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Editorial Note

Business means to remain busy with legal and fruitful works. Works may be with private and public commerce and / or private and public service. Business administration thus entails managing household affairs to managing national and international affairs dealing with tangible goods and intangible service. Education in business administration is comprehensive one, combining 6 basic business functions (3 line plus 3 staff / support): procurement / supply, production / operation, marketing / sales, finance, personnel, and accounting.

The first article deals with military in higher education. Higher education and wars have intimate relations. The epics Iliad, Odyssey, Ramayana and Mahabharata depict Trojan, Lankan, and Kurukshetra wars like any other war that necessitated higher technologies and techniques researched through universities and higher education institutes. Defense services of Bangladesh face diversified challenges boldly with higher education and the consequences are positive.

The second article deals with various students' personalities and their study style in the universities and higher education institutes. The autotelic personality students do better with heutagogy study style besides pedagogy and andragogy styles. The present-day internet and related technologies give them added advantage.

Bagging ensemble learning is transforming each stroll of our lifestyles and has come to be a major contributor in actual global scenarios described in the third article. The revolutionary applications of Ensemble Learning can be seen in education, healthcare, engineering, sales, entertainment, transport and several more. Sales forecasting is even more vigorous for supply chain management in e-commerce with a massive amount of transaction data generated every day.

The fourth article researched on exploring the sustainable banking activities of Bangladeshi banks and nonbanking financial institutions to find out financial institutions' initiative for sustainable banking through investing in green banking activities. The study has been conducted by 50 respondents for knowing the customers' perception about green banking products. Customers' demographic profile has been analyzed to show perception diversity based on gender, age and income level in an urban setting.

The fifth article explored the poor academic performance among university students that's seems to be on the rise. Uncontrolled use of social media is responsible for this societal damage. The goal of this study was to investigate how university students prioritize between the social media and their university education and experience the impact of social media use in relation to their academic performance.

The author in the sixth article discussed on the harmful effects of road traffic jams on industrial productivity. Almost everyone at capital city of Dhaka loses number of hours every day to reach their working stations from living places. Time losses in public and private commutations have been studied in detail by Ms Azmery with a view to provide workable recommendations on the issue.

The seventh study aimed at determining the impact of influencer marketing on consumer buying decisions from the perspective of the Bangladeshi restaurant industry. Influencer marketing is becoming popular because of the gradual familiarization and popularization of social media. The impact of influencer marketing is huge as it impacts customer awareness, interest, evaluation, trial, and the adoption process actively.

The eighth article depicted the challenges of obtaining doctoral degree in the private universities of Bangladesh. Ever since the enactment of the Private Universities Act in 1993 and subsequently in 2010 offering doctoral degrees remained outside the purview of the private universities which is at the core of creating new knowledge. Some of these private universities have acquired expertise, capabilities, and research base to offer doctoral degrees, thus contributing to creating new knowledge. The primary objective of this study was to identify the challenges of the private universities for offering doctoral degrees.

The ninth article is on the legal dimensions of public health facilities in Bangladesh especially during the Corona Virus Disease 2019 (COVID-19). Bangladesh being a country of low-income faced lot of issues while dealing with the corona pandemic. Despite the fact that it has come through a long way of two years, there are still some room of discussions to be made. The paper aimed to examine the current legal framework to see whether it is adequate for dealing with such epidemics. It identified the legal gaps and other challenges that have been impeding the prevention and cure of the diseases and made relevant recommendation in this regard.

The tenth and last article is on employee commitment, employee motivation, individual performance and related human resource issues. As the world become more competitive and complex, success and achievement get complicated with interrelated factors and systems. The main objective of the study was to explore the effects of employees' commitment to improve the overall performance of the AIBA Savar as a leading business administration institute in Bangladesh, and make recommendations for optimizing it.

> "Research is to see what everybody else has seen and to think what nobody else has thought".
>
> -Albert Szent-Gyorgyi (1893-1986), Nobel Laureate in Physiology (1939).

