45 years)	37	35.24
Old(45-60 years)	13	12.38
Total	105	100.0

Table-5: Length of Service (total in this organization)

Length of Service (total in this organization)		
	Frequency	Percent
Up to 5 years	54	51.43
6 to 10 years	22	20.96
Above 10 Years	23	21.90
No Response	06	5.71
Total	105	100.0

Table-6: Number of Days of Work in a Week of the Respondent

Number of Days of Work in a Week of the Respondent		
	Frequency	Percent
Within 6 days in week	100	95.24
More than 6 days in a week	1	0.95
No Response	4	3.81
Total	105	100.0

Table-7: Hours of Work in a Week

Hours of Work in a Week		
	Frequency	Percent
Up to 48 hours in a week	33	31.43
More than 48 hours in a week	70	66.67
No Response	2	1.90
Total	105	100.0

Table-8: The Amount of Monthly Payment Indicates

Amount of Monthly Payment Indicates		
	Frequency	Percent
Struggle to meet most basic needs	55	52.4
Can just meet basic needs	36	34.3
Can meet the basic needs	14	13.3
Total	105	100.0

Table-9: Monthly Payment Go over the 5th of the Next Month

Monthly Payment Go over the 5th of the Next Month		
	Frequency	Percent
Rarely	70	66.7
Habitually	31	29.5
No response	4	3.8
Total	105	100.0

Table-10: Festival Bonuses

Festival Bonuses		
	Frequency	Percent
Rarely given without any rules and regulation	45	42.9
Usually given, but there is no contractual obligations	60	57.1
Total	105	100.0

Table-11: Performance Bonuses

Performance Bonuses		
	Frequency	Percent
Never given	78	74.3
Sometimes given ad hoc basis	26	24.8
No Response	1	1.0
Total	105	100.0

Table-12: Fringe Benefit Received from Organization

Fringe Benefit Received from Organization		
	Frequency	Percent
No fringe benefit	10	9.52
Medical, Breakfast & Others	15	14.29
Pension & Small Loan	08	7.66
Missing Data/No response	72	68.56
Total	105	100

Table-13: When working extra an hour is required?

When Working Extra an Hour is Required?		
	Frequency	Percent
You have no choice, you have to work in various condition without extra payment	85	80.9
Usually you have no choice, but there is little's extra payment	14	13.3
It is optional and there is extra payment for it	4	3.8
No Response	2	1.9
Total	105	100.0

Table-14: Overtime

Overtime		
	Frequency	Percent
Very minimum, I won't work for it if I am given an option	45	42.9
Reasonable, I extended for an opportunity for working extra hours	37	35.2
No response	23	21.9
Total	105	100.0

Table-15.a: Ventilation

Ventilation		
	Frequency	Percent
Poor	14	13.33
Good	59	56.19
Missing Data/No response	32	30.48
Total	105	100

Table-15.b: Temperature

Temperature		
	Frequency	Percent
Poor	30	28.57
Good	46	43.81
Missing Data/No response	39	37.14
Total	105	100

Table-15.c: Lighting

Lighting		
	Frequency	Percent
Poor	7	6.67
Good	67	63.80
Missing Data/No response	31	29.52
Total	105	100

Table-15.d: Building Condition

Building Condition		
	Frequency	Percent
Poor	13	12.38
Good	60	57.14
Missing Data/No response	31	29.52
Total	105	100

Table-16: Attitude of Management about the Employees

Attitude of Management about the Employees		
	Frequency	Percent
Employees are integral part and important contributor to the organization	17	16.2
Management's responsibility is limited to offering them fare salary	9	8.6
Employees are to be given as minimum as possible so that organizations profit maximized	29	27.6
Employees quit the job any time if they are not happy	48	45.7
No response	2	1.9
Total	105	100.0

Table-17: Leave

Leave Type	Yes (%)	No (%)	No response (%)	Total (%)
Casual Leave	17.1	6.7	76.2	100
Earned Leave	1.9	16.2	81.9	100
Recreation Leave	8.6	13.3	78.1	100

Table-18: Written Leave Rules

Written Leave Rule in Your Organization		
	Frequency	Percent
Yes	15	14.3
No	83	79.0
No Response	7	6.7
Total	105	100.0

Table-19: Leave up to 10 days and more

	Up to 10 days (%)	More than 10 days (%)	No response (%)	Total (%)
Casual Leave with pay	12.38	1.90	85.72	100
Casual Leave without pay	0.95	1.90	97.05	100
Earned Leave	0.95	-	99.05	100
Recreation Leave	6.67	0.95	92.38	100

Table-20: Communication of Grievance

Communication of Grievance		
	Frequency	Percent
Yes	30	28.6
No	75	71.4
Total	105	100.0

Table-21: Formal System of Grievance Communication

Formal System for Communication of Grievance		
	Frequency	Percent
Yes	10	9.5
No	95	90.5
Total	105	100.0

Table-22: Contact Point

Contact Point for Grievance		
	Frequency	Percent
Directly owner	16	15.2
Through supervisor to the owner	4	3.8
Through informal channel like another person to the owner	1	1.0
No Response	84	80.0
Total	105	100.0

Table-23: Reasons for not Communication Grievance

Reasons for Not Communicating Grievance to the Management		
	Frequency	Percent
Lack of awareness regarding this issue	15	20
They are afraid of Authority	4	5.33
Management are careless	11	14.67
Employees are satisfied	8	10.67
Missing Data/No response	37	49.33
Total	75	100

Table-24: Employee Explanation

Employee Explanation		
	Frequency	Percent
Owner don't take any action	4	3.81
Management threaten employee	2	1.90
Missing Data/No response	99	94.29
Total	105	100

Table-25: Chi-Square (χ^2) Tests

Chi-Square (χ^2) Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.232 ^a	8	.009
Likelihood Ratio	23.236	8	.003
Linear-by-Linear Association	.264	1	.607
N of Valid Cases	105		

Table-26: Chi-Square (χ^2) Tests

Chi-Square (χ^2) Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.707 ^a	1	.002		
Continuity Correction ^b	8.191	1	.004		
Likelihood Ratio	12.465	1	.000		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.615	1	.002		
N of Valid Cases	105				

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New Media and Public Engagement: A Case Study in Khulna University

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Abstract

This study explores the “New Media and Public Engagement” through survey using questionnaire as a tool of data collection. Finding of the study revealed that 55% respondents reported that they mostly use facebook as new medium because people concentrate more on virtual space in today.42% respondents said for being easily access they use new media rather than traditional media.43% respondents spend in between 2 from 3 hours to meet up their needs. 53% discuss with other when get any kind of information from new media. Among 83% respondents agree that new can enhance any types social issue based movement. It is interesting matter that 68% respondents said they instant react in new media. So it is very much understood by the public how much engaged with new media. It targeted 100 respondents and got responses from 100% (60 male, 40 female) having demographic characteristics like age, gender, education and of respondents. For age the researcher has selected four categories. For status, students, teachers, officers and others sample is selected, for gender, the researcher has selected female and male, and lastly for education. In this research the findings, it has been clearly seen that public are very much active engage in new media than other traditional media.

Keywords: New media, public engagement, social media, Khulna University.

1. Introduction

“Today we are beginning to notice that the new media are not just mechanical gimmicks for creating worlds of illusion, but new languages with new and unique powers of expression”(McLuhan,1957, p. 272). New Media“ is a hybrid practice involving a wide range of practical skills and intellectual resources, refers to as essential components of practice in associative terms with new media like ‘New territory’ ‘Emerging fields’, ‘Uncharted space’, ‘New frontiers’. If we tend to travel in cyber space we should choose internet rather than any material form of knowledge is what new media is all about. (Mitra 2012, p. 2)

If we look back on the technology inclination of past decade then we can straightforwardly analyze, how rapidly internet has altered the features of communication. Due to advent of new technologies, now people are able to enjoy the benefits and outcomes of high technology media, this improved technology media is much faster in comparison to the older traditional media.

The power of new media guides us through a space of no end. New media is a way to map something for example air currents or air routes which are in a state of flux (unreal). Anything that is 'new' always draws attention as if it's a time lapse of the present and past or what the future might withhold. (Mitra 2012, p. 2)

The public engagement with traditional media has a long history. When the new media has been emerged the total scenario dramatically changed and it's becoming a dominant channel of daily information and conversation exchange. New media provide opportunities to attract attention and promote engagement of large audiences. New media uses interactive engagement techniques, like live commenting and audience polling. However, audience engagement itself is a multi-faceted construct. Some engagement is reactionary and manifests in asynchronous user comments to messages created by content producers. These comments may come in a variety of formats, including comments posted to articles or promotional videos shared through social media channels, sharing of stories through public and private social media channels, and voting for content through likes or thumbs up/thumbs down polls.

In Bangladesh the popularity of social media has increased dramatically in the last few years due to the incidence of services such as Blog, Twitter, Facebook, YouTube, etc. Millions of users participate in communication through these social channels daily by sharing their own content and providing feedback and comments on videos, photos, and blog posts shared by others. Clicks on links, votes, likes, shares, comments and many other actions in the mediated environment can serve as indicators of engagement with the information consumed by the general public.

New media, whether social media or virtual reality, provides opportunities for new ways of citizen engagement, pathways for meaningful engagement still remain to be identified. New media facilitates the collection of socio-graphic information about audiences. This information goes beyond traditional demographic characteristics and can include a wide range of interests, information behaviors, and communication preferences. Although these data are large and highly unstructured, identifying models and frameworks for its use in different contexts can allow scientists and policy-makers to connect with a diverse citizen base.

New media provides high visibility to opinion leaders. It also provides visibility to those who choose to participate in an active online dialog, e.g., through commenting. Yet, most of the online audiences remain passive consumers of information. Understanding the motivations of those who choose active engagement with online information could inform the engagement efforts that target passive audiences and prevent possible biases when voices of those who are most active are viewed as representative of the general public. The volume of information delivered to consumers through new media continues to grow, and methods of information delivery become more and more interactive. Instant tweeting, 360-degree videos, and augmented reality stories, are no longer science fiction, but the reality of science communication. Adria, Marco L. & Mao, Yuping (2016)

2. New Media

In the year 1450 print media in Europe was new, from then the journey started and every invention at that present time was new. What is new today will be old tomorrow. Today is the age of convergence and digitization of all other forms of media into one most powerful of all other forms. This form of communication will bring development in each and every sphere today and may be in the future to come. (Mitra 2012, p. 2)

New media is a catchy term in general refers to those digital media, which are interactive, incorporate two-way communication and involve some form of computing as opposed to “old media” such as the telephone, radio and television. So it has been said that, all kinds of electronic communications that are conceivable due to innovation in computerized technology is called new media.

On the one way to “old” media, which includes newspapers, magazines, books, television and other such non-interactive media, new media is comprised of websites, online video/audio streams, email, online social platforms, online communities, online forums, blogs, Internet telephony, Web advertisements, online education and many others. New media has shortened the distance among people all over the world through electronic communication. New Media changes continuously because it is constantly modified and redefined by the interaction between users, emerging technologies, cultural changes, etc.

3. Public Engagement

Here Public engagement means, the people who are involved with new technology. They use them for their different purposes and they are active user. They go through online and do comment, share, react, discuss in various issues. Engagement is a

“psychologically motivated affective state that brings extra-role behaviors” (Kang, 2014, p. 402).

In other words, engagement is what publics feel about new media content and then what they do about it (Bennett, Wells, & Freelon, 2011), including searching for, commenting on and sharing content online (Hargittai & Hsieh, 2010; Nichols). Scholars agree that engagement represents a transition from the one-way reception of messages to active user involvement in responding to, creating, and distributing information (Campbell, Pitt, Parent, & Berthon, 2011). Engaged individuals demonstrate “feelings of persistence, vigor, energy, dedication, absorption, and enthusiasm” (Macey & Schneider, 2008, p. 12). Kang (2014) argued the emotional attachment of engagement is driven by positive affectivity, affective commitment, and empowerment

4. Theoretical Concept of the Study

To conduct this research we use the uses and gratification theory of communication. It explains how the people use media to fulfill their needs. Gratification of needs is the most important role of media for humans. People get knowledge, interaction, relaxation, awareness, escape and entertainment through media which they use for interpersonal communication as well.

This theory was developed by Blumler and Katz in 1974 in the article “the Uses of Mass Communications: Current Perspectives on Gratifications Research” and focuses its attention on media users’ roles. It also explores how individuals deliberately seek out media to fulfill certain needs or goals such as entertainment, relaxation, or socializing (Blumler & Katz 1974). It is an audience-centered approach that focuses on what people do with media, as opposed to what media does to people. Uses and gratification theory builds off of a history of communication theories and research. Jay Blumler and Denis McQuail laid the primary groundwork in 1969 with their categorization of audience motivations for watching political programs during the time of the 1964 election in the United Kingdom. (Blumler & Mc Quail 1969)

Today, it has more relevance than ever as a tool for understanding how we as individuals connect with the technologies around us. As another example of a contemporary technology, when using social media, users can be motivated by factors like a need to vent negative feelings, recognition, and cognitive needs. Animated news and entertainment media are just two other examples of media technologies that uses and gratification researchers continue to explore.

Overall, Uses and gratification theory focuses on free will of audience and is deterministic as media can be used in various ways and for various purposes. This theory assumes that there is nothing as an absolute truth. The audience is said to have full control over the effect of media on them as the effect can be chosen by the audience themselves. The theory is closely related to human psychology of needs, motives and influence.(Katz, Blumler, &Gurevitch 1973, P 523).

5. Objectives of the Study

- a. To analyze how much they are engaged with new media and find out how much impact it has on their daily life.
- b. To understand the pros and cons why they engage with new media.
- c. Find out the influence of new media on public engagement.

6. Research Method and Sampling Process

In this research, the researcher used field survey technique. Keeping in view the importance of phenomena under investigation, it was appropriate to approach the target sample of population through well designed research questionnaire to inquire New Media and public Engagement. Survey used to explore the engagement patterns of public on different issues. Collection of information through systematic manner in which all units of interest population well defined and assembles such useful concise form. Researcher used purposive sampling technique to collect a sample of 100 respondents of different professions in Khulna University, Bangladesh. They were asked a total of 15 questions. In all, 100 questionnaires were filled and reciprocated enthusiastically by the respondents.

7. Literature Review

There is no recognized study in Bangladesh and other countries that are directly related to new media and public engagement. However, there are some relevant research studies regarding social media engagement and influence of new media. These can be used as the relevant literature for this study.

Mallett, Leon (2016) has conducted a research on the `Public Engagement through Social Media`. He has shown that social media can create public engagement, it also inspires a new generation, Educate the public, Improve the accessibility of higher education. His findings also show engaging with the public, listening to their views and insights,

concretion, fostering partnerships, drawing on larger pools of local, national & international expertise.

Firmstone, JA and Coleman, S (2015), they have conducted a research on the banner of 'Public engagement in local government: the voice and influence of citizens in online communicative spaces'. Their findings are communications and engagement strategies of local councils play an important role in contributing to the public's understanding of local democracies, and their engagement with local issues. Digital media are beginning to play an important role in defining and reconfiguring the role of citizens within local governance. Mitra, Archan (2011) shows new media and how it works to transform society through technology giving new insights into Cultural, social and environmental aspects so as to reach not only mere development but sustainable development. Today we need this new form because it has taken over all the other forms and has converged them into one super effective form of communication which has fluidity, electronics, interface, interactivity and many more qualities.

Garbett, Linehan, Kirman, Wardman, and Lawson (2011) were examining whether social media can provide a unique and interesting way of engaging people with open government data. Due to the huge interest generated by the Fear Square application, it appears that people would like to engage with open data sets in a way that is integrated with existing social media. Indeed, the crime data was already available online in an accessible format. Participants' choice to use Fear Square demonstrates that the application generated some added value to the data.

Jones and Whitaker (2014) they said, Representatives from the library discussed some innovative ways that they use social media to engage with students. It was discussed that linking Facebook and Twitter is a good way to get your content out across two platforms without having to update both. The Centre for Public Engagement is happy to talk to anybody who is looking to integrate social media into public engagement projects. Also social media use to drive the public

8. Statistical Analysis

Basic information					
Sex of the respondent	Frequency	Percent	Profession of the Respondents	Frequency	Percent
Male	60	60.0	Teacher	20	20.0
Female	40	40.0	Student	60	60.0

Total:	100	100	Officer	10	10.0
Age of the Respondent			Others	10	10.0
			Total:	100	100
20-25	66	66.0	Education of the Respondent		
26-30	19	19.0	Below Honors	44	44.0
31-35	7	7.0	Honors'	27	27.0
Above 35	8	8.0	Masters	29	29.0
Total:	100	100.0	Total:	100	100.0

Source: Field survey, Khulna University, 2018

Descriptive survey was used for data collection, and a questionnaire used as tool of data collection. There were 100 respondents were selected for this research. Out of the whole sample size 60 percent were male respondents and 40 were female. Here in this research, 20 percent of the profession was the university teachers, 60 percent of the profession were university students, 10 percent officers and 10 percent respondents belonged to other professions. Out of them 66 percent respondents were between 20-25 years of age, 19 percent were 26-30 and 7 percent were in 31- 35 years age and 8 percent were above 35 years age group. The results showed that 44 percent respondents were undergraduate 27 percent were graduate (Hon's) and 29 percent were postgraduate (Masters) respondents.

Table 1: Which New Media Do You Use Mostly?

	Frequency	Percent
Facebook	55	55.0
Bolg	2	2.0
Youtube	23	23.0
Online news portal	15	15.0
Email	5	5.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

On being asked as to which new media the target respondents uses the most 55 percent answered facebook, while 23 percent they do youtube, 15 percent respondents reported they mostly use online news portal. While 2 percent reported that, they are more likely to use blogs and the rest 5 responses answered email is the mostly used medium to them.

Table 2: Why Do You Use New Media?

	Frequency	Percent
Immediately Attached	18	18.0
Easy Access	42	42.0
Broadly Connected	40	40.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

Table 3: How Much Time Do You Spend to Use New Media?

	Frequency	Percent
Less than 1 hour	3	3.0
1-2 Hours	25	25.0
2-3 Hours	43	43.0
More than 3 hours	29	29.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

In order to know about the kind of information, why they use new media maximum respondents have said that they use for easy access which percent stands for 42. While 40 percent people use new media for remaining broadly connected and 18 percent said they use for immediately attached.

When respondents were asked about the amount of time they spend on new media in a day. The majority 43 percent said they spent 2-3 hours, more than 3 hours spent 29 percent respondent while 25 percent spent to 2 hours and 3 percent spent less than 1 one hour. So it is clearly proved that most people engaged with new media.

Table 4: What is the Main Purpose of Using New Media?

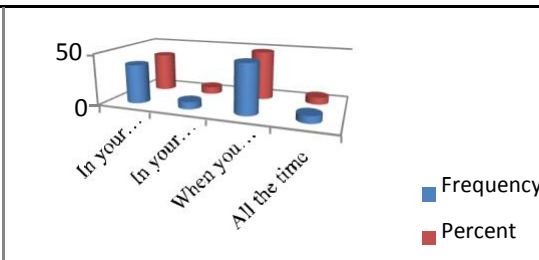
	Frequency	Percent
Getting information	36	36.0
Communication	32	32.0
Entertainment	25	25.0
Time pass	7	7.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

The main purpose of using new media 36 percent respondent seem for getting information, while 32 percent seem for communication. Whereas 25 percent said for entertainment and the rest 7 percent said they use for only time passing.

Table 5: In Which Time Do You Use New Media?

	Frequency	Percent
In your leisure time	38	38.0
In your working hour	7	7.0
When you get time	48	48.0
All the time	7	7.0
Total	100	100.0

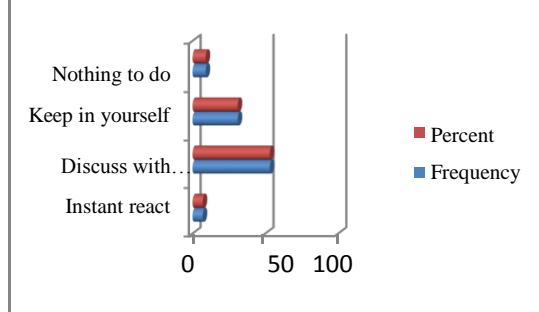


Source: Field survey, Khulna University, 2018

Most of the respondents said when they get time they use new media and it stands 48 percent. In their leisure time 38 percent use. On the other 7 percent use in between their working hour and rest 7 percent have said there is definite time they use new media all the time.

Table 6: After Getting Information from New Media, What Do You Do?

	Frequency	Percent
Instant react	7	7.0
Discuss with others	53	53.0
Keep in yourself	31	31.0
Nothing to do	9	9.0
Total	100	100.0



Source: Field survey, Khulna University, 2018

In response to the question, after getting information from new media 53 percent respondent discuss with others, instantly react 7 percent. While 31 percent they kept in their self and the rest 9 percent nothing did.

Table 7: How Much Reliable of These News Which Get from New Media?

	Frequency	Percent
Totally reliable	12	12.0
Partially reliable	57	57.0
Hardly reliable	26	26.0
Not at all	5	5.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

What is the news we get from new media in question 57 percent respondent said partially reliable, 26 percent it seems hardly reliable. Whereas 12 percent respondents said it's totally reliable and the rest 5 percent think not at all.

Table 8: Do You Believe This New Media can Enhance Issue Based Movement?

	Frequency	Percent
Yes, I do	83	83.0
No, I am not	17	17.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

To know how many people believe that new media can enhance issue based movement. 83 percent respondents do believe while 17 percent said they don't believe that new media can enhance issue based movement.

Figure 9: Have You Reacted Any Recently Issue Based Movement?

	Frequency	Percent
Yes	68	68.0
No	32	32.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

In the recent issue based movement 68 percent participants answered they have reacted. Whereas 32 percent respondent said they don't react in recent.

Table 10: How Much is Your Life Changed after Using New Media?

	Frequency	Percent
Totally changed	12	12.0
Partially changed	52	52.0
Hardly changed	27	27.0
Not at all	9	9.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

By using new media 52 percent participants said that partial changed has been occurred in their life. On the other hand 27 percent said new media can hardly change, 12 percent participants said total change has come in their life. But the 9 percent respondent said not at all changes their life.

Table 11: Do You Encourage Others to Engage with New Media?

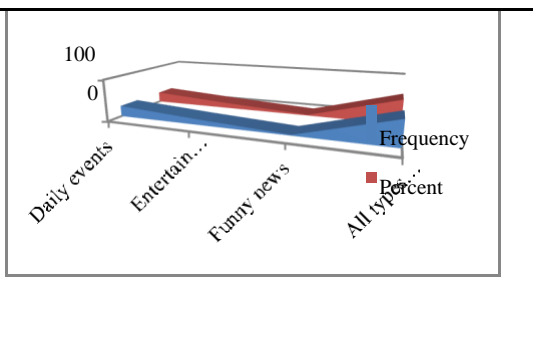
	Frequency	Percent
Yes	64	64.0
No	36	36.0
Total	100	100.0

Source: Field survey, Khulna University, 2018

Do you encourage others to engage with new media? In this question 64 percent respondents have said they encourage others to engage new media, whereas 36 percent said they don't do this.

Table 12: What Types of Information Do You Collect from New Media?

	Frequency	Percent
Daily events	26	26.0
Entertainment news	13	13.0
Funny news	2	2.0
All types of news	59	59.0
Total	100	100.0

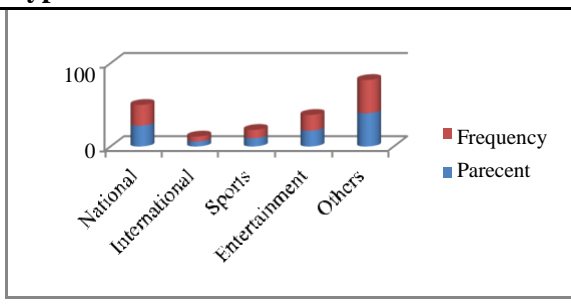


Source: Field survey, Khulna University, 2018

From New Media most to the respondent collect all types of news which stands 59 percent. 26 percent search for daily events while 13 percent participants collect entertainment items and 2 percent only funny items.

Table 13: In Online News Portal What Types of Information Do You Read?

	Frequency	Percent
National	25	25.0
International	6	6.0
Sports	10	10.0
Entertainment	19	19.0
Others	40	40.0
Total	100	100.0

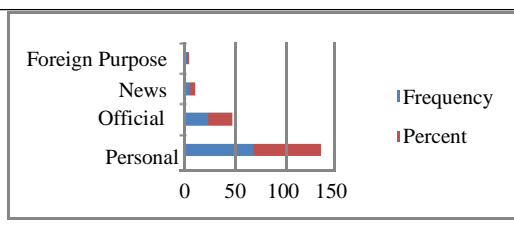


Source: Field survey, Khulna University, 2018

In Online news portal what types of information do you read? In this question 40 percent respondents said they read all types of items there is no defined choice while 25 percent read national news. To get entertained 19 percent of respondents read entertainment. Whereas 10 percent read sports news and 6 percent read international news.

Table 14: Which Type of Information Do You Exchange Mostly in E-mail?

	Frequency	Percent
Personal	69	69.0
Official	24	24.0
News	5	5.0
Foreign Purpose	2	2.0
Total	100	100.0

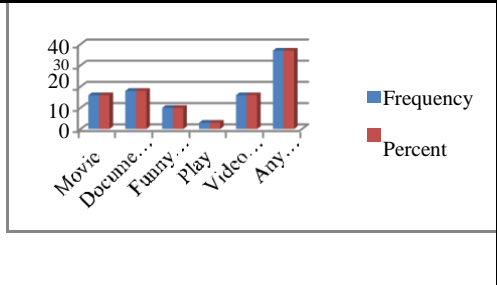


Source: Field survey, Khulna University, 2018

Mostly respondent responses, they use email for their personal purpose which percent stands for 69. Officially 24 percent people use email, while 5 percent use it for new and 2 percent use it for foreign purposes.

Table 15: What are the Most Viewed Program on YouTube?

	Frequency	Percent
Movie	16	16.0
Documentary	18	18.0
Funny Items	10	10.0
Play	3	3.0
Video song	16	16.0
Any types of video	37	37.0
Total	100	100.0



Source: Field survey, Khulna University, 2018

Most of the respondents said they watch any type of video on YouTube . It's not defined in one category which is 37 percent. While 18 percent people watch documentaries, funny items 10 percent, only 3 percent said they watch play and the others watch video songs. It stands 16 percent.

9. Discussion and Findings

After analyzing the result of this study, we have got some fantastic outcomes. Now we are living in the age of new media that means super technological era. So that's why the people are engaged with new media as well as getting updated in their arena. The people always want new and diversified information which has been filling up till at the early morning to deep night. Nowadays all over the world approximately 200 billion are the active users of new media as a result many experts called this is another world. Maximum of the respondent has shown the reason for easy access and can get a lot of information at one click. Majority of the respondents spend a lion share of time in a day with new media. All of the respondents engaged with new because they can remain connected broadly and immediately. There is an interesting point that maximum of the respondent uses new media at their leisure time not only for entertainment, but also getting necessary information of their daily lives. Moreover there are many traditional forms of communicating means write to letter for communication is becoming very obsolete today. Now, the people prefer to chat in online and send email.

So it is clearly proved that most people are now highly engaged with new media. They prefer to read news, articles and even portable document book in online. When they read

any news they can react instantly or comment their own opinion. Another point is that the highest number of respondents said they believe all types of news which they have got from new media even they took active participation by informing any social crisis issue movement. It has been seen that respondents encourage others to engage new media. Most of them use email as their personal purposes and maintain social communication through new media. In very few recent years people like to visualize things.

In our study, we have seen that the respondent is very much eager to watch any type video. YouTube is that platform which meets up the demands of people of all kinds of visual things. So, it is clearly seen that new media is a vast multifunctional platform of the twenty-first century. The participants are engaged with new media for multifactor reasons. Here are facilities and availability is the prime concern though at the same time privacy and security is the main hindrance of new media that's a critical issue. All over the respondent keeps engaging with new media because in the demand of need, in the demand of time.

10. Limitations of the Study

The limitation of the study faced by the researcher was that it was conducted under a short period of time and hence lacks the detailed analyses of the results. Sample size is very small due to lack of time and resources. The data collection method being a questionnaire does not provide a detailed analysis of the objective, however due to lack of resources and shortage of time other methods of data collection could not be used. However the researchers worked to the maximum of their capabilities to provide a comprehensive analysis of the research topic in the above mentioned restrictions.

11. Further Research

- a. A sample size can be increased in order to have more accurate results.
- b. Effects of new media can also be studied on youth.
- c. Impact on the people of the overall country can also be studied.
- d. Differences in the impact of influence between male and female can also be researched.
- e. Content analysis is also the most important factor which can be studied.

12. Conclusion

After all, the complete assessment of the research result tells us that, new media are, collectively, an effective mechanism for the engagement of the general public. Public

engagement in new media requires communication effort and use of multiple channels and activities to create meaningful engagement. While intensive, face-to-face communication may be necessary for the engagement of citizens in various debatable issues, new media channels can be used as lower-cost options to create opportunities for the public to participate in different social movements. Where the traditional media comparatively slower, there new media go fast forward. The technological advancement has created this opportunity. Now- a- days in all corners of Bangladesh has reached the all amenities of digitalization. New media have captured the position of traditional media. Day by day the people are inclined to new media. In this new form of medium of communication the social structure has started to change and change in culture is vibrant change from post modern world to a world of cyber culture where new generations instead of chatting with friends sitting on the lush green grass under the blue sky prefer to sit and chat on the computers and instead of playing their sweats out they tend to play on their computers. To sum up, the new media can provide behavioral examples, facilitate greater participation of the public for exchanging knowledge, and build up a smooth and sound nation.

References:

- Adria, Marco L. & Mao, Yuping (2016), Handbook of Research on Citizen Engagement and Public Participation in the Era of New Media, Information Science Reference, 1522510818, 9781522510819
- Bennett, W. L. (2000). Introduction: Communication and civic engagement in comparative perspective. *Political Communication*, 17, 307–312.
- Bennett, W. L., Wells, C., & Freelon, D. (2011). Communicating civic engagement: Contrasting models of citizenship in the youth web sphere. *Journal of Communication*, 61, 835–856.
- Botha, E., & Mills, A. J. (2012). Managing the new media: Tools for brand management in social media. In A. Close (Ed.), *Online consumer behavior: Theory and research in social*
- Berkowitz, B., & Hahn. (2003). What we talk about when we talk about interactivity: Empowerment in public discourse. *New Media & Society*. doi:10.1177/1461444815625944.
- Brossard, D. (2013). New media landscapes and the science information consumer.

- Proceedings of the National Academy of Sciences of the United States of America*, 110 (Supplement 3), 14096–14101. doi:10.1073/pnas.1212744110 PMID:23940316
- Blumler, J. G., & McQuail, D. (1969). *Television in politics: Its uses and influence.* University of Chicago Press.
- Blumler, J. G., & Katz, E. (1974). The Uses of Mass Communications: Current Perspectives on Gratifications Research. *Sage Annual Reviews of Communication Research* Volume III.
- Blumler, J. G., & Katz, E. (1974). The Uses of Mass Communications: Current Perspectives on Gratifications Research. *Sage Annual Reviews of Communication Research* Volume III.
- Campbell, C., Pitt, L. F., Parent, M., & Berthon, P. R. (2011). Understanding consumer conversations around ads in a web 2.0 world. *Journal of Advertising*, 40(1), 87–102.
- Duhé, Sandra C. (2017), *New Media and Public Relations*, Peter Lang, 2017, 1433132737, 9781433132735
- Firmstone, JA and Coleman, S (2015) Public engagement in local government: the voice and influence of citizens in online communicative spaces. *Information, Communication and Society*, 18 (6). 680 - 695. ISSN 1369-118X
- Hargittai, E., & Hsieh, Y.-L. P. (2010). Predictors and consequences of differentiated practices on social network sites. *Information, Communication, & Society*, 13(4), 515–536.
- https://www.sheffield.ac.uk/polopoly_fs/1.328815!/file/PublicEngagementSocialMedia.pdf
- Kang, M. (2014). Understanding public engagement: Conceptualizing and measuring its influence on supportive behavioral intentions. *Journal of Public Relations Research*, 26, 399–416.
- Karen Jones and James Whitaker (2014) *Social Media and Public Engagement New Zealand*
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly*, 37(4), 509-523.
- Ksiazek, T. B., Peer, L., & Lessard, K. (2014). User engagement with online news: Conceptualizing interactivity and exploring the relationship between online news videos and user comments. *New Media & Society*. doi:10.1177/1461444814545073
- Lupton, D. (2014). Twitter: Social communication in the digital age. *Information*

Communication and Society, 17(5), 644–646.

doi:10.1080/1369118X.2013.808366

Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1, 3–30.

Mitra, Archan (2012) “New Media and Convergence” published in the *Global Media Journal–Indian Edition/ ISSN 2249-5835*, Winter Issue / December 2012
perspective *Global Media Journal – Indian Edition/ISSN 2249-5835* Winter Issue / December 2011 Vol. 2/No.2

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Effect of Liquidity, Profitability and Financial Leverage on Dividend Policy: Comparison between Manufacturing and Non-Manufacturing Firms in Bangladesh

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Abstract

This study aims to explore the effect of liquidity, profitability and financial leverage on cash dividend policy for a sample of 14 manufacturing and non-manufacturing firms enlisted in Dhaka Stock Exchange(DSE) in Bangladesh during 2011-2017. By using SPSS 25 the paper builds up a multi linear regression model with an assumption that each coefficient for each independent variable is different while others remains constant and across firms the common intercept will be fixed. It is found that profitability always positively influences the payment of dividend policy whereas leverage did the opposite one. Liquidity, measured by cash flow from operation, has a negligible influence on determining dividend rate. Effect of liquidity varied from manufacturing and non-manufacturing firms as the analysis depicted two different figures with opposite sign.It can also be mentioned that degree of influence of liquidity, profitability and leverage is higher in case of manufacturing firms in Bangladesh. The hypothesis test rejected all null hypotheses except one which says there is no significant influence of leverage on dividend payment in case of manufacturing firms. Thus investors can always rely on a firm's profitability and leverage while making any investment decision with a view to having some cash dividends since those are functioning as the key determinants.

Keywords: *Liquidity, Profitability, Financial Leverage, Dividend*

1. Introduction

When shareholders are investing in any company that means they are expecting a minimum return based on their investment. Not always a company can make profit and distribute this profit among stockholders, some may disburse all of it while some may retain this earning for future company growth. The amount given to the investors by the company itself is known as dividend; generally classified in two broad groups, cash dividend and stock dividend (Gitman, 2008). Whether a firm will announce a dividend or not, if yes how much it should pay, is basically dependent on several factors including

industry structure, market capitalization, liquidity, profitability, tax effects etc. (Alam & Hossain, 2012). There may be some positive or negative relation among these three variables and any firm's dividend policy. For analyzing thoroughly this paper used some independent variables and one dependent variable, which has been discussed in the methodology part.

2. Problem Statement

In the light of conflict and contradiction, dividend decisions are related to the sense that investors should prefer if they wish to receive cash dividend or they want to sacrifice the earning for future company growth as well as maximizing shareholders wealth (Khan, 2004). Meanwhile, which factors actually cause cash dividends to be paid or not, are also creating concerns among shareholders. Investment decision depends on firm's value and firm value to some extent depends on firm's dividend payout policy, which creates a doubtful situation.

3. Literature Review

How much dividends should any shareholder get in any financial year, is considered one of the top debatable issues among the financial institutions. Many researchers worked on this theory but could not come to any single and specified decision. A decision must be made based on the amount of earnings retained on the business versus the amount to be received by stockholders in the form of dividends (Rose & Hudgins, 2007-08). Most firms have a set of policies with respect to the periodic dividend, but the payout ratio can be changed by the directorial body owing to change in various internal factors (Gitman, 2008). Some exemplary studies such as McCabe (1979), Dhrymes & Kurz (1967) signified impact of industry classification on determining corporate dividend policy though Rozeff (1982) concluded that a company's dividend policy is not being described by which industry it belongs. If there is any dispersion then the differences occurred primarily because of the utilities' responses relative to either manufacturing or wholesale/retail (Baker, Farrelly, & Edelman, 1985). Noticeably Karpavicius & Yu (2018) projects stock prices of dividend payers are greater by 12.5% or 17.4% on average (depending on methodology) compared to those of non-payers. However, Booth & Zhou (2017) says dividend policy is irrelevant to the firm's valuation, only the free cash flow matters.