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Correspondence

All correspondence should be addressed to the Editor-in-chief, AIBA Savar Journal, Army Institute of Business Administration (AIBA) Savar, Savar Cantonment, Dhaka-1344.
E-mail: journalinfo@aibasavar.edu.bd or journal.aibasavar@gmail.com

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Consequences and Challenges of Defence Services in Contributing to Higher Education of Bangladesh

Mohammad Quamruzzaman[1]

Abstract

The consequences or effects of defence services in contributing to higher education in Bangladesh is definitely positive. However, there remain challenges of defence services to meet such secondary or subsidiary role of contributing to higher education of Bangladesh. Polemology and war studies contributed to human civilizations in different forms. Peace came in successive eras after preparing and executing wars among nation states and empires. Higher education invests both in unethical creation and ethical destruction. Conspiracy theory relating Coronavirus disease 2019 (COVID 19) pandemic and preparing vaccines blames and flames higher education and research where militaries were and are said to be involved with their civilian counterparts. Same were the cases of nuclear inventions and destruction of Hiroshima-Nagasaki through higher education and research. Defence services of Bangladesh need to optimize their participations and contributions to higher education facing politico-economic and socio-cultural challenges and at times ethical dilemmas locally, regionally and globally.

Key Words: Higher education, consequence, defence services, universities, contribution, challenges.

1.0 Introduction

Defence services of Bangladesh play a significant role in sustainable national development beside safeguarding the sovereignty of the country. Defence services are also known as armed forces who work

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[1] Mohammad Quamruzzaman is a PhD Fellow, a retired Major General, and an MBA from IBA of Dhaka University. He pioneered business studies at MIST. His email contact: qzamanq@gmail.com

under Armed Forces Division (AFD), and Ministry of Defence (MoD) parallelly. Higher education is an important parameter for growth and productivity where our tri-military services Army, Navy, and Air Force contribute a lot through universities and higher education and training institutes. United Nations Education, Science and Cultural Organization (UNESCO) defined Sustainable Development Goal (SDG) 4 Target 4.3 that says, "By 2030, ensure equal access to all women and men to affordable and quality technical, vocational and tertiary education including universities." University Grants Commission (UGC) of Bangladesh got established by the Father of the Nation Bangabandhu Sheikh Mujibur Rahman under President Order No 10 of 1973 as an autonomous apex body to oversee the higher and tertiary education in Bangladesh. Proposal is there to rename UGC as Higher Education Commission (HEC) by an act. Ministry of Education (MoE) remains in the lead role for higher education in coordination with other ministries.

There are 3 international universities, 51 public universities, and 108 private universities in Bangladesh (UGC, 2022). The defence services' 3 public ventured universities: Bangladesh University of Professionals (BUP), Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangabandhu Sheikh Mujibur Rahman Aviation and Aerospace University (BSMRAAU) got established by BUP Act 2009, BSMRMU Act 2013, and BSMRAAU Act 2019 respectively. Bangladesh Army University of Science and Technology (BAUST) at Saidpur, Bangladesh Army University of Engineering and Technology (BAUET) at Qadirabad, Bangladesh Army International University of Science and Technology (BAIUST) at Cumilla are the defence services' 3 private ventured universities established by Private Universities Act 2010. BUP affiliated Army Welfare Trust (AWT) run institutes and colleges through public-private partnerships (PPP) are: 2 Army Institutes of Business Administration (AIBAs) at Savar, and Sylhet; 5 Army Medical Colleges at Chattogram, Cumilla Bogura, Jashore, and Rangpur. Numerous other colleges, institutes, and academies are there as organic and/or affiliated to BUP.