According to Gupta & Banga (2010), ownership structure, leverage, liquidity, profitability and growth were the factor for determining dividend policy. Statistical regression had been applied for covering the overall analysis. In case of profitability, Ajanthan (2013) showed there is significant impact of dividend payout, revenue and total assets on net profit of listed hotels and restaurants companies in Sri Lanka. That means an increase in financial well-being can positively affect dividend payout policy. In the case of India, profitability is proportional to dividend payout whereas firm size, liquidity, growth and market value negatively signifies the trend of dividend payment (Gangil & Nathani, 2018).

It has been noticed that some work has been done in case of Bangladesh and its listed companies. “While other things remain constant, the influence of liquidity, leverage, profitability, growth and market capitalization on dividend is 0.097, 0.601, 0.044, 0.233, and 0.654 in the opposite, opposite, opposite, same and opposite direction respectively. Mechanically, the dividend is 70.808 in absences of liquidity, leverage, profitability, growth and market capitalization. 49.10 percent of the variation in dividend rate is explained by cash flows, leverage, profitability, growth and market capitalization” – said Alam & Hossain (2012). Meanwhile Hossain, Sheikh, & Akterujjaman analyzed ‘firms that maintain high liquidity ratios tend to generate more retained earnings instead of paying more cash dividends to meet the costs of new investments or pay overdue liabilities.’ Furthermore, Abu (2012) said higher revenue does not always determine dividend payout of banks, so does P/E ratio. There are no significant studies to differentiate between manufacturing and non-manufacturing firms listed in DSE in their dividend payout policy and their determinants. This paper is willing to explain the relationship among independent variables (liquidity, profitability and financial leverage) and how they become essential factors to define a firm's dividend payment and compare in between those two categories.

4. Research Questions

Research questions are as follows:

- a. Is there any significant impact of liquidity, profitability and leverage on dividend payment?
- b. How can independent variables explain the variability of dependent variables?
- c. Does manufacturing firms differ from non-manufacturing firms in case of dividend decision and some firm specific factors?

5. Research Objectives

The main objective of the study was to measure the impact of firm specific factors on dividend decision. Specific objectives are as follows:

- a. To identify the impact of liquidity, profitability and leverage on dividend payment of the firm.
- b. To explore significant factors that affect dividend payment of the firm.
- c. To evaluate whether factors from manufacturing firms act differently from service firms

6. Hypotheses of the Study

Following the debate in literature, hypothesis regarding possible influential factors on dividend payments are as follows:

Variable name	Null Hypotheses
Liquidity	-1 = There is no significant influence of liquidity on cash dividend payments.
Profitability	-2 = There is no significant influence of profitability on cash dividend payments.
Financial Leverage	-3 = There is no significant influence of financial leverage on cash dividend payments.

7. Limitations

- a. There are time and resource constraints for conducting the research
- b. The study is limited to some firms of selected industries rather than whole industrial sector

8. Theoretical Framework on Liquidity, Profitability, Financial Leverage and Dividend

A company's liquidity is its ability to meet its short-term financial obligations. This is done by comparing a company's most liquid assets, those that can be easily converted to cash, with its short-term liabilities. In general, the greater the level of liquid assets to meet short-term liabilities, the better. A company with a low coverage rate should raise a red flag for investors as it may be a sign that the company will have difficulty meeting its short-term financial obligations, and consequently in running its day-to-day operations.

During hard times for the business or the economy, a company with insufficient liquidity might be forced to make tough choices to meet their obligations. These could include liquidating productive assets, selling inventory or even a business unit. These moves could prove detrimental to both the company's short-term viability and their long-term financial health (Wohlner, 2017).

Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings relative to its revenue, operating costs, balance sheet assets, and shareholders' equity over time, using data from a specific point in time. For most profitability ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. Ratios are most informative and useful when used to compare a subject company to other, similar companies, the company's own history, or average ratios for the company's industry as a whole. Profitability ratios are the most popular metrics used in financial analysis, and they generally fall into two categories: margin ratios and return ratios. Margin ratios give insight, from several different angles; on a company's ability to turn sales into profit. Return ratios offer several different ways to examine how well a company generates a return for its shareholders. Some examples of profitability ratios are profit margin, return on assets (ROA), return on investment (ROI) and return on equity (ROE) (Kenton, 2019).

Financial leverage is the degree to which a company uses fixed-income securities such as debt and preferred equity. The more debt financing a company uses, the higher its financial leverage. A high degree of financial leverage means high interest payments, which negatively affect the company's bottom-line earnings per share. Financial risk is the risk to the stockholders that is caused by an increase in debt and preferred equities in a company's capital structure. As a company increases debt and preferred equities, interest payments increase, reducing EPS. As a result, risk to stockholder return is increased. A company should keep its optimal capital structure in mind when making financing decisions to ensure any increases in debt and preferred equity increase the value of the company (Investopedia).

Gordon's theory(1959) on dividend policy is one of the theories believing in the 'relevance of dividends' concept. It is also called a 'Bird-in-the-hand' theory that states that the current dividends are important in determining the value of the firm. Gordon's model is one of the most popular mathematical models to calculate the market value of the company using its dividend policy (Borad, Gordon's Theory on Dividend Policy, 2018). However, the dividend irrelevance theory, by Modigliani and Miller (1961), indicated that a company's declaration and payment of dividends should have little to no

impact on stock price. If this theory holds true, it would mean that dividends do not add value to a company's stock price (Chen, Dividend Irrelevance Theory, 2019). There are also some theories, which describe some important determinants of dividend policy. Agency Theory given by Jensen and Meckling (1976) stated that management is not always concerned about fulfilling shareholders interest more specifically maintaining the growth of shareholders wealth and giving dividends to investors. Hence, managers will adopt an opportunistic behavior for their own benefit, not for the interest of shareholders thus agency problems will be created inside any organization. If the ownership structure allows any company to give part of its ownership to stockholders, then the managerial body and its employee will work in favor, which may affect dividend decision policies (Hossain, Sheikh, & Akterujjaman).

Dividend signaling is a theory that suggests that when a company announcement of an increase in dividend payouts is an indication of positive future prospects. The theory is directly tied to game theory; managers with good investment potential are more likely to signal. While the concept of dividend signaling has been widely contested, the theory is still a concept used by proponents of inefficient markets. Because the dividend signaling theory has been treated skeptically by analysts and investors, there has been regular testing of the theory. Overall, studies indicate that dividend signaling does occur. Increases in a company's dividend payout generally forecast positive future performance of the company's stock while, conversely, decreases in dividend payouts tend to accurately portray negative future performance by the company.(Chen, 2018).Pecking order theory is a theory related to capital structure. It was initially suggested by Donaldson. In 1984, Myers and Majluf modified the theory and made it popular. According to this theory, managers follow a hierarchy to choose sources of finance. The hierarchy gives first preference to internal financing. If internal financing is not enough, then managers would have to shift to external sources. They will issue debt to generate funds. After a point when it is no longer practical to issue more debt, equity is issued as a last option. (Borad, 2018).

9. Methodology

9.1 Sample and Sampling

Data have been collected from the annual reports of selected firms, which were randomly selected by using stratified random sampling from the year of 2011 to 2017. Industrial sector was considered a stratification factor in this seven years period of study, 7

manufacturing and 7 non-manufacturing firms have been taken into account. Industrial sectors from which samples were drawn are given below with the name of sample firms:

Table 1: Name of Industrial Sector and Sample Firms

Manufacturing Firms		Non-manufacturing Firms	
Company	Sector	Company	Sector
Confidence Cement Ltd.	Cement	Aamra technologies Ltd.	IT
Apex Spinning & Knitting Mills Limited	Textile	NCC Bank	Bank
Square Pharmaceuticals Ltd	Pharmaceutical	Prime finance	NBFIs
Bata Shoe Company (Bangladesh) Limited	Tannery	Samorita Hospital	Services & Real Estate
GPH Ispat Ltd.	Engineering	Grameenphone	Telecommunication
Linde Bangladesh Ltd	Fuel & Power	BRAC Bank	Bank
Beach Hatchery Ltd	Food & Allied	Summit Alliance Port Limited	Services & Real Estate
Northern Jute ltd	Jute	IPDC	NBFIs

9.2 Specifications of Variables

9.2.1 Dependent Variable

Dividend rate: Percentage of cash dividend per share (DIV) paid to shareholders in any single financial year. Only cash dividends paid by the companies are considered in dependent variable while stock dividend and repurchases of stocks have been ignored.

9.2.2 Independent Variables

Liquidity: Net cash generated from operating activities (CFO), taken from a cash flow statement that is net profit before taxes and extraordinary income adjusted to non-cash charges and receipts.

Profitability: Return on investment (ROI) which relates net profit with total investment.

Financial leverage: Debt-equity ratio (DER) which is the ratio of total debt to total equity.

9.3 Specification of the Econometric Model

Following multivariate linear econometrics model has been formed to analyze and compare the effect of liquidity, profitability and financial leverage on cash dividend policy of selected manufacturing and non-manufacturing firms:

$$= + + + +$$

Where, β_0 Common intercepts, β_1 Coefficient of CFO, β_2 Coefficient of ROI, β_3 Coefficient of DER, and ϵ Error term

ANOVA test has been performed as a model diagnostics test to check the fitness of the model where p value = 0.05.

10. Results and Discussion

10.1 Normality Test: To perform the normality test of regression residuals, we consider Shapiro-Wilk test as it works well when residuals are unique.

Table 2: Tests of Normality, Manufacturing Firms and Non-manufacturing Firms

	Shapiro-Wilk			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.937	56	.473	.866	56	.204
Standardized Residual	.937	56	.479	.609	56	.215

Source: Data compiled by researchers and processed on SPSS

Results obtained from the normality test depict residuals are normally distributed (p value > .05).

10.2 Model Fitness: To evaluate if the linear regression model is a better fit to the data than a model that contains no independent variables, F test is performed for overall significance and we are assuming two hypotheses for both manufacturing and non-manufacturing firms' linear model.

(Null hypothesis) = The model with no independent variables fits the data as well as the given model.

(Alternative hypothesis) = Given model fits the data better than the intercept-only model.

Table 3 : ANOVA (Manufacturing Firms)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	289253.483	3	96417.828	21.573	.000^b
	Residual	232411.071	52	4469.444		
	Total	521664.554	55			

a. Dependent Variable: Dividend

b. Predictors: (Constant), Return on Investment, Debt/equity ratio, Cash Flow from operation

Table 4 : ANOVA(Non-manufacturing Firms)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	141715.804	3	47238.601	155.993	.000^b
	Residual	15746.936	52	302.826		
	Total	157462.740	55			

a. Dependent Variable: DIV(%)

b. Predictors: (Constant), ROI (%), DER, CFO (million)

Table 3 and 4 shows the analysis of variance (ANOVA) for two different dataset where level of significance $p=0.05$. The F-test of overall significance is the hypothesis test for this relationship. For both cases it is found that our assumption for the model, data and variables, are statistically significant. For manufacturing firms, $F(3, 52) = 21.573$ and $p=.000 < .05$ whereas ANOVA test for non-manufacturing firms donates $F(3, 52) = 155.993$ and $p=.000 < .05$. For both cases p value is less than level of significance thus we can reject null hypothesis and accept alternative hypothesis that is why given model fits the data better than intercept only model. Thus F test and related p value measures our sample data provides sufficient evidence to conclude that the regression model fits the data than the model with no independent variable.

10.3 Descriptive Statistics: Analysis of this study starts with descriptive statistics by using SPSS 25 for both manufacturing and non-manufacturing firms in table 5 and table 6 respectively. In case of manufacturing firms, the average dividend paid by the companies is 53.161 tk ranges minimum 0 tk to maximum 310 tk per share. CFO stands at 1196.79 million tk per financial year for every firm meanwhile companies total debt is .6195 times its total equity with a standard deviation of 2.91. Net profit is 9.585 times more in proportion to its total investment, which derives a minimum negative value in return to highest 32%.

Table 5: Descriptive Statistics of Manufacturing Firms

	N	Minimum	Maximum	Mean	Std. Deviation
DIV(%)	56	.0	340.0	53.16	97.3900
CFO(million)	56	-545.57	10009.37	1196.79	2543.37
DER	56	-16.64	9.40	.619	2.91
ROI(%)	56	-14.29	32.00	9.58	10.20

Note: Data compiled by researchers and processed on SPSS

In Case of non-manufacturing firms table 6 describes mean, maximum, minimum and standard deviation for all these four variables. Average cash dividend paid by the

companies in the selected period is 29.63% where the minimum starts to 0 and maximum goes for 205% per share. 6462.27 million tk has been generated from operating activities however the standard deviation is high where data shows a highly negative cash outflow in the minimum range. Total is 3.29 times higher than total equity where the ROI reveals 6.05% net income has been earned in proportion to total investment.

Table 6: Descriptive Statistics of Non-manufacturing Firms

	N	Minimum	Maximum	Mean	Std. Deviation
DIV(%)	56	.00	205.00	29.63	53.50
CFO(million)	56	-5679.86	57783.34	6462.27	13934.55
DER	56	.0030	16.10	3.29	4.51
ROI(%)	56	-5.72	21.00	6.05	5.19

Note: Data compiled by researchers and processed on SPSS

Average dividends paid by companies are higher in amount in case of manufacturing firms; also their return on investment is higher too. But in the other two cases the service industry performs better.

10.4 Multicollinearity: Table 7 shows variance inflation factor(VIF) which defines the correlation between independent variables and the strength of this correlation. Multicollinearity occurs when there is correlation among IVs and this can be a problem. Table 7denotes the VIF value of each independent variable from where we can find every VIF value<10 that means correlations are limited enough among IVs, which does not require any correction.

Table 7 : Test of Multicollinearity

		Manufacturing		Non-manufacturing	
Model		Collinearity Statistics		Collinearity Statistics	
		Tolerance	VIF	Tolerance	VIF
1	Cash Flow from operation	.868	1.152	.363	2.757
	Debt/equity ratio	.984	1.017	.874	1.144
	Return on Investment	.858	1.165	.352	2.844

Note: Data compiled by researchers and processed on SPSS

10.5 Regression Line: Table 8 shows the following regression line for manufacturing firms:

$$= -4.182 - .011 \text{ CFO} - 5.224 \text{ DER} + 7.641 \text{ ROI}$$

A value of .011 is the partial regression coefficient of cash flow from operation, which indicates when other variables remain constant if CFO changes by one percent, dividend rate will change by .011 in opposite direction. In case of debt-equity ratio dividend will change 5.224 percent in the opposite direction. A value of 7.641 is the partial regression coefficient of return on investment, if it changes by one percent the dividend rate will change accordingly in the same way by 7.641%. Common intercept -4.182 represents if all the independent variables held zero then for a certain period of time the dividend rate will be -4.182.

Table 8: Coefficients (Manufacturing Firms)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.182	12.425		-.337	.738
	CFO(million)	-.011	.004	-.276	-2.780	.008
	DER	-5.224	3.114	-.157	-1.678	.099
	ROI	7.641	.953	.801	8.015	.000

Dependent Variable: Dividend (%) Note: Data compiled by researchers and processed on SPSS

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.745 _a	.554	.529	66.8539

a. Predictors: (Constant), Return on Investment, Debt/equity ratio, Cash Flow from operation

R square .554 depicts 55.4% variation in dividend rate can be explained by cash flow from operation, debt/equity ratio and return on investment. Table 10 interprets the regression line for non-manufacturing firms,

$$= 9.235 + .003 \text{ CFO} - 3.015 \text{ DER} + 1.885 \text{ ROI}$$

Value of .003 is the partial regression coefficient of cash flow from operation, means if CFO changes by one percent, dividend rate will change by .003% in the same direction. Changing in one percent of DER will cause 3.015 percent change in dividend rate in the opposite direction. 1.885% dividend will change if ROI changes by one percent.

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Common intercept 9.235 means if CFO, DER and ROI held zero, then the final dividend will be 9.235% per share.

Table 10: Coefficients (Non-manufacturing Firms)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.235	4.016		2.299	.026
	CFO(million)	.003	.000	.763	10.480	.000
	DER	-3.015	.556	-.254	-5.418	.000
	ROI(%)	1.885	.762	.183	2.473	.017

Dependent Variable: DIV (%) Note: Data compiled by researchers and processed on SPSS

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949 ^a	.900	.894	17.40189

a. Predictors: (Constant), ROI(%), DER, CFO(million)

R square value of .90 denotes that 90.0% variance in dividend payment can be explained by the selected independent variables (CFO, DER, ROI). Value of R square in service industry is around 35% higher than manufacturing firms which means that service companies' dividend policy depends on CFO, DER and ROI to a large extent while that of manufacturing company depends on other extraneous factors. It can also be mentioned that the degree of influence of liquidity, profitability and leverage is higher in case of manufacturing firms in Bangladesh. In case of manufacturing firms, partial regression coefficients of liquidity, profitability and financial leverage are -.011, -5.224 and 7.641 respectively meanwhile in case of non-manufacturing firms coefficients are .003, 1.885 and -3.015 in the same order. Dividend policy has significantly related with profitably in a positive way as both of regression lines provide a positive value, which concludes if ROI increases payment of cash dividend will increase accordingly. However, the partial coefficient of leverage ratio, DER, denotes there will be an inverse relation which is why, if DER rises up, cash dividend goes down and vice versa. Liquidity, measured by cash flow from operation, has a negligible influence on determining dividend rate. In case manufacturing firms it shows -.011 percent change whereas .003 percent can be seen in case of non-manufacturing firms.

10.6 Test of hypothesis: After considering the t test and p value we draw following result from assumed hypothesis:

Table 12: Test of Hypothesis

For Manufacturing Firms			
Variable	T stat	P value	Decision
Cash flow from operation	-2.780	.008	=
Debt/equity ratio	-1.678	.099	=
Return on Investment	8.015	.000	.
For Non-manufacturing Firms			
Variable	T stat	P value	Decision
Cash flow from operation	10.480	.000	=
Debt/equity ratio	-5.418	.000	=
Return on Investment	2.473	.017	.

Note: Data compiled by the researchers and processed in SPSS
 Thus, in conclusion, it can be said that all variables have significant influences on determining cash dividend policy regardless of its industry structure whereas leverage has no influence on cash dividend payment in case of manufacturing firms.

11. Recommendations

Both manufacturing and non-manufacturing firms should try to boost up their operating cash flow and investment yield as these are the significant determinants of dividend payment. Investment projects should be chosen carefully so that highest value creating projects are undertaken with least cost of capital. Firms should also devote most of their resources to high yielding financial assets. Besides cash flow and ROI, non-manufacturing firms should also be concerned about their capital structure. Proportion of debt financing should be reduced with a view to increase payment of dividend to shareholders.

12. Conclusion

This study examines the effect of liquidity, profitability and financial leverage on dividend policy and draws a comparison between manufacturing and non-manufacturing firms in Bangladesh. Some previous studies about relationships among those independent variables and dependent variables prove some identical results though none of them especially from Bangladesh aspects shows any comparisons between manufacturing and service firms. It has been found from the study that cash flow generation, leverage, and ROI have significant impact on dividend payment of non-manufacturing firms while only leverage has no significant impact on dividend payment of manufacturing firms. When investing money in any organization, lenders can look for the information such as the firm's profitability, liquidity, leverage, ownership or market value of firms to determine whether they could make a better investment decision. (Rizqia, Siti, & Sumiati, 2013). Further research could be done in a broader industry segment and each kind of segment can be appraised in this specific aspect of impact.

References

- Abu, S. T. (2012). Determinants of dividend payout policy: Evidence from Bangladesh. *International Journal of Economic Practices and Theories*.
- Ahmed, H., & Jabid, A. Y. (2008). MPRA. Retrieved 3 6, 2019, from MPRA: <https://mpr.aub.uni-muenchen.de/>
- Ajanthan, A. (2013). The Relationship between Dividend Payout and Firm Profitability: A Study of Listed Hotels and Restaurant Companies in Sri Lanka. *International Journal of Scientific and Research Publications*.
- Alam, M. Z., & Hossain, M. E. (2012). Dividend Policy: A Comparative Study of UK and Bangladesh. *Journal of Business and Management*.
- Baker, H. K., Farrelly, G. E., & Edelman, R. B. (1985, Autumn). A survey of Management views on Dividend Policy. *Financial Management*, 14(3), 78-84. Willey.
- Booth, L., & Zhou, J. (2017, November). Dividend policy: A selective review of results from around the world. *Global Finance Journal*, 34, 1-15.
- Borad, S. B. (2018, June 18). Gordon's Theory on Dividend Policy. Retrieved March 16, 2019, from [efinancemanagement.com](https://efinancemanagement.com/dividend-decisions/gordons-theory-on-dividend-policy): <https://efinancemanagement.com/dividend-decisions/gordons-theory-on-dividend-policy>

- Borad, S. B. (2018, December 29). Pecking order theory. Retrieved March 16, 2019, from efinancemanagement.com: <https://efinancemanagement.com/financial-leverage/pecking-order-theory>
- Chen, J. (2018, May 22). *Dividend signaling*. Retrieved March 16, 2019, from www.investopedia.com: <https://www.investopedia.com/terms/d/dividendsignaling.asp>
- Chen, J. (2019, January 31). Dividend Irrelevance Theory. Retrieved March 16, 2019, from www.investopedia.com: <https://www.investopedia.com/terms/d/dividendirrelevance.asp>
- Dhrymes, P. J., & Kurz, M. (1967). Investment Dividend and External finance behaviour of firms. In *Determinants of Investment behaviour* (pp. 427-467). *New York: Columbia University Press.*
- Gangil, R., & Nathani, N. (2018, February). Determinants of dividend policy: A study of FMCG sector in India. *Journal of Business and Management*, 20(2), 40-46.
- Gitman, L. G. (2008). *Principles of Managerial Finance*. Singapore: *Pearson Education Limited.*
- Gupta, A., & Banga, C. (2010). The Determinants of Dividend policy. *IIMC*, 63-77.
- Hossain, M. F., Sheikh, R., & Akterujjaman, S. M. (n.d.). Impact of Firm Specific Factors on Cash Dividend Payment Decisions: Evidence from Bangladesh. *International Review of Business Research Papers.*
- Investopedia. (n.d.). *Financial Leverage*. Retrieved March 14, 2019, from www.investopedia.com: <https://www.investopedia.com/walkthrough/corporate-finance/5/capital-structure/financial-leverage.aspx>
- Karpavicius, S., & Yu, F. (2018, March). Dividend premium: Are dividend-paying stocks worth more? *International Review of Financial Analysis*, 56, 112-126.
- Kenton, W. (2019,). Profitability Ratios Definition. Retrieved March 14, 2019, from www.investopedia.com: <https://www.investopedia.com/terms/p/profitabilityratios.asp>
- Khan, M. Y. (2004). *Financial Management: Text, Problems And Cases* (4th ed.). New Delhi, India: *Tata McGraw-Hill Education .*
- McCabe, M. (1979). The Empirical relationship between Investment and Financing: A New Look. *Journal of Financial and Quantitative Analysis.*
- Rizqia, D. A., S. A., & Sumiati. (2013). Effect of Managerial Ownership, Financial Leverage, Profitability, Firm Size, and Investment Opportunity on Dividend Policy and Firm Value. *Research Journal of Finance and Accounting.*
- Rose, P. S., & Hudgins, S. C. (2007-08). *Bank management & Financial Services*. New York: *McGraw Hill.*

Rozeff, M. S. (1982). Growth, beta and agency cost as determinants of Dividend Payout Ratio. *Journal of Financial Research*, 249-259.

Wohlner, R. (2017, May 4). Liquidity Measurement Ratios. Retrieved March 14, 2019, from www.investopedia.com:
<https://www.investopedia.com/university/ratios/liquidity-measurement/>

Appendices

Table A-1: Dataset (Manufacturing Firms) for the Period of 2011-2017

Company name	Year	DIV(%)	CFO (million)	DER	ROI (%)
Confidence Cement	2011	20	84.44	0.02	9.07
	2012	20	-54.4	0.03	13.63
	2013	27.5	377.65	0.60	15.12
	2014	25	-95.45	0.76	10.88
	2015	27.5	569.52	0.79	10.88
	2016	10	353.13	0.88	21.53
	2017	15	420.71	1.04	13.59
Apex Spinning	2011	18	54.58	1.64	1.6
	2012	18	151.92	1.85	1.56
	2013	20	21.01	1.72	1.65
	2014	20	-15.07	2.27	1.69
	2015	22	211.68	2.36	1.97
	2016	20	119.52	1.98	1.74
	2017	20	-88.62	2.17	1.67
Square Pharma	2011	25	3645.01	0.31	13.39
	2012	25	5299.64	0.27	14.41
	2013	30	6416.14	0.21	15
	2014	30	6996.22	0.13	17.02
	2015	40	10009.37	0.12	19.17
	2016	35	9542.48	0.71	20.8
	2017	36	10007.01	0.60	15.18
Bata shoe	2011	25	678.74	1.27	14
	2012	27.5	482.19	1.14	15
	2013	30	563.48	1.04	16
	2014	28	644.06	0.81	15
	2015	32	591.88	0.76	17

	2016	33	1076.48	0.84	16
	2017	33.5	839.29	0.83	16
GPH Ispat	2011	10	14.68	2.14	4.89
	2012	15	1103.06	1.68	5.09
	2013	15	329.02	2.02	4.77
	2014	17	-77.48	1.93	4.87
	2015	12	-545.57	1.13	2.81
	2016	5	1193.04	1.56	4.44
	2017	0	365.48	3.10	2.84
Linde Bangladesh Ltd	2011	250	526.09	0.00	32
	2012	310	483.59	0.00	22
	2013	310	835.71	0.00	30
	2014	310	748.72	0.00	24
	2015	310	1021.62	0.00	24
	2016	310	1113.59	0.00	28
	2017	340	1158.45	0.00	26
Beach Hatchery Limited	2011	0	12.19	0.10	7.45
	2012	0	12.99	0.02	8.18
	2013	0	14.63	0.02	7.91
	2014	0	29.96	0.11	7.81
	2015	0	0.87	0.12	-4.17
	2016	0	0.87	0.13	-4.69
	2017	0	-0.29	0.14	-3.1
Northern Jute	2011	0	-6.4	9.40	-9.07
	2012	0	-38.78	-16.64	-14.29
	2013	0	-0.25	-6.55	-9.87
	2014	5	-20.75	1.40	0.91
	2015	20	8.68	1.21	1.59
	2016	5	-103.68	1.89	0.29
	2017	20	-61.94	2.63	1.55

Source: Annual Reports of Sample Firms

Table A-2: Dataset (Non-manufacturing Firms) for the Period of 2011-2017

Company name	Year	DIV(%)	CFO (million)	DER	ROI (%)
Aamra Technologies Limited	2011-12	10	164.01	1.21	4.18
	2012-13	0	195.47	1.11	2.7
	2013-14	5	34.25	0.48	4.5
	2014-15	10	32.61	0.52	4.76
	2015-16	10	-52.01	0.64	4.67
	2016-17	10	289.81	0.57	4.27
	2017-18	10	118.07	0.56	4.28
NCC Bank	2011-12	10	1317.27	7.92	13.99
	2012-13	0	3809.83	9.36	9.05
	2013-14	6	3101.37	8.35	11.04
	2014-15	0	1738.73	8.54	11.5
	2015-16	12.75	2506.76	8.41	11.25
	2016-17	16	4311.7	9.5	8.67
	2017-18	13	1639.48	10.85	6
Prime Finance	2011-12	0	15.14	2.22	7.81
	2012-13	0	126.77	2.13	3.1
	2013-14	15	-97.53	2.3	3.13
	2014-15	12.5	27.22	2.47	3.2
	2015-16	0	160.59	4.24	-2.59
	2016-17	0	-1093.13	4.26	-5.72
	2017-18	0	511.93	4.47	2.94
Samorita Hospital	2011-12	0	54.55	0.59	8.39
	2012-13	0	58.48	0.11	3.94
	2013-14	20	64.07	0.12	3.95
	2014-15	20	62.72	0.19	3.86
	2015-16	10	58.17	0.18	3.42
	2016-17	10	58.18	0.18	3.42
	2017-18	12	72.66	0.18	3.77
Grameenphone	2011-12	205	40192.76	0.13	17

	2012-13	140	30022.59	0.16	15
	2013-14	140	37081.1	0.55	12
	2014-15	160	31255.47	0.95	15
	2015-16	140	38791.15	0.8	15
	2016-17	175	46151.5	0.56	17
	2017-18	205	57783.34	0.4	21
BRAC Bank	2011-12	0	5860.86	12.87	11.41
	2012-13	0	19855.24	16.1	3.44
	2013-14	10	-5679.86	14.12	5.7
	2014-15	20	9678.08	10.52	7.15
	2015-16	25	-2915.73	10.93	6.13
	2016-17	10	9767.25	10.59	9.2
	2017-18	0	21374.36	10.14	9.14
Summit Alliance Port Limited	2011-12	20	216.67	0.003	3.21
	2012-13	20	126.76	0.003	3.15
	2013-14	15	213.57	0.06	2.68
	2014-15	15	312	0.07	1.63
	2015-16	10	107.11	0.54	2.01
	2016-17	15	381.68	0.4	3.15
	2017-18	12.5	238.32	0.44	1.72
IPDC	2011-12	10	260.86	0.26	1.72
	2012-13	10	-466.72	0.23	1.85
	2013-14	15	342.53	0.2	1.91
	2014-15	15	-15.66	0.17	2.14
	2015-16	20	122.24	0.09	3.01
	2016-17	20	1133.21	0.41	2
	2017-18	20	409.65	1.35	1.1

Source: Annual Reports of Sample Firms

Table A-3: Nomenclature

Symbol	Description
DIV	Dividend per share (%)
CFO	Cash flow from operation
DER	Debt/Equity ratio
ROI	Return on Investment

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A Study on Climate Change: Its Effects in Bangladesh and Measures to Reduce Those

Colonel Humayun Quyum, afwc, psc

Abstract

The earth's climate is gradually changing due to many natural and man-made reasons. These changes are resulting changes in weather conditions also. Scientists have identified that among these changes increasing in world's temperature is the most dangerous one and causing rapid global warming. Human economic activities, excess production of Carbon dioxide gas, Greenhouse effect, deforestation and various natural reasons are seen as the principle contributor to earth's climatic changes. The world has recognized the threats associated with the climate change and its effect on the earth's atmosphere as well as on the people. Accordingly, different measures are planned and taken to increase awareness among the different nations of the world. A number of agreements have been made by the world leaders to minimize the effects of rising temperature caused by the human, where most of the developed and developing countries agreed to work in harmony in order to reduce the effect of climate changes.

Keywords: Climate change, Climatic Impacts, Global Warming, Greenhouse effect, Renewable Energy.

1. Introduction

The earth is facing change in its climate in a steady pace. These changes are causing the changes in weather conditions of different places of the world. Among these changes increasing in world's average temperature is the most alarming one. Change in climate is caused by both natural reasons and also because of the human activities. A large number of gases are produced by different human activities which are contributing in creating greenhouse effect. This effect causes the earth's temperature to be trapped and thus increasing the existing temperature. Greenhouse effect is mostly caused by Carbon Dioxide that is emitted mostly because burning of fossil fuel and because of deforestation.

Bangladesh is one of the largest deltas in the world which is highly vulnerable to natural disasters because of its geographical location, flat and low-lying landscape, population density, poverty, illiteracy, lack of institutional setup etc. in other words, the physical,

social as well as economic conditions of Bangladesh are very typical to any of the most vulnerable countries to natural disasters in the world. the total land area is 147,570 sq. km. consists mostly of floodplains (almost 80%) leaving major part of the country (with the exception of the north-western highlands) prone to flooding during the rainy season. moreover, the adverse effects of climate change – especially high temperature, sea-level rise, cyclones and storm surges, salinity intrusion, heavy monsoon downpours, temperature rise, increased evaporation etc. has aggravated the overall economic development scenario of the country to a great extent.

Already the world community has acknowledged the threats of climate change to the earth's atmosphere as well as on the peoples. Accordingly steps are taken to increase awareness among the leaders of the world. A number of agreements are made to minimize the increase of temperature caused by the human where most of the developed and developing countries agreed to work in harmony to save our beloved planet. Bangladesh has also under taken number of self-funded projects to minimize the effect on climate.

2. Definitions

2.1 Climate Change: Climate change is identified as an average weather condition of an area characterized by its own internal dynamics and by changing in external factors that affect climate. United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as the change resulting from long term direct and indirect activities that induces changes in the compared time which are much more than the natural change. On the other hand, the weather is a set of all the phenomena occurring in a given atmosphere at a given time.

2.2 Greenhouse Effect: The greenhouse effect is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature above what it would be without its atmosphere.¹

2.3 Weather VS Climate: Scientists make it a point to carefully illustrate the difference between these two terms. The main difference between the two is temporal. Weather is the condition of the atmosphere of a particular area over a relatively short period of time, whereas the climate of the area is the record of the atmosphere for over 30 years or so.

¹"Annex II Glossary". Intergovernmental Panel on Climate Change. Retrieved 15 October 2010.

2.4 Global Warming VS Climate Change: A recent study conducted in Greenland by a group of scientists showed that various areas of the country was getting colder. Global warming pessimists would love to jump to the conclusion that the Earth is not getting warmer. However, that is untrue and this where the distinction between global warming and climate change comes into play. While global warming is a way of simply saying that the average global temperature is rising, climate change takes into account other factors such as the melting of glaciers, frequent droughts, change in the time that trees flower, and so on. As such, global warming is just another result of anthropogenic climate change.

2.5 Renewable Energy: Renewable energy is the form of energy that is collected from sources such as sunlight, wind, rain, tides, geothermal heat, and so on. They are called renewable resources because they are replenished fairly quickly and during a person's lifetime.

2.6 Green Audit: While green audit is not something that is very common in Bangladesh, it is quite common in countries like the United States and Canada. This is a process by which businesses or corporations are evaluated on the basis of their impact on the environment. It is used to determine whether the products that companies are selling and the method of production they are employing are both environmentally friendly. Consumers are, thus, given a choice on whether or not they want to support companies that are harming the environment, for instance.

2.7 Carbon Footprint: Carbon dioxide is the largest contributor of greenhouse gases that cause global warming. Almost all forms of human activities result in the emission of carbon dioxide. Carbon footprint, therefore, is the term used to express the sum of all carbon dioxide emission by a person or a firm. It is usually measured in tons depending upon the amount of fuel used by the individual and is calculated for the time period of a year.

2.8 Emission Trading: Emissions trading are a market-based approach to controlling pollution by providing economic incentives for achieving reductions in the emissions of pollutants². This approach is a flexible environmental regulation that allows organizations

²Stavins, Robert N. (November 2001). "Experience with Market-Based Environmental Policy Instruments" (PDF). Discussion Paper 01-58. Washington, D.C.: Resources for the Future. Retrieved 2010-05-20.

to decide how best to meet policy targets. Various countries, states and groups of companies have adopted such trading systems, notably for mitigating climate change³.

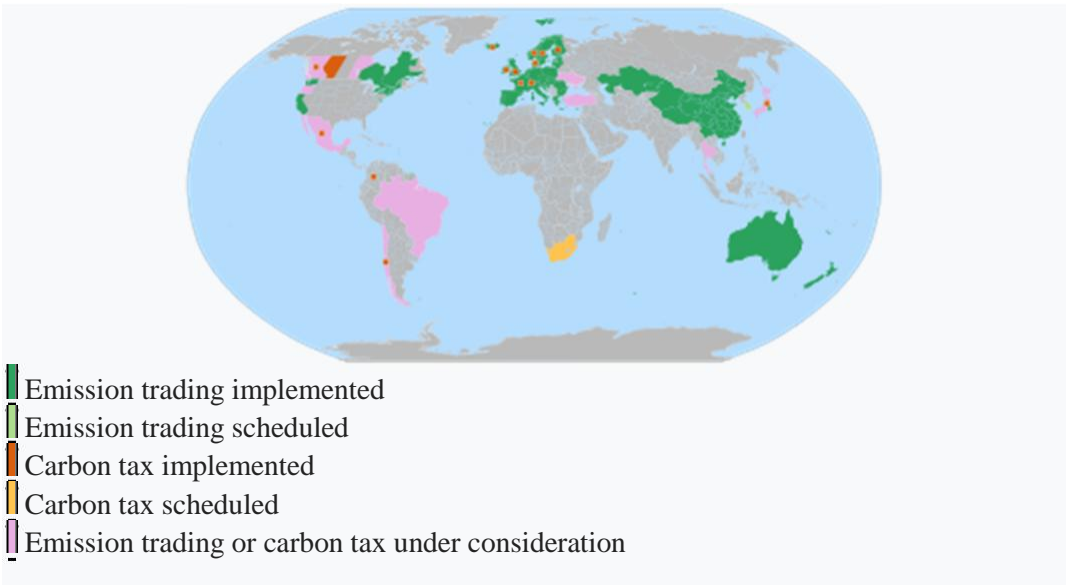


Figure 1: Carbon emission trading and carbon tax around the world

2.9 Carbon Tax: A carbon tax is a tax levied on the carbon content of fuels⁴. It is a form of carbon pricing. Revenue obtained via the tax is however not always used to compensate the carbon emissions on which the tax is levied. Carbon is present in every hydrocarbon fuel (coal, petroleum, and natural gas) and converted to carbon dioxide (CO₂) and other products when combusted. In contrast, non-combustion energy sources—wind, sunlight, geothermal, hydropower, and nuclear—do not convert hydrocarbons to CO₂. CO₂ is a heat-trapping "greenhouse" gas which represents a negative externality on the climate system (see scientific opinion on global warming)⁵. Since greenhouse gas emissions caused by the combustion of fossil fuels are closely related to the carbon content of the respective fuels, a tax on these emissions can be levied by taxing the carbon content of fossil fuels at any point in the product cycle of the fuel.