Winston Churchill (1874-1965), a UK Lt Col of WW I and elected Prime Minister in WW II once said. “The privilege of university education is a great one; the more widely it is extended the better for any country”. Bangladesh Military Academy (BMA) had successive affiliation with University of Chattogram and Bangladesh National University, and now is with BUP. The Father of the Nation Bangabandhu Sheikh Mujibur Rahman forecasted defence services’ potentials of contributing to higher education while addressing the BMA gentleman cadets on 11 January 1975 at Cumilla by saying, “In Sha Allah, the days will come when not only South Asia but whole world will appreciate our quality of training and education.” Defence services’ universities and higher education and training institutes have been manoeuvring to be nationally and internationally competitive for certification and employment, and also conducive to research and development. Article 17 of our Constitution entrusts the State to adopt effective measures for the purpose of establishing a universal education system to meet the needs of society: local, regional and global.

2.0 Literature Review

Khan (2016) provided guidelines on macro level development removing the micro and meso level problems from his long involvement with Bangladesh civil service since 1971 war to military backed rule in 2006-7. Khan had been a pioneer bureaucrat in Mujibnagar government MoD. He laments that bad people drive away the good people from the contemporary society as Thomas Gresham (1519-1579) stated that bad money drives out good money. Skousen (2007) drew comparison among extreme left, mixed, and extreme right political economy phenomena vis-a-vis role of various sectors including defence services in national development at various era of mercantilism. Johnson (2015) depicted the histories of militaries’ positive and negative plays in third world countries including South Asia. Abdel-Khalek et el (2019) wrote about downtrend in GDP for spending in militaries' mass destruction arsenals in name of research and development.

Das (2018) showed how development macro indicators had raised with militaries' expenses in sociopolitical and economic resources and involvement through PPP. Vayrynen (1992) brought lessons on alternative nonmilitary products using military industries and machines optimizing opportunity costs. Ruttan (2006) discussed how military war technologies procurement and their inclusive use in diversified national productive projects can enhance development without fighting any war. Joint Chiefs (2016) described defence services' modus operandi in national development activities upholding democratic environment and maintaining military professionalism side by side. Ventrone (2016) discussed how amalgamation of military and civil higher education took place in different countries in various eras. Law of the People's Republic of China on National Defense Education (Order of the President No 52) made reforms in higher education for politico-military and socio-economic stability.

3.0 Objective of the Study

The broad objective of this paper is to evaluate consequence and challenges of defence services in contributing to higher education of Bangladesh. The specific objective is to recommend measures to optimize the defence services contribution scope both quantitatively and qualitatively.

4.0 Methodology

I conducted qualitative exploratory research using primary and secondary data. I adopted pragmatic and interpretive philosophies with inductive approach. The major efforts of the research were on primary and secondary searches and empirical observations through literature and reference study, opinion survey, and personal interview. The research philosophies, methods, data collection, data analysis, triangulation, trilateration processes were chosen carefully and implemented systematically. Interview and survey technique with personal interaction through semi-structured predetermined questionnaire were used to explore civilian and military specialists in the higher education field. Quantitative techniques with qualitative exploration helped finding solution to my research objective drawing relevant conclusion and recommendation.

5.0 Glossary of Important Terms

Higher education is post-secondary third-level tertiary education which is optional but formal education in college, university or *Hochschule* (German) leading to receiving an academic degree (graduation bachelor's and post-graduation master's, and doctorate). Teaching, research, exacting applied works, and social activities in universities are included in higher education with evidences of critical thinking, analytical reasoning, problem solving, and decision-making abilities. Definition of higher education is available in International Standard Classification of Education (ISCED) by UNESCO (2011). Higher education is important to national economies because it acts as the source of educated and trained personnel for creating new and meeting skilled employments. Grades inflation in recent days universities may bring criticism of graduate underemployment and unemployment (Hacker, 2010). Higher education needs to consider credentialism and over-qualification phenomena in macro level productivity.