³"Tax Treaty Issues Related to Emissions Permits/Credits" (PDF). OECD. Retrieved 25 Oct 2014.

⁴Hoeller, P.; M. Wallin (1991). OECD Economic Studies No. 17, Autumn 1991. Energy Prices, Taxes and Carbon Monoxide Emissions (PDF). OECD website. p. 92. Retrieved 2010-04-23.

⁵Staudt, A.; et al. (2008). "Understanding and Responding to Climate Change" (PDF). U.S. National Academy of Sciences. Retrieved 2010-11-09.

2.10 Carbon Negative: Carbon negativity is the reduction of an entity’s carbon footprint to less than neutral, so that the entity in question has a net effect of removing carbon dioxide from the atmosphere rather than adding it. Carbon-negative status can be achieved by a number of means, including greater carbon sequestration and obtaining carbon offsets from a third party, as well as engaging in activities that directly reduce that amount of carbon dioxide in the atmosphere. Such activities include planting trees, generating green energy and improving energy efficiency⁶.

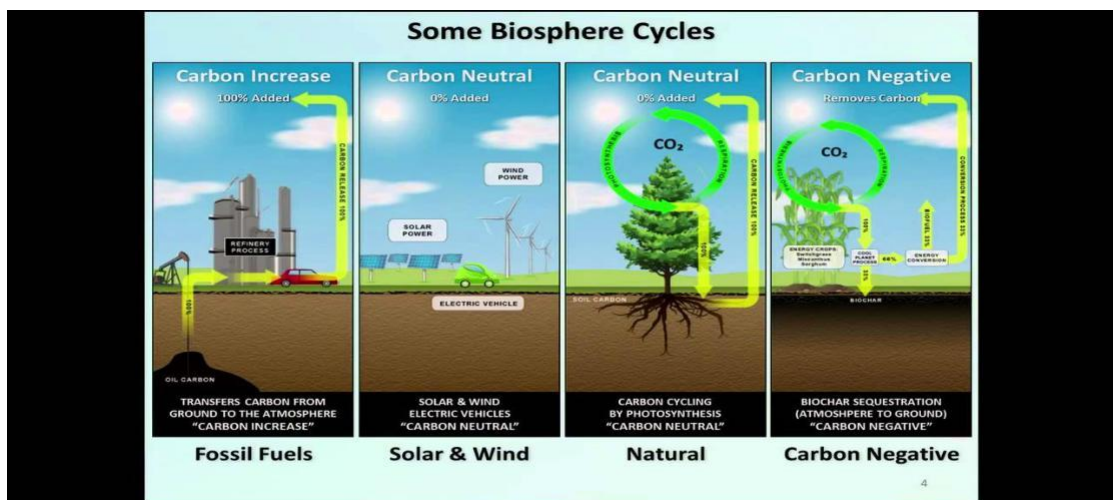


Figure 2: Climate change in general

3. Likely Effects of Climate Change In Bangladesh

3.1 Climatic Impacts: Bangladesh experiences different types of natural disasters almost every year because of the global warming as well as climate change impacts, these are:

- Floods / Flash Floods (Almost 80% of the total area of the country is prone to flooding).⁷
- Cyclones and Storm Surges (South and South-eastern Parts of the country were hit by Tropical Cyclones during the last few years).

⁶ <https://whatis.techtarget.com/definition/carbon-negative>

⁷ <http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>

- c. Salinity Intrusion (Almost the whole Coastal Belt along the Bay of Bengal is experiencing Salinity problem).
- d. Extreme Temperature and Drought (North and North-western regions of the country are suffering because of the Extreme Temperature problem).

3.2 Agriculture and Fisheries: The economy of Bangladesh is based on agriculture mainly, with two thirds of the population engaged on agricultural activities. The country is trying to move towards industrialization slowly during the last one and a half decade. So, the overall impact of climate change on agricultural production in Bangladesh would be wide spread and devastating for the country's economy. Beside this, other impacts of climate change such as - extreme temperature, drought, and salinity intrusion etc. are also responsible for the declining crop yields in Bangladesh. Temperature and rainfall changes have already affected crop production in many parts of the country and the area of cultivable land has decreased to a great extent. the salinity intrusion in the coastal area is creating a serious implication for the coastal land that was traditionally used for rice production. the fisheries sector has also experienced an adverse effect because of the impacts of climate change. The fisheries sector contributes about 3.5% of the GDP in Bangladesh and people depend on fish products in order to meet up majority of their daily protein requirements. There are around 260 species of fish in the country and almost all the varieties are sensitive to specific salt and freshwater conditions.

3.3 Effects on Coastal Areas: Almost one fourth of the total population of the country live in the coastal areas of Bangladesh, where majority of the population are affected directly or indirectly by coastal floods/tidal surges, river-bank erosion, salinity, tropical cyclones etc. With the rise of sea-level up to one meter only, Bangladesh could lose up to 15% of its land area under the Sea water and around 30 million people living in the coastal areas of Bangladesh can become climate refugees ⁸. Agriculture, industry, infrastructure, livelihoods, marine resources, forestry, biodiversity, human health and other utility services will suffer severely because of the same.

3.4 Forestry: Bangladesh has a wide diversity of ecosystems including mangrove forests at the extreme south of the country. The "Sundarbans" a world heritage, is the largest mangrove forest in the world, comprising 577, 00 ha of land area along the Bay of Bengal. a total of 425 species have been identified there, the most significant is the famous Royal Bengal Tiger. Therefore, climate change impacts will have negative effects

⁸<http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>

on the ecosystem of the forest recourses in Bangladesh while the Sundarbans is likely to suffer the most.

3.5 Urban Areas along the Coast: Cities and towns situated along the coastal belt in Bangladesh are at the front line of climate change related disaster impacts and could experience a severe damage directly because of the sea level rise and storm surges. Direct impacts may occur through the increased floods, drainage congestion and water logging as well as infrastructure damage during extreme events. The important urban sectors that suffered severely by the previous floods in Bangladesh include urban infrastructure, industry, trade, commerce and utility services. as consequence, it hampered usual productivity during and after major floods and hence increased the vulnerability of the urban poor by many folds. it should be mentioned here that, around 40 per cent of the urban population in Bangladesh lives in the slum and squatter settlements of the major cities which are highly prone to disaster risk during flooding further⁹.

3.6 Impact on Economy: Environmental degradation has negative impact on economy of a developing country like Bangladesh. For example, according to an estimate of the United Nations Disaster Management Team (UNDMT), the total production loss of paddy may increase to the level of 2 million metric ton or more because of a large number of farmer will not be able to go for Aman cultivation (due to flood). Taking into account the 2.9 million metric ton normal food deficit forecast by the UNDMT at the beginning of fiscal year 1998-99, the total food deficit may stand at over 4 million metric tons due to flood¹⁰. Due to sea level raise the costal ecosystem would be lost which would threaten fishing resources. Much of Bangladesh beaches could be lost causing severe economic and social disruption. Scientist also say that the rapid depletion of the ozone layer, now thinning fast over the large parts of the world would greatly threaten fish stocks and agricultural crops.

3.7 Health Hazard: Our good heath is threatened in two major ways, first by the environmental diseases associated with poverty and underdevelopment, second, a vicious cycle is set in motion – poor health, often caused by adverse environmental conditions. The people who are most vulnerable to environmental hazards are those least able to avoid them or least able to cope with the illness or injury. Infants and young children are at greater risk of dying from many environmental related diseases than older children or

⁹ <http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>

¹⁰ Non-Military Security by RumanaSamiruddin, P.90

adults for instance diarrhea, malaria, and pneumonia or measles etc. A poor physical environment can also inhibit or damage a child's physical and mental development.

3.8 Security Threat: In the closing years of 20th century, environment security has emerged, alongside economic and military security, as the third pillar in international relations. Extensive deforestation, desertification, salination, water scarcity etc are no longer seen as local, state or even regional problems, but have broader international ramifications; for they undermine the economic base and social fabric of weak and poor states by generating or exacerbating inter-state tensions and conflicts. Many of the problems may be localized in their effects, but their causes often lie far beyond national borders. Degradation of environment may, thus, constitute the gravest danger to national security in contemporary times.

3.9 Impacts on Tourism: A significant part of Bangladesh coast is sandy beaches that attract tourists. Kuakata beach in Patuakhali district, Patenga beach in Chittagong district and Cox's Bazar beach in Cox's Bazar district are attractive tourist areas of the country. Cox's Bazar sea beach is the world's largest unbroken sandy beach having a length of 145 km, attracting the tourists of home and abroad. A study of Bangladesh Parjatan Corporation (BPC) suggests that 19 per cent of foreigners visiting Bangladesh are tourists. BPC has seven motels in Cox's Bazar and one motel in Chittagong and Khulna district each. Besides BPC establishments, private owned hotel, motel, guest house or other mode of tourist accommodations would be around 500 in the same areas. All the tourist facilities in the coastal zone will be affected by sea level rise directly or indirectly. Sea level rise, by affecting this promising sector will affect the national economy and heritage of Bangladesh.

3.10 Rising salinity threatens Sundarban: Decreasing flow of water through the rivers from upstream is destroying the ecosystem of Sundarban. Experts from home and abroad observed that alarming decrease in water flow down the rivers caused high salinity in both water and soil of Sundarban, causing a massive change in faunal composition of the forest. Sundarban, which lies across the outer deltas of the Ganges, Brahmaputra and Meghna rivers, is the largest mangrove forest in the world. The number of timber producing big trees such as Sundari is decreasing at the proportionate rate at the increase of salinity. The latest report of World Conservation Monitoring warned that a long-term ecological change is taking place in Sundarban due to the eastward migration of the Ganges, abandonment of some distributaries and past diversion of water and withdrawals for irrigation.

3.11 Predictive Changes of Climate in Bangladesh: Following are some of the predictions about climate change in Bangladesh:

- a. Average increase in temperature in Bangladesh would be 1.3°C in 2030 and 2.6°C for the year 2070.
- b. Monsoon rainfall may increase by 11% and 27% by the year 2030 and 2070, respectively.
- c. By 2030, an additional 14.3% of the country would become extremely vulnerable to floods, while existing flood-prone areas will face increasing flooding.
- d. One meter rise in sea level will directly affect 11% people and virtually will force to lose the Sundarbans.

4. Steps Taken to Restrict the Effects

4.1 The Paris Agreement: The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions mitigation, adaptation, and finance, starting in the year 2020¹¹. The agreement's language was negotiated by representatives of 196 state parties at the 21st Conference of the Parties of the UNFCCC in Le Bourget, near Paris, France, and adopted by consensus on 12 December 2015.¹² As of November 2018, 195 UNFCCC members have signed the agreement, and 184 have become party to it. The Paris Agreement's long-term goal is to keep the increase in global average temperature to well below 2 °C above pre-industrial levels; and to limit the increase to 1.5 °C, since this would substantially reduce the risks and effects of climate change.

4.2 The Kyoto Protocol: The Kyoto Protocol is an international treaty which extends the 1992 UNFCCC that commits state parties to reduce greenhouse gas emissions, based on the scientific consensus that (part one) global warming is occurring and (part two) it is extremely likely that human-made CO₂ emissions have predominantly caused it¹³. The Kyoto Protocol was adopted in Kyoto, Japan on 11 December 1997 and entered into force on 16 February 2005. There are currently 192 parties¹⁴ to the Protocol. The Kyoto

¹¹https://en.wikipedia.org/wiki/Paris_Agreement

¹²Sutter, John D.; Berlinger, Joshua (12 December 2015). "Final draft of climate deal formally accepted in Paris". CNN. Cable News Network, Turner Broadcasting System, Inc. Retrieved 12 December 2015.

¹³https://en.wikipedia.org/wiki/Kyoto_Protocol#cite_note-UNlist-4

¹⁴Kyoto Protocol to the United Nations Framework Convention on Climate Change". UN Treaty Database. Retrieved 27 November 2014.

Protocol implemented the objective of the UNFCCC to reduce the onset of global warming by reducing greenhouse gas concentrations in the atmosphere to "a level that would prevent dangerous anthropogenic interference with the climate system" (Article 2). The Kyoto Protocol applies to the six greenhouse gases listed in Annex A: Carbon dioxide, Methane, Nitrous oxide, Hydrofluorocarbons, Perfluorocarbons and Sulphur hexafluoride.¹⁵

4.3 Mitigating and Adapting to Climate Change: World Bank-supported initiatives have resulted in a range of outcomes¹⁶, such as:

- a. Build 320 solar irrigation pumps benefiting 8,000 farmers.
- b. Support 17,500-hectare block plantations and 2,000-kilometer strip plantations from flooding and saline intrusion.
- c. Provide basic adaptive services for 40,000 families.
- d. Offer trainings on alternative livelihoods for 6,000 poor households in 200 communities.
- e. Construct 224 new cyclone shelters and repair 387 kilometers of embankment.
- f. Publish research analyzing impact of climate change in urban areas.
- g. Provide 3.95 million remote households and rural shops with solar home systems, which increased access to electricity Install seven mini-grids to provide continuous electricity to 2,000 rural businesses and shops.
- h. Distribute clean, energy-efficient cook stoves to 750,000 rural women.
- j. Improve the availability of energy through electricity transfers in the Haripur, Siddhirganj and Narayanganj regions.

4.4 Greater Use of Renewable Energy: Based on REN21's 2017 report, renewables contributed 19.3% to humans' global energy consumption and 24.5% to their generation of electricity in 2015 and 2016, respectively. This energy consumption is divided as 8.9% coming from traditional biomass, 4.2% as heat energy, 3.9% hydroelectricity and 2.2% is electricity from wind, solar, geothermal, and biomass. Worldwide investments in renewable technologies amounted to more than US\$286 billion in 2015, with countries such as China and the United States heavily investing in wind, hydro, solar and

¹⁵ Report Of The Conference Of The Parties On Its Third Session, Held At Kyoto From 1 To 11 December 1997 <https://unfccc.int/resource/docs/cop3/07a01.pdf#page=28>

¹⁶ <http://www.worldbank.org/en/results/2016/10/07/bangladesh-building-resilience-to-climate-change>

biofuels.¹⁷ Globally, there are an estimated 7.7 million jobs associated with the renewable energy industries, with solar photovoltaics being the largest renewable employer.¹⁸ India also has plans to generate electricity from renewables. The aim is to install 175 gigawatts of renewable capacity by 2022. With the sharp downturn in renewables like wind and solar, it may be possible to generate electricity from solar and wind at Rs 3.00 per kilowatt hour.¹⁹

4.5 Landscape Restoration and Reforestation: The landscape restoration is defined as a planned process that aims to regain ecological integrity and enhance human well-being in deforested or degraded forest landscapes. The idea isn't just to plant new trees, but to rebuild successful complete ecosystems within large-scale areas, not just small individual sites. Restoration aims to improve water quality, re-habituate species to their original homes and stabilize healthier soil.

4.6 Bangladesh Climate Change Strategy and Action Plan (BCCSAP): In 2009 Bangladesh developed and released the BCCSAP²⁰ which was the first of its kind at that time. It was a remarkable document for a number of reasons. Firstly, it was developed entirely by Bangladeshi experts with Bangladesh government's own funds. Secondly, it was developed following an elaborate consultation with a wide variety of stakeholders from different groups as well as from grassroots people around the country. Thirdly, it was actually implemented with funding support from the Bangladesh Climate Change Trust Fund (BCCTF) that was set up by the government of Bangladesh with its own money. The government has been allocating approximately USD 100 million equivalent in Bangladeshi taka each year since then to fund actions identified in the BCCSAP. Ten percent of the money was allocated to civil society groups for community-based adaptation activities, while the remaining 90 percent was given to a wide variety of government ministries and departments that had to submit projects identified in the BCCSAP.

4.7 Bangladesh Delta Plan 2100: Bangladesh is considered to be extremely vulnerable to the impacts of climate change. In an attempt to provide safety and security for people living in low-lying coastal regions against cyclones, tidal surges and flooding, the government has taken various measures over the last few decades, which included

¹⁷ REN21, Global Status Report 2016. Retrieved 8th June 2016.

¹⁸ IRENA, Renewable energy and jobs, Annual review 2015, IRENA.

¹⁹ <https://www.thedailystar.net/opinion/no-frills/news/moving-away-coal-isnt-easy-1650493>

²⁰ <http://www.iccdad.net/updates-bangladeshs-climate-change-strategy-and-action-plan/>

building 139 polders. Despite having polders, Bangladesh is facing adverse hydro-meteorological shocks, including inundation of coastal plains due to the high rate of sea-level rise as compared to the global trends, salinity ingress, water-logging, reduction in cropland and crop yield, siltation of riverbeds, and impact on human health. In this backdrop, it is imperative to formulate a long term strategic plan to protect the delta and its environment. Proper land and water management is central to the country's sustained economic development and protection of its environment. Recently, a large consortium, has signed a contract for the development of the Delta Plan for Bangladesh 2100 (BDP2100), which is designed to formulate a long-term delta governance. Only the Netherlands has drawn up such a long-term plan and Bangladesh is the second country in the world to do so.²¹

5. Suggested Measures to Minimize the Effects

5.1 Awareness Raising and Dissemination: Raising awareness among vulnerable communities, agencies, professionals and practitioners at different levels of activity is an important way forward. At the most basic level, there is a need for increased awareness of the general public of Bangladesh regarding climate change, its causes, the risks it poses to life and property, measures for reducing the risks, and the benefits of different courses of action.

5.2 Wide Range Integration: Integrated planning is identified as one of the key adaptations to reduce Bangladesh's vulnerability to climate change. This holds in particular for the coastal zone and fresh water resources. Community participation on different levels and effective strengthening of local management organizations are essential parts of integrated planning. Following actions may be done:

- a. Support and continue to improve structures and procedures for Integrated Water Resources. Thorough integrated management the different sectorial interests can be coordinated and links can be made to land use and environmental planning and management.
- b. Strengthening of integrated coastal zone management (ICZM) which aims at optimal use of the combined potential of all coastal resources.

5.3 Adaptation and Capacity Building: Low awareness of the long-term changes and lack of capacity and mechanisms to respond to them, contributes considerably to the country's vulnerability to climate change. Adaptation to long-term changes would require

²¹<https://www.thedailystar.net/opinion/politics-climate-change/news/aligning-climate-plans-greater-impact-1691281>

a change in attitude and strategic institutional arrangements, for example in terms of integrated planning and management.

5.4 Empowering Local Government: Various departments of the local government should be proactive to enforce their authority to ensure that the environment is not polluted. Any breach of the environmental law by any person or organization should be taken care of by the local government. A concerted effort by all the stakeholders of the government may help to face the climate change issues.

5.5 Information Management: Policy and development planning depends on accessible accurate information and on coordinated research and evaluation. The information needed are as follows:

- a. Research, analysis and data provision about climate change.
- b. Prepare practical guidelines on including climate change issues in planning and design.
- c. Climate change impact assessment.
- d. Awareness building and dissemination.

5.6 Collective Regional Response: An integrated and coherent plan preserving interest of all the regional countries is necessary to mitigate the climate change issues. Sharing of knowledge base, expertise, equipment etc should be a regular phenomenon among the friendly countries of the region. Honorable Prime Minister of Bangladesh during her latest visit to China raised the issue and urges upon to play important role against the adverse effect of climate change.

5.7 Intergovernmental Coordination: Due to the impacts of climate change, greater intercommunication between ministries and government agencies for both implementation and integration of national adaptation planning should be considered. Climate change adaptation program should, therefore, be considered for all development projects undertaken by different ministries of the Government.

5.8 Government- NGO Collaboration: A network of environment and development NGOs need to be formed. The Government should consider their input into the policy formulation, training, project mobilization and fund facilitation processes by developing formal Government – NGO collaboration system. This also can develop expertise to strengthen the private sector to invest in climate related activities.

5.9 Introduction of Carbon Tax and Emission Treading: As industrialization is a continuous process for a developing or a developed country emission of carbon cannot be stopped completely. In this circumstances carbon tax and emission trading can be introduced. Most countries these days acknowledge environment protection and climate change as an urgent priority. Several countries have taken concrete action. One of the most common instruments adopted is a carbon tax.²² An alternative instrument to carbon tax is the use of emission trading systems (ETS) whereby the government fixes the total volume of emission for each type of polluting industry and allocates these pollution rights to industries through an auction system. The government of Bangladesh may introduce such system to control carbon emission.

5.10 Protect and Restore Key Ecosystems: Respect for nature is fundamental. Bangladesh Government must protect ecosystems key to the fight against climate change: rivers, wetlands, oceans, forests and mangroves absorb large quantities of carbon, slowing warming. Mangroves also serve as a barrier against tropical storms, and wetlands absorb excess water from floods, both extreme weather events exacerbated by climate change.

5.11 Promote Green Energy: Reducing the amount of electricity generated from coal and gas, and increasing the amount of electricity from clean, renewable energy sources like solar and wind, means less carbon pollution is emitted. This is one of the main ways we can address global warming. Thirty-five percent of all global emissions come from energy production. But as countries bet on more development, they're also betting on more energy production. While thermoelectric and hydroelectric energies were long considered the cheapest options, technological developments have allowed us to find better, cheaper, more efficient alternatives. With proper long-term planning, Bangladesh can avoid old climate-aggravating energy sources and opt for small wind, solar, geothermal, oceanic and other projects that adapt to a place's unique characteristics.

5.12 Direct Air Capture (DAC): The technique that is currently used to remove carbon dioxide from the atmosphere independent of its source is known as Direct Air Capture (DAC). Within the context of DAC, carbon dioxide is sucked out of the ambient air with a giant network of fans. Once carbon dioxide is trapped, it is liquefied and transported through pipelines and stored underground, often in natural reservoirs like depleted oil wells that can hold the gas for millions of years. There is also growing interest in storing the liquid carbon dioxide in saline aquifers due to their enormous storage capacity.

²²<https://www.thedailystar.net/business/news/its-time-seriously-consider-carbon-tax-bangladesh-1650505>

Government of Bangladesh can establish such infrastructure near the industrial areas to reduce carbon dioxide in the atmosphere.

5.13 Carbon Capture and Storage (CCS) Technology: Zero or near-zero emission of carbon dioxide could be achieved by using the Carbon Capture and Storage (CCS) technology. The process is similar to DAC technology except that CCS traps carbon dioxide from the exhaust stream of power plants, thereby preventing it from entering the atmosphere. There are a handful of coal-fired power plants around the world that are using the CCS technology. The largest such plant, Petra Nova in Texas, captures around 5,000 tons of carbon dioxide per day from its exhaust. That is about 90 percent²³ of all the carbon dioxide the plant produces. Brick fields in Bangladesh can use this technology in order to reduce air pollution.

5.14 Bioenergy with Carbon Capture and Sequestration (BECCS): Another zero-emission technique is known as Bioenergy with Carbon Capture and Sequestration (BECCS). It involves growing crops, burning them to generate electricity, capturing the carbon dioxide emitted during combustion and storing it deep down into the Earth's crust. Eventually, over the course of millennia, it is converted into carbonate rocks. Clearly, BECCS obviates the need to extract fossil fuels, thus closing the carbon loop and enabling carbon neutrality by replacing fossil fuel with crops. There are about two dozen BECCS pilot projects operated by multi-national companies like Shell, Chevron and Archer Daniels Midland (ADM). Since 2011, ADM has been sequestering about a million tons of carbon dioxide per year²⁴. Large industrial groups like BEXIMCO, AKIZ and RAK in Bangladesh can use this technique with the aim of reducing carbon emission.

5.15 Recycling of Carbon Dioxide: At Sandia National Laboratories in Albuquerque, New Mexico, scientists are working on applying concentrated sunlight to the captured carbon dioxide to initiate reactions that yield carbon monoxide, hydrogen and oxygen. Because carbon monoxide and hydrogen are the basic chemical building blocks of synthetic fuels, they call this process “sunshine to petrol”. Indeed, researchers have demonstrated that 75 percent of the carbon dioxide captured from the air can be converted into methanol. This shows that the main culprit of global warming can be recycled into useful products. Moreover, production of these carbon-recycled products

²³ <https://www.thedailystar.net/opinion/environment/news/discoveries-can-clean-carbon-dioxide-the-atmosphere-1666441>

²⁴ *Ibid*

would be carbon neutral or carbon negative.²⁵ At present Bangladesh has number of pharmaceutical industries who all can be tasked to find out similar technology to recycle greenhouse gases.

5.16 Considering Policies for Cities: Three urban policies may be considered by Bangladesh for cities to be an efficient defense against climate change²⁶:

a. A city's growth must take into consideration the ecology of the place. Altering the fundamental geography of a place in the name of development would mean tampering with nature's balance which is essential for a place's continued ecological harmony. Consider Chittagong. Rampant hill-cutting in the port city changes its land form, exposing it to natural calamities caused by climatic abnormalities. River-filling in Dhaka would mean fewer drainage arteries for the snow-melted water that descends from the Himalayan plateau and passes through the flat Bengal delta.

b. Cities must be compact, so that they can foster walk able communities and a culture of smaller carbon footprints. Compact cities are served well by a mass transit system, reducing the need for personal cars and carbon emissions from them. A compact metropolis with an urban growth boundary stops sprawl, generates fewer heat-producing surfaces, and preserves carbon-reducing agricultural fields. Lest we forget, buildings and transportation together account for 37 percent of global carbon emissions. A perpetually expanding city, with its built-up area and dependence on personal transportation, is basically a heat island and a carbon factory. Urban compactness has become one of the essential mantras of sustainable urbanism and an efficient strategy against global warming.

c. Implementation of environmental laws should be an unflinching urbanization policy to ensure the preservation of a city's "lifeline" like rivers, hills, wetlands, etc. The protection of natural resources provides cities and their regions with the best ability to be resilient in the face of natural disasters. Cities provide easy access to transportation hubs. Thus, factories tend to flock to cities, so that they can easily and quickly export their products. But, as much as they are stimulants of national economy factories are also environmental pollutants, unless strict

²⁵<https://www.thedailystar.net/opinion/environment/news/discoveries-can-clean-carbon-dioxide-the-atmosphere-1666441>

²⁶<https://www.thedailystar.net/opinion/the-grudging-urbanist/news/election-manifestos-climate-change-and-cities-1678297>

environmental laws are enforced. Consider the air-polluting brickfields on the outskirts of Dhaka. Their environmental hazards may seem local and temporary, but they severely harm the region's long-term climate resiliency.

6. Conclusion

Climate change has become a major concern for the world community in the recent years. Developing and underdeveloped countries are the biggest sufferers for this unwanted change. Already the planet earth has faced number of natural catastrophes causing damage to both man and material, which are believed to be the result of this rapid climate change.

There are few natural causes for climate change like strength of the sun, ocean current, meteor impact etc. However the effects of such cause are very small in comparison with the manmade causes. With the development of the civilization the amount of carbon emission has increased radically. More quantity of greenhouse gas is causing increase in average temperature of the world. Deforestation, desertification, unplanned industrialization and establishment of cities are main causes for increase of carbon dioxide in the air.

The effects of climate change have may cause serious harm to different sectors of Bangladesh. Our agriculture, fisheries, tourism and economy are venerable to the adverse effects of climate change. The Sundarban is in risk of rising of salinity and loosing ecological balance. Our coastal areas are also under threat of sea level rising by which millions of people will be affected. The climate change is also responsible for causing various health hazards.

The leaders of the nations have already acknowledged the problem and numerous steps have already been taken to mitigate it. For example The Paris Agreement, Kyoto Protocol are the internationally recognized steps taken to reduce emission of greenhouse gas. Moreover many countries have generated national policy to control carbon emission and working accordingly. Government of Bangladesh is also concern about the issue and following the developed countries has formulated few long term and short term plans.

Now it is the time to work in harmony in order to restrict global warming. We can make this happen by promoting green energy, restoring ecological balance, use of renewable energy etc. More efficient ways may be developed like DAC, CCS, and BECCS ets to reduce the carbon emission.

References

- "Annex II Glossary". Intergovernmental Panel on Climate Change. Retrieved 15 October 2010.
- Atiq R. and others (editors), 'Environment and Development in Bangladesh', Vol.1.p.17.
- Annex 1 to Brief on the Human Development Index in Bangladesh, P.57.
Non-Military Security by Rumana Samiruddin, P.90.
Renewable energy and jobs, Annual review 2015, IRENA.
- Devine, Jr., Warren D. (1983). "From Shafts to Wires: Historical Perspective on Electrification, *Journal of Economic History*, Vol. 43, Issue 2" (PDF): 355.
- Constable, George; Somerville, Bob (2003). *A Century of Innovation: Twenty Engineering Achievements That Transformed Our Lives*. Washington, DC: Joseph Henry Press. ISBN 0-309-08908-5.
- Kring, D, A. (2007). The Chicxulub impact event and its environmental consequences at the Cretaceous-Tertiary boundary. *Paleogeography, Paleoclimatology, Paleoecology*. Vol. 255, 4-21.
- Kyoto Protocol to the United Nations Framework Convention on Climate Change". UN Treaty Database. Retrieved 27 November 2014
- Report of The Conference of The Parties on Its Third Session, Held At Kyoto From 1 To 11 December 1997
- REN21, Global Status Report 2016. Retrieved 8th June 2016.
- Stavins, Robert N. (November 2001). "Experience with Market-Based Environmental Policy Instruments" (PDF). Discussion Paper 01-58. Washington, D.C.: Resources for the Future. Retrieved 2010-05-20.
- "Tax Treaty Issues Related to Emissions Permits/Credits" (PDF). OECD. Retrieved 25 Oct 2014.
- Hoeller, P.; M. Wallin (1991). OECD Economic Studies No. 17, Autumn 1991. Energy Prices, Taxes and Carbon Monoxide Emissions (PDF). OECD website. p. 92. Retrieved 2010-04-23.
- Staudt, A.; et al. (2008). "Understanding and Responding to Climate Change" (PDF). U.S. National Academy of Sciences. Retrieved 2010-11-09.
- World Bank, 'World Dev Report 1992 p.7; BIISS, Vol 17, No 2, 1996, p.265
- Sutter, John D.; Berlinger, Joshua (2015). "Final draft of climate deal formally accepted in Paris". CNN. Cable News Network, Turner Broadcasting System, Inc. Retrieved 12 December 2015.

<https://www.thedailystar.net/shout/news/explaining-climate-change-buzzwords-1676005>
(Accessed on 23 December 2018)

https://en.wikipedia.org/wiki/Emissions_trading#cite_note-stavins01-
https://en.wikipedia.org/wiki/Carbon_tax#cite_note-1
https://en.wikipedia.org/wiki/Renewable_energy#cite_note-3
<https://whatis.techtarget.com/definition/carbon-negative>
<https://www.canada.ca/en/environment-climate-change/services/climate-change/causes.html>
<https://www.bgs.ac.uk/discoveringGeology/climateChange/general/causes.html>
https://ec.europa.eu/clima/change/causes_en
<https://www.wwf.org.au/what-we-do/climate/causes-of-global-warming#gs.C6IP7HM>
<https://www.wwf.org.au/what-we-do/climate/causes-of-global-warming#gs.C6IP7HM>
<https://www.wwf.org.au/what-we-do/climate/causes-of-global-warming#gs.C6IP7HM>
<https://www.thedailystar.net/opinion/the-grudging-urbanist/news/election-manifestos-climate-change-and-cities-1678297>
<http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>
<https://www.thedailystar.net/star-weekend/environment/news/the-dangerous-half-degree-1645711>
https://en.wikipedia.org/wiki/Paris_Agreement
https://en.wikipedia.org/wiki/Kyoto_Protocol#cite_note-UNlist-4
<http://www.worldbank.org/en/results/2016/10/07/bangladesh-building-resilience-to-climate-change>
https://en.wikipedia.org/wiki/Renewable_energy#cite_note-6
<https://www.thedailystar.net/opinion/no-frills/news/moving-away-coal-isnt-easy-1650493>
https://en.wikipedia.org/wiki/Electrification#cite_note-Devine83-1
<https://home.howstuffworks.com/lawn-garden/professional-landscaping/landscape-restoration.htm>
<http://www.icccad.net/updates/bangladeshs-climate-change-strategy-and-action-plan/>
<https://www.thedailystar.net/opinion/politics-climate-change/news/aligning-climate-plans-greater-impact-1691281>
<https://www.thedailystar.net/business/news/its-time-seriously-consider-carbon-tax-bangladesh-1650505>
<https://aida-americas.org/en/blog/5-ways-our-governments-can-confront-climate-change>
<https://aida-americas.org/en/blog/5-ways-our-governments-can-confront-climate-change>
<https://www.thedailystar.net/opinion/environment/news/discoveries-can-clean-carbon-dioxide-the-atmosphere-1666441>

<https://www.thedailystar.net/opinion/the-grudging-urbanist/news/election-manifestos-climate-change-and-cities-1678297>

<https://unfccc.int/resource/docs/cop3/07a01.pdf#page=28>.

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Looking Through the Eye of an Entrepreneur

Major Sheikh Lutfur Rahman (retd)

Abstract

Almost every nation has enough resources which remain fresh or they are not being properly used. To utilize the resources properly, every society needs entrepreneurs to convert resources into new ventures. How to start a new business is a big issue for the new entrepreneur. High rate of failure is a common issue. To solve these difficulties this paper was developed in a logical order. This report analyses the major characteristics of an entrepreneur with a particular accent on the creativity and invention of an investor. The importance of a mentor in the business world also explained. Major types of entrepreneurial works are briefly illustrated. The core subject of this composition is to describe step by step startup planning process, which will cut down the peril of an entrepreneur. This is a practically oriented paper with case studies, examples, which will act as ready reckoner for the new investors. The entrepreneur implementation phase also been highlighted. Few risk factors for any business also listed down.

Keywords: Innovation, creativity, reasoning, mentor, mind map

1. Introduction

Entrepreneurs, they not only see the system as it is, but as it might be (Mitton, 2018). Great creators, innovators, and entrepreneurs look at the world in ways that are different from how many of us look at things. This is why they see opportunities that other people miss (Brandenburger, 2019). There are many resources or opportunities around us, sometimes we can see it, and sometimes we overlook it. Even if we find it, we are not aware of it, which can be commuted into a commercial enterprise. Again, we are not aware of our power of innovation and creativity by which one can create a new product or service or one can add value to an existing product or service. An entrepreneur needs to connect the dots, these appear as opportunities. This report highlighted the significant characteristics of an entrepreneur. The creativity, logical thinking, and innovation are the critical components for any business. Every human being possesses more or less those qualities, but an entrepreneur should sharpen those for better functioning. Entrepreneurs are the high-risk bearer, but that should be a calculated risk; otherwise, chances are to be failed. Implementation phase is also crucial for any new business and certain things should be considered.

2. Objectives of the Study

Objectives of the study are as follows:

- a. To develop the power of creativity, imagination, and innovation of an entrepreneur.
- b. To analyze the type of entrepreneur work.
- c. To find out a step-by-step planning process of a business.
- d. To find out points to be considered during the implementation phase of a business.
- e. To discuss the risk factors for starting a business.

3. Methodology

The work has been projected to rely primarily on the analytic thinking of secondary information. Data have been compiled from interviews, business case studies, and articles which include scripts, various journals, web addresses, etc. A few interviews were taken from investors and teachers. Data collected from entrepreneurs was a difficult task due to the busy schedule of entrepreneurs. However, few entrepreneurs and faculty members took part in the interview and answered in a semi-structured set of questions. Answers were recorded by note-taking.