Defence services (synonyms armed forces, militaries etc) are the army, navy, and air force who perform crucial role in national defence and security. Defence and security originally conceived as safeguarding against military onslaughts, but now it is having additional meaning of socioeconomic security, cyber security, environmental security, food security etc. Defence services need to take actions against non-state actors, proxy warriors, multinational corporations, narcotic cartels, environment polluters etc besides actions against conventional adversaries. Defence services play in international security which are the measures taken by states and international organizations like UN.

Optimizing participations by Bangladesh defence services in UN peacekeeping operations demands wide teaching and research on international relations, security studies, strategic studies, war and peace studies in partnership with civilian counterparts.

Contribution means to provide, offer or share something positive that helps in achieving results. The contribution of defence services to higher education through their conglomerate universities and education institutes in Bangladesh is praiseworthy. Contributions have limits as time and resources given to defence services have limit with definite tasks and responsibilities. The primary task and responsibility of defence services is national defence and security, secondary and subsidiary tasks are multifarious. National defence and security become easy when military forces can take on board the civilian population with them. Challenges and consequences have to be faced and accepted as the processes of militarization (ascending transformation) and civilianization (descending transformation) affect the professionalism of defence services (Johnson, 2015).

6.0 Higher Education and Defence Services

Academia and defence services go side by side. Plato (428-348 BC) built an academy as a higher learning centre in Athens by the name of Greek military hero *Akademos* in an olive grove. Plato's teacher Socrates (470-399 BC) was an army Captain who was poisoned to death by hemlock in an Athenian mistrial. Plato's student Aristotle (384-322 BC) made *Lycaeum* who was the teacher of soldier-emperor Alexander the Great (356-323 BC) referred in Islam as Zulqarnain. In China Han dynasty (202BC-220), *Taixue* existed as grand university to teach military and imperial employees. Polemology or war studies had been the root of diverse subjects with suffixes: -logy, -ics, -gogy, -nomy, -ism, -cracy, -sophy etc we study in universities and higher education and training institutes. Education and training are synonymous where education is meant to be generalized concepts and training is specialized to profession and trade.

However, outcome-based education (OBE) idea of higher education and quality enhancement project (HEQEP) by World Bank tends to equalize higher education to higher training.

Greek god of war Polemos involved Greek goddess of wisdom and war Athena in Trojan War along with two other goddesses Aphrodite and Hera. Blind poet Homer's epics Iliad and Odyssey kept enormous lessons of Troy (present day western region of Turkey) land, sea, and air battles - creation and re-creation of knowledges in polemology. Great Sanskrit epics Ramayana by Maharishi Valmiki and Mahabharata by Vyasa depict the wars at Lanka in Treta Yuga and at Kurukshetra in Dwapara Yuga. Conversations of Bhagwan Krishna with Pandava 3rd brother Sree Arjun at Kurukshetra is Bhagavad Gita. Chanakya (375-283 BC) was a polemologist and contributed greatly in higher education. Chanakya had been a popular faculty member in Taxila University that existed as the oldest university. This had been much before Nalanda University at Bihar where Munshiganj's Atish Dipankar was a faculty member. British colonial governor generals and later vice roys in India were mostly military Major Generals / Rear Admirals / Air Vice Marshals. The positive outcomes of 1857 Independence War were establishment of 3 universities: Calcutta, Bombay, and Madras in 3 Indian presidencies in 1858.

Lt Col surgeon Hassan S Suhrawardy (maternal uncle of Hossain S Suhrawardy) had been a vice chancellor (VC) of Calcutta University (1930-34) in Bengal Presidency. USA pharmaceutical higher education got enriched by Col Eli Lily (1838-1898), a civil war veteran. It may be relevant to mention that out of 45 US presidents, about 32 possessed military or polemology background. Australian Monash University has been functioning as a public research university since 1958 that was named after Major General John Monash (1865-1931) who fought in the Gallipoli campaign during WW I. He was a VC in Melbourne University (1923-31) until his death. Famous Macquarie University in Sydney is also named after British Major General Macquarie who as a British Governor in 1810-21 influenced the shaping of Australian