4. Literature Review

4.1 Definition

There is no unique definition of an entrepreneur. However, Entrepreneurs attempt to predict and act upon the change within markets. The entrepreneur bears the uncertainty of market dynamics (Ahmad & Seymour, 2008). The entrepreneur is always a speculator. He deals with the uncertain conditions of the future. His success or failure depends on the correctness of his anticipation of uncertain events. If he fails in his understanding of things to come, he is doomed. In the context of economic theory, an entrepreneur means acting man in regard to the changes occurring in the data of the market (Mises, 1998). An entrepreneur is someone who ventures out; prefers change as a means of growth; and is prepared to take calculated risks (Desal, 2008). The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations.

The term “entrepreneurship” has entered the business vocabulary as the 1980s' equivalent of "professionalism," the managerial buzzword of the 1970s (Stevenson, 2006). First and foremost thing of an entrepreneur is resource identification. It may be a new product or service or may be an existing one. Entrepreneurs learn to use other people's resources well; they learn to decide, over time, what resources they need to bring in-house (Stevenson, 2006). The chief characteristics of the entrepreneur are identified, one of which is the ability to combine already existing resources in creative ways (Joseph A Schumpeter, n.d.). An entrepreneur uses cognitive frameworks to “connect the dots” between changes in technology, demographics, markets, government policies, and other factors. The patterns they then perceive in these events or trends suggest ideas for new products or services—ideas that can potentially serve as the basis for new ventures (Baron, 2006).

There is a difference between a businessman and an entrepreneur. A businessman walks on the defined path, but an entrepreneur believes in making his own path, which becomes a guideline for other businessmen. A businessman faces tough competition because there are hundreds of rivals already existing in the market undertaking the same business. Although the risk factor is low because he walks on a path that is already tested by the rivals so the chances of failure are relatively low. Again, an entrepreneur is a person who conceives a unique idea or concept to start an enterprise and brings it into reality. He is the person who bears risks and uncertainties of the business. The venture established by the entrepreneur is known as Startup Company, which is formed for the very first time regarding the idea, innovation or business process. Some real life examples of such entrepreneurs are Bill Gates (founder of Microsoft), Mark Zuckerberg (co-founder of Facebook), Larry Page (co-founder of Google), Steve Jobs (co-founder of Apple) (Rizvi, 2018).

4.2 Case Study on Low Cost Product or Service

4.2.1 Tata Nano Car Project. The Tata Nano is a compact city car that was manufactured and marketed by Indian automaker Tata Motors, with a launch price of one lakh rupees or US\$2500 in the year 2008. The project lost money, as confirmed by Tata Motors management. Production was eventually halted in May 2018 (Wikipedia).

The Tata Neon Car was the cheapest car in the world, but it could not succeed because people thought its safety was compromised. It was also found that the car is not a means of transportation, but it is also a symbol of aristocracy. Customers want to pay more for their safety, novelty etc.

4.2.2 Malaysian Airline Air Asia. AirAsia, an LCC aviation business model in Malaysia, it could decrease approximately 80% of jet fuel purchases, are hedged in an effort to reduce the airline's rising fuel bill. According to an interview, jet fuel is also the only input which has been paid for 2 weeks in advance to obtain a discounted price (Poon & Waring, 2010). AirAsia has some competitive advantages over its competitors in terms of cost-leadership competitive strategy. It has the largest fleet in terms of number of planes and seats among its competitors. Hence, it operates a vast number of routes in the region covering the whole of SouthEast Asia. Therefore, it benefits from less overhead cost, more volume negotiating and purchasing benefits compared to other airlines in the region (Jeddi, 2014). Malaysian entrepreneur Mr. Tony Fernandes took the country's national carrier AirAsia into a new height.

Air Asia is a successful business case due to high customer demand, lower operating cost and lack of land route around operating areas.

4.3 Case Study on High Cost Product

4.3.1 Apple's iPhone/ iPod. The Apple's iPod experienced a series of innovative upgrades since its inception, as many as dozens of different versions of the development have been unveiled from then until the 2008. Its unique fashion design in appearance is completely different from other types of MP3 players (Einstein, 2012). Apple, Inc. started out as an idea of one man. This man was Steve Jobs. Jobs and his friend, Steve Wozniak, were two high school dropouts living in the Silicon Valley with extremely innovative and intelligent minds (Santa Clara Historical Society, 2012).

4.3.2 Fuala Chocolates. The story of Fuala's success resulted from hard work in identifying customers' requirements as well as continuously following the latest developments in the chocolate industry. Since its opening in 2002, Fuala Chocolates have cultivated good quality and excellent flavor. The state-of-the-art manufacturing processes, in addition to the style of products' presentation, distinguished the Fuala brand from all others. Mr. Radwan Al Hosani, who managed to transform his dream into practice through insistence and hard work (Al Hosani, & Ahmad, 2013).

Apple's iPod and Fuala chocolate are successful in business due to customer satisfaction, innovation, brand image etc. Similarly, Mercedes Benz jeep, Omega, Rolex hand watches are examples of successful high cost products having its own customers.

4.4 Significant Characteristics of an Entrepreneur

4.4.1 Creativity and Innovation. "Think Different," said in the famous 1997 Apple advertisement. Excellent advice, obviously, to all creators, innovators, and entrepreneurs (Brandenburger, 2019). The famous quote from Mary Lou Cook is "Creativity is inventing, experimenting, growing, taking risks, breaking rules, making mistakes, and having fun." Creativity is needed for product or service development, modification, branding, and so on. Not only think differently, but we also need to see differently and think logically to awaken our creative mind. Following points may be considered:

4.4.1.1 Ideas and Reasoning. The human brain has a highly developed ability to put two or more ideas together and produce a new idea. This ability to reason gives humans a tremendous advantage over other forms of life (O'Connor, 2006). For example, toothpaste and mouthwash were two separate items; Unilever Company bought two products together. They are claiming 'Closeup' product having anti-germ mouthwash mixed with toothpaste and it can provide 12 hours fresh breath. The company could grow empathy for that product and it is well accepted by the customer.

Elbert Hubbard expressed "Reason: The arithmetic of the emotions." An investor needs to exercise it; otherwise, it will control the investor. As famous George Bernard Shaw personalized it as; "Reason enslaves all whose minds are not strong enough to master her". In other words, Richard Dawkins said, "Reason has built the modern world".

Again, one of the limitations of our brains is designed to stop us from paying too much attention (Brandenburger, 2019). We need to overcome it by seeing differently and think logically. The story of Velcro is well recognized. A Swiss engineer, George de Mestral, decided to look more closely at the burrs (seeds from plants) he found clinging to his clothing after a walk in the woods. He took out his microscope and saw that nature had designed hooks on the burrs, which had then attached themselves to looped fibers in his clothing. The famous hook-and-loop alternative to the zipper, under the name Velcro, was born (Brandenburger, 2019). Another limitation is, our creative imaginations must have something to work on it. We do not form new ideas out of nothing (Adair, 2003). As Austin Kleon's famous quote is, 'Every new idea is just a mashup or a remix of one or more previous ideas'.

4.4.1.2 Taking Creativity as an Easy Task: Creativity is often thought to be a serious analytical task. This is not true. The starting point of creativity is the generation of new ideas. New thoughts and ideas come from a kind of thought-play of the mind

(Gurteen, 1998). The most important condition for creativity is open-mindedness and the capacity to listen. Most Fortune 500 companies recognize this asset and apply a variety of theories of inventive problem-solving to enhance their competitiveness (Miller, 2001). When someone starts reasoning or thought-play in his mind with two or more ideas, a new idea generates.

4.4.1.3 Exercises on Creativity: Bodybuilders develop their muscles with physical exercise. Similarly, creative muscles can be developed through some creative mental exercises. One of these exercises is called the “30 Circles Exercise.” You start with a sheet of paper with 30 circles evenly spread out. Set a timer for 3 minutes and then try to see how many different images you can come up with using each circle. Another great way to flex your creative muscles is by creating “mind maps.” In this exercise, you take a central concept that you want to build off of. For example, maybe you’re planning a dinner party. One branch may be options for food, another branch may be options for entertainment, and a third branch may be what guests invite. This is a good way to visualize your brainstorming process (Handel, 2015). Similarly ‘15 Pair Circle Exercise’ may be practiced where each pair will have similar item images within 3 minutes time. For example one pair may have tea and sugar; another pair may have television and remote.

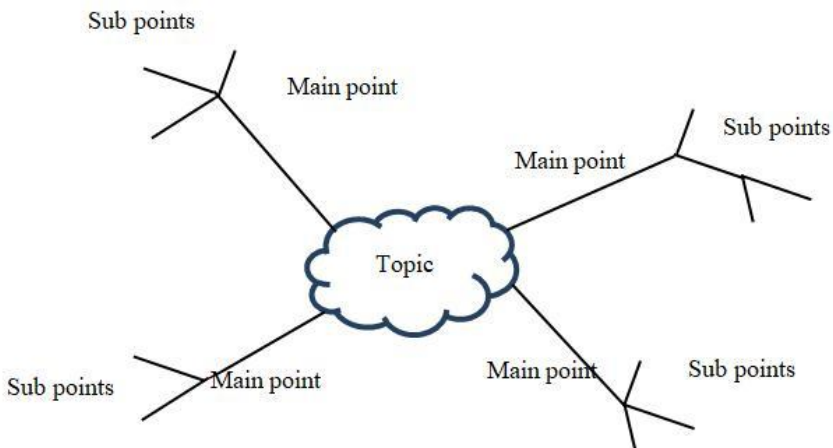


Figure 1: The basic format of a “mind map”

Source: Handel, T. (2015). *How to Build a Creative Mind That Will Never Run Out of New Ideas*. <https://www.theemotionmachine.com/how-to-build-a-creative-mind-that-will-never-run-out-of-new-ideas/>

4.4.1.4 Creative Hobby: Creativity means being able to perceive the old in new ways and to find hidden patterns. To stand out and compete in today's crowded and constantly changing business environment, organizations need new, innovative ideas that will rise above the noise. But coming up with a fully original idea can be difficult when your mind is filled with targets, metrics, and deadlines. A creative hobby pulls you out of all that. Whether you're a musician, artist, writer, or cook, you often start with a blank canvas in your mind. It's no surprise that by giving yourself this mental space, and focusing on feelings, you can reawaken your creativity (DiNardi, 2019).

Someone's hobby is traveling. Studies show that travel is one way to enhance creativity because it encourages thinking outside of your normal self (Shetty, 2009).

4.4.1.5 Passion: Passion is the fuel that entrepreneurs need to keep going. Research shows that passion is a key predictor of entrepreneurs' creativity, persistence, and venture performance. In other words, the more passionate the entrepreneur, the more likely they are to succeed. It affects entrepreneurial teams also. Diversity in passion having a negative effect on the entrepreneurial team (Eva de Mol, 2020).

4.4.1.6 Innovation: Innovation and entrepreneurship lie at the heart of the modern economy (Lounsbury, Cornelissen, Granqvist, & Grodal, 2019). Innovation, it is driven neither by processes nor systems; it's generated by human talent. No matter what procedures you have in place, it's only the creative confidence and drive of individuals — and the collective intelligence of teams — that takes companies to new frontiers (Shambaugh, 2019). Creativity is, according to a lot of researchers, a prerequisite for innovation [2]. To be innovative requires creativity and imagination. The process of innovation uses convergent thinking (Miller, 2001). Innovation includes research, growth, differentiation, design, sampling, testing and so on. Systematic innovation must be integral to the process of management in all organizations (Drucker, n.d.). For example, the dream of human flight began with the observation of birds flying through the sky. The aerodynamic shape of the wing was invented from strong desire, close observation, arithmetic calculation, etc., of the human mind. Through a creative mind man develops various types of aircraft one after another. In fact, every interesting thing in nature can generate ideas.

4.4.2 Risk Bearer and Dream Bigger. Entrepreneurs are usually high risk bearers to start a new business and bring it to a success. For example, the cold water Salmon fish project in the desert of Dubai is a courageous and highly ambitious project. Normally Atlantic salmon fish are born in freshwater, but live in salt water for much of their lives

before returning to freshwater to spawn. Another quality of an entrepreneur is that he or she should dream big about his plan. Dhirubhai Amban always encouraged people to think big, think fast, think ahead. He often said “Our dreams have to be bigger. Our ambitions are higher. Our commitment is deeper. And our efforts are greater (Desal, 2008).

4.4.3 Opportunity Identification. Entrepreneur's personality traits, social networks, and prior knowledge as antecedents of entrepreneurial alertness to business opportunities. Entrepreneurial alertness, in its turn, is a necessary condition for the success of the opportunity identification triad: recognition, development, and evaluation (Ardichvili, Cardozo, & Ray, 2003). Opportunity may be from existing resources, by adding value to it. Steve Jobs of Apple did not invent any new thing, but he added value to the mobile phone. Anthony Francis Fernandes from Malaysia also did not invent anything but bought the AirAsia into one of the Low-cost Carrier (LCC) of the world.

4.4.4 Influence of Prior Knowledge. Each person's idiosyncratic prior knowledge creates a “knowledge corridor” that allows him/her to recognize certain opportunities, but not others (Venkataraman 1997). Prior information influence who discovers entrepreneurial opportunities to exploit new technology. Three major dimensions of prior knowledge are important to the process of entrepreneurial discovery: prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems (Shane, S. 2000).

4.4.5 Selecting the Perfect Business Model. Business models represent a core building block of the entrepreneurial enactment process. In this framing, business models become an extremely useful instrument for finding partners and investors, as they contain all the information related to how the firm is planning to create value that can generate the revenues that will guarantee sustainability survival of the firm (Doganova & Eyquem-renault, 2009).

4.4.6 Finding a Support Team of Mentors. Mentors are defined as influential, highly-placed individuals with a high level of knowledge and experience, who undertake to provide upward mobility and career support for their protégés (St-jean & Management, 2009). The importance of mentors cannot be overstated. A good mentor inspires you, stretches you, connects you, develops your Emotional Quotient (EQ), also known as Emotional Intelligence (EI), opens your mind and most importantly, doesn't judge (Acton, 2017). In the early days of Facebook, Mark Zuckerberg turned down a \$6 million investment offer by Don Graham, CEO of the Washington Post. Graham, however, was

impressed by him and became his mentor, guiding him on how CEOs behave and later on hiring Sheryl Sandberg as COO (Cardew, 2017). Risk factors for running a business in different geographical locations and countries differ from each other; hence its solutions also differ from each other. Here the role of a mentor comes, who can solve the issue.

4.4.7 Market Research or Analysis. Market research is the simplest way for the entrepreneurs to keep up with the latest trends that are currently active and in usage in the market. However, the type of market research may vary with the nature of the industry. An entrepreneur should be aware of changes in the relation between the supply and the demand for his product or service and the resulting alterations in the purchasing power of the customer.

4.4.8 Identifying Customer Needs and Satisfaction. An entrepreneur can succeed only by best serving the consumers. His profit depends on the approval of his conduct by the consumers (Mises, 1998). By creating a dialogue with our customers and developing a closed-loop system which continuously monitors how we perform in the eyes of our customers, how we grow and develop as a customer focused organization and how we use an innovative spirit to keep them interested in us is an absolute must (Zairi, 2000).

4.4.9 Cost Reduction Policy. Every single step of entrepreneurial activities is subject to scrutiny by monetary calculation (Mises, 1998). Every organization or company should have a cost reduction policy. It may defer company to company. Proper use of by-products can reduce the overall production cost. For example, a by-product in the poultry industry places an important role in the cost reduction of rendering service. Rendering is a process that converts animal waste into stable, value-added materials. It refers to the processing of any animal products into more useful materials (e.g., animal feed) and/or specifically rendering animal fat into purified fats like lard or tallow. Animal fats have been used for decades to waterproof clothing and to make soap and candles (Barbut, 2015).

4.5 Entrepreneurship in General

To be an entrepreneur, one may not be a businessman always. A Mayor of a city may be an entrepreneur, by making a creative city. Solving the urban problem in a creative way, one city becomes a creative city. It will provide better living at the same time attract many tourists and generate revenue. By patronizing all these issues, any government becomes a big entrepreneur. Twice war experienced Vietnam could rebuild her economy largely due to the 'Doi Moi' policy taken by the central government. The policy was taken in December 1986 that the central management system dependent on state subsidies

was abolished and a focus was shifted to the creation of a market-driven economy with different sectors where competitions between the private sector and the state in non-strategic sectors would exist (*Doi Moi Policy of Vietnam, n.d.*)

Finally, entrepreneurship is always a challenging task, sometimes beyond the capabilities of an investor. In that shell, help may be needed from the superpower. As APJ Abdul Kalam expressed his view regarding this as ‘I am maintaining a working partner with God. I was aware that the best work required more ability than I possessed and therefore I needed help that only God could give me. I made a true estimate of my own ability, then raised it by 50 percent and put myself in God's hands. In this partnership, I have always received all the power I needed, and in fact, have actually felt it flowing through me’ (Abdul-Kalam, 1999).

5. Types of Entrepreneurial Works

After analysis of literature review and entrepreneurial works, it was found that there are mainly 5 types as shown in Table-1.

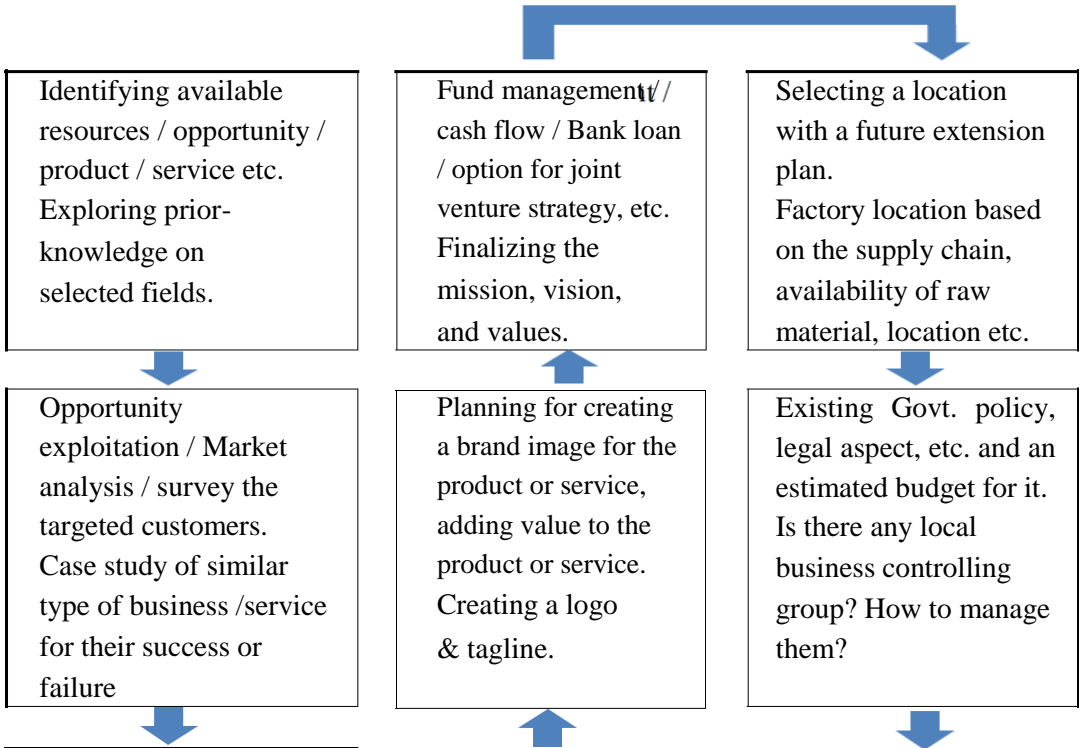
Table 1: Types of Entrepreneurial Works.

No.	Type	Example	Risk Involve	Focused on
1.	Adding value to an existing product or service.	Fuala Chocolate, Mercedes Benz, Apple Mobile	Moderate	Quality product, not a sale.
2.	Reducing operational cost from an existing service.	AirAisa, Southwest Airlines (American LCC airline), Costco (American grocery store)	Little Less	Minimum profit, maximum sale.
3.	Introducing new Product/Service, and continues up-gradation.	Facebook, Google, Alibaba, Softsoap (liquid soap),	Little high	Both product and sale.
4.	Innovative products or services, mainly technology based. (Technology-Based Entrepreneurs or Technopreneurs)	Amazon Glacier (web cloud service provider), Simple Storage Services (S3), GPRS on cars, 3D printing pen, 5G Phone, infrared cookers, UBER, etc.	Moderate	Both product and sale

5	Community-based problem solving services. (Social Entrepreneur)	Micro-finance institutions like Grameen Bank, educational programs, helping orphan children, etc.	High	Not to earn a profit. Focus on service.
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6. Entrepreneurial Planning Process

A planning process is a vital stage for any entrepreneur before starting any business. Step by step planning progress listed here. An experienced investor may ignore a few steps. Again, points are not placed with extreme accuracy; as a business is not a perfect science, preferably it is an artistic creation. Following 15 step planning process will help any investor to start a new venture:



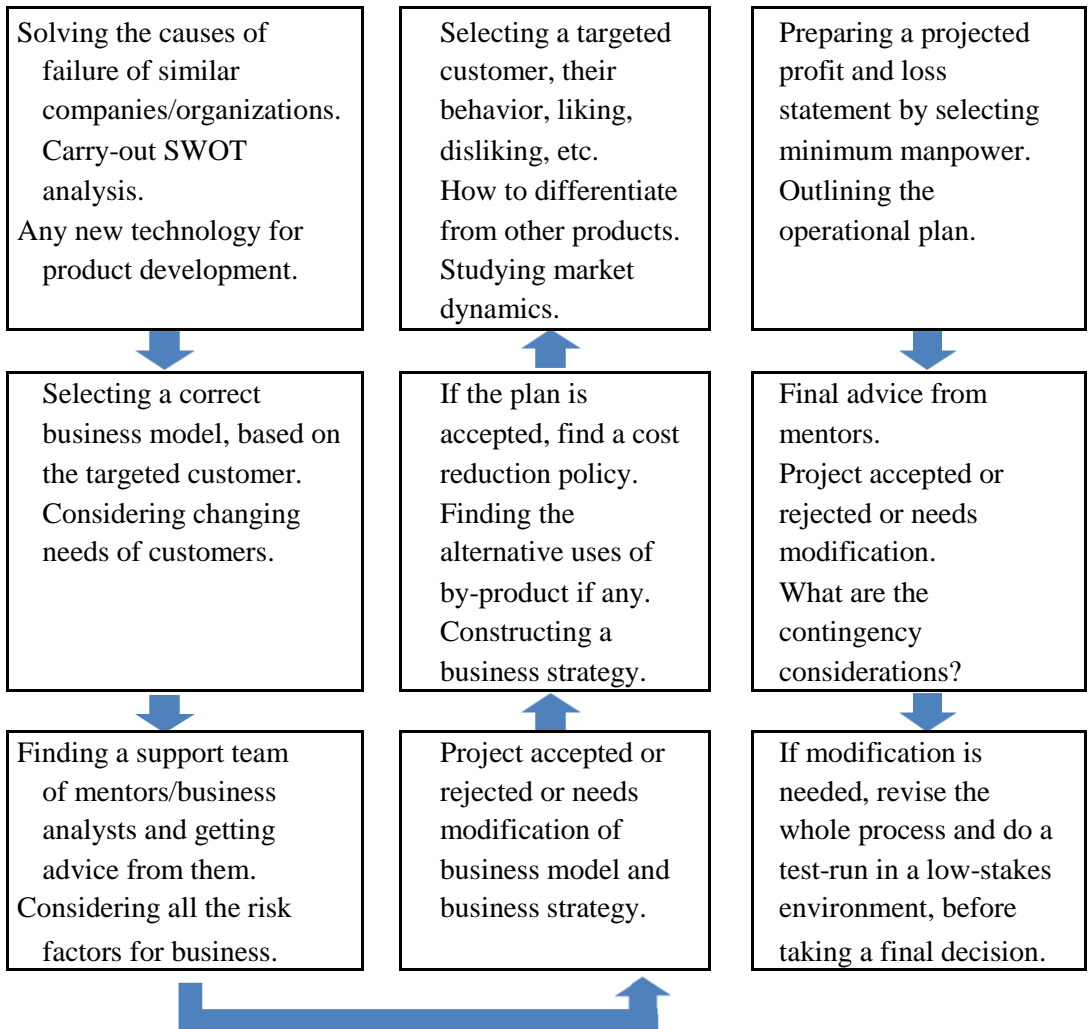


Figure 2: Entrepreneurial Step by Step Planning Process

Source: Researcher's own design.

7. Entrepreneurial Implementation Phase

After starting in the business failure may occur either in the implementation phase or afterward. Following points should be kept in mind:

- a. Applying Business Process Management (BPM) tools, like lean six sigma, Analytic Hierarchy Process (AHP) for prioritizing things from many alternatives, etc.

- b. Follow-up and continuous innovation for most of the items or product should be considered.
- c. Use of Information Technology (IT) to aid the decision-making process. Data-driven strategies may minimize risk.
- d. Software may be used to minimize cost, like payroll, inventory management software, etc. ERP for medium or big organization. Use of Infrastructure as a Service (IaaS), if applicable.
- e. Using the internet to reach out to millions of users online, like Facebook, Viber, email newsletter, etc. and reduce marketing cost. Using other Guerrilla Marketing (low-cost, effective marketing, like visiting cards, leaflets, group SMS, participating in a local contest, etc.) tools also.
- f. Setting a reasonable price in comparison to competing firms for common product or service. Selecting a wide or limited variety of products.
- g. Getting help from an energy consultant to reduce energy bills.
- h. Best use of recycling of by-product, if any.

8. Risk Factors for Starting a Business

While risk bearing is an important element of entrepreneurial behavior, it is clear that many entrepreneurs bear the risk grudgingly and only after they have made valiant attempts to get the capital sources and resource providers to bear the risk (Stevenson, 2006). In a study, it was found that more than 2 million new enterprises started each year, despite a 70 percent failure rate (Hisrich, 2005). There may be a good number of risk factors for any business, all are not listed here. In spite of the high-risk bearer, an entrepreneur should keep a few points in mind:

8.1 High Rate of Bank Interest and Inflation. No matter how well your business functions, it depends on the economic environment to be healthy and prosperous. Interest rates can be a signal to either expand your business or pull it back (Johnston, 2017). Highest bank interest rate decries the profit. Again high inflation directly damages many small enterprises, as well as banking and other financial institutions which might serve them.

8.2 Environment Pollution Risk. Many factory by-products may be hazardous for the environment. It may damage air or water resources. Emission of carbon is another harmful element to the air. Change or modification in the product line or construction of Effluent Treatment Plant (ETP) should be considered. Again business locations should be evaluated for sensitivity to floods, earthquakes, cyclones, drought, etc.

8.3 Protection of Intellectual Property (IP). When a new company wants to protect its IP, it may not be adequately protected in certain countries and areas. Creating a strong brand image and tagline registered for trademark and patent helps to protect IP. The market monitoring and alertness, taking formal and informal actions, etc., can help in solving the issue.

8.4 Risk Related to Manpower. Appointing the correct person's incorrect position is another important factor. Many a time an entrepreneur makes a mistake by appointing even inefficient or dishonest relatives for the company and suffers afterward. Again, an entrepreneur may commit a mistake by employing a large number of employees during startup a business. This can be avoided by employing only truly needed manpower and increasing it gradually. Some entrepreneurs use internet-based virtual offices or staff during a test run of the business.

8.5 Risk Related to Supply Chain. Production or manufacturing companies need a sound supply chain management plan to reduce lead time, thus it reduces the production cost as well. An operation, storage, and marketing of a company should work in harmony to keep the price level low. For example, China is solving a global supply chain issue by establishing a deep-sea port around the world. China is already building ports in Sri Lanka, Pakistan, the Maldives, and Myanmar to support the South Asian block (Shepard, 2016).

8.6 Risk Related to Financial Backup. An entrepreneur needs strong capital support, not only for the business, but also to support day-to-day family needs. He or she should have some other fixed income so that the investor remains full independence from the business income or loss. In spite of the government or NGO or bank's financial support or incubation policy on Small and Medium-sized Enterprises (SME), an investor should have his own strong financial backup. An entrepreneur may arrange it with good numbers of trusted partners.

8.7 Political Instability. The entrepreneur is also jeopardized by political dangers. Government policies, revolutions, and wars can damage or annihilate his enterprise. Such events do not affect him alone; they affect the market economy as such and all individuals, although not all of them to the same extent. However, every government and its policy should support the entrepreneur in the development of the economy. Otherwise, in eliminating the entrepreneur one eliminates the driving force of the whole market system (Mises, 1998).

9. Result and Discussion

Basing on the above study following finding may be listed below:

- a. Prior knowledge helps to identify the business opportunities.
- b. Entrepreneurs working in a team should have a more passionate and similar minded personality.
- c. Creativity, innovation, mind-map, reasoning, social network, branding, etc. are the tools for an entrepreneur to establish a new venture.
- d. Creativity can be developed by creative exercise, nourishing personal hobbies, taking creativity as a fun game, traveling etc.
- e. Low cost products may be introduced without compromising quality and business ethics after considering the customer demand carefully.
- f. High cost product or service with added values and innovation may be introduced after selecting targeted customers and their demand carefully.

10. Conclusion

It is not necessary to jump into a business by an investor without proper planning. An entrepreneur may find hundreds of opportunities, but after examining through the entrepreneur planning process and considering risk factors only a few opportunities may be found suitable. Working with lots of ideas and business models, one may find a new idea. To discover a better opportunity, things needed to be examined through thinking differently, observing continuously and evaluating logically. To develop entrepreneurial skills someone should develop entrepreneur characters well. Considering business risk factors during the planning stage is very significant. An investor should have great patience, many a time people gave-up when they were nearer to success. Again, creativity is not the only attribute of an investor. Every person is more or less creative. We should explore it where we get the scope.

References:

- Abdul-Kalam, A. (1999). *Wings of Fire*. Universities Press (India) Privet Ltd.
- Acton, A. (2017). Why You Need A Mentor And How To Get One. Retrieved from <https://www.forbes.com/sites/annabelacton/2017/07/25/why-you-need-a-mentor-and-how-to-get-one/#743e815873cc>
- Adair, J. (2003). The art of creative thinking. In *Long Range Planning* (Vol. 24). [https://doi.org/10.1016/0024-6301\(91\)90195-t](https://doi.org/10.1016/0024-6301(91)90195-t)
- Ahmad, N., & Seymour, R. G. (2008). OECD Statistics Working Paper. Retrieved from <https://www.oecd-ilibrary.org/content/paper/243164686763?crawler=true>
- Al Hosani, M., & Ahmad, S. Z. (2012). Fuala: A success story of an entrepreneur. *Emerald Emerging Markets Case Studies*.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105–123. [https://doi.org/10.1016/S0883-9026\(01\)00068-4](https://doi.org/10.1016/S0883-9026(01)00068-4)
- Barbut, S. (2015). The Science of Poultry and Meat Processing. *Poultry Meat Processing and Quality*, pp. 1–39. <https://doi.org/10.1016/B978-1-85573-727-3.50011-5>
- Baron, R. A. (2006). Opportunity Recognition as Pattern Recognition. *Academy of Management Perspectives*, 20, 104–120. <https://doi.org/10.5465/AMP.2006.19873412>
- Basadur, M. and G. Gelade (2006). The role of knowledge management in the innovation process. *Creativity and Innovation Manaagement*. Vol. 15, p. 45-62.
- Cardew, H. (2017). What You Need to Know About Finding and Keeping a mentor. Retrieved from <https://medium.com/@hollyc/what-you-need-to-know-about-finding-and-keeping-a-mentor-3cb752303ec5>
- Desai, V. (2009). (Desal, 2008) (Desal, 2008) (pp. 66-93). Himalaya Publishing House.
- DiNardi, G. (2019). Hobbies awaken our creativity. *HBR*.
- Doganova, L., & Eyquem-renault, M. (2009). What do business models do ? Innovation devices in technology entrepreneurship. 38, 1559–1570. <https://doi.org/10.1016/j.respol.2009.08.002>
- Doi Moi Policy of Vietnam*. (n.d.).
- Drucker. (n.d.). *Innovation and Entrepreneurship*. Butterworth-Heinemann 1985.
- Einstein, D. (2012, October 11). Retrieved October 12, 2012, from Forbes: <http://www.forbes.com/sites/netapp/2012/10/11/windows-8-release-date-tabletmicrosoft-cloud/>.

- Eva de Mol , Melissa Cardon and Svetlana N. Khapova (2020). When Entrepreneurial Passion Backfires. *Harvard Business Review*
- Gurteen, D. (1998). Knowledge , creativity and innovation. *Journal of Knowledge Management*, 2(1), 5–13.
- Handel, T. (2015). How to Build a Creative Mind That Will Never Run Out of New Ideas. <https://www.theemotionmachine.com/how-to-build-a-creative-mind-that-will-never-run-out-of-new-ideas/>
- Hisrich, R. D. (2005). Entrepreneurship Research and Education in the World: Past, Present and Future. *Jahrbuch Entrepreneurship 2005/06*, 3–14. https://doi.org/10.1007/3-540-28361-7_1
- Jeddi, A. R., Renani, N. G., Khademi, A., Shokri, V., & Noordin, M. Y. (2014). Low-Cost Strategy Factors in Airline Industry: The AirAsia Case. In *Advanced Materials Research* (Vol. 845, pp. 652-657). Trans Tech Publications Ltd.
- Johnston, K. (2017). The Effect of Interest Rates on Business (Vol. 2, pp. 19–35). Vol. 2, pp. 19–35. Retrieved from <http://smallbusiness.chron.com/effect-interest-rates-business-69947.html>
- Joseph A Schumpeter. (n.d.). Entrepreneurship as Innovation. Retrieved from <https://ssrn.com/abstract=1512266>
- Lounsbury, M., Cornelissen, J., Granqvist, N., & Grodal, S. (2019). Culture, innovation and entrepreneurship. *Innovation: Management, Policy and Practice*, 21(1), 1–12. <https://doi.org/10.1080/14479338.2018.1537716>
- Miller, C. (2001). The creative city: A toolkit for urban innovators. *Community Development Journal*, Vol. 36, pp. 165–167. <https://doi.org/10.1093/cdj/36.2.165>
- Mises, L. V. O. N. (1998). *HUMAN ACTION A Treatise on Economics* (The Schola). The Ludwig von Mises Institute.
- Mitton, D. G. (2018). The Compleat Entrepreneur. *Entrepreneurship Theory and Practice*, Vol. 13, pp. 9–20. <https://doi.org/10.1177/104225878901300303>
- O’Connor, J. R. (2006). Speech: Exploring Communication. In *The English Journal* (Vol. 71). <https://doi.org/10.2307/817781>
- Poon, T. S., & Waring, P. (2010). *The lowest of low-cost carriers : the case of AirAsia*. 21(2), 197–213. <https://doi.org/10.1080/09585190903509480>
- Rizvi, (2018). What is the difference between a businessman and an entrepreneur? <https://www.quora.com/What-is-the-difference-between-a-businessman-and-an-entrepreneur>
- Santa Clara Historical Society. (2012). A Brief History of Apple, Inc.Silicon Valley Historical Society.http://www.siliconvalleyhistorical.org/home/apple_computer.
- Shambaugh, R. (2019). How to Unlock Your Team’s Creativity. *Harvard Business*

Review, Vol. 1. Retrieved from <https://hbr.org/2019/01/how-to-unlock-your-teams-creativity>

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization science*, 11(4), 448-469.

Shepard, W. (2016). Bangladesh's Deep Sea Port Problem. *The Diplomat*. Retrieved from <https://thediplomat.com/2016/06/bangladeshs-deep-sea-port-problem/>

Shetty, P. (2009). Imagin How Creativity Works. *The Lancet*, 374(9702), 1669. [https://doi.org/10.1016/S0140-6736\(09\)61980-2](https://doi.org/10.1016/S0140-6736(09)61980-2)

St-jean, E., & Management, D. De. (2009). Factors Leading to Satisfaction in a Mentoring Scheme for Novice Entrepreneurs. 7(1), 148–161.

Stevenson, H. H. (2006). *A Perspective on Entrepreneurship* Increasing Interest in Entrepreneurship. 1–13.

Venkatarman, S. 1997. The distinctive domain of entrepreneurship re- search: an editor's perspective. In *Advances in Entrepreneurship, Firm Emergence, and Growth*. J. Katz, R. Brockhaus, eds. JAI Press, Greenwich, CT.

Wikipedia, https://en.wikipedia.org/wiki/Tata_Nano

Zairi, M. (2000). Managing customer satisfaction: a best practice perspective. *The TQM magazine*

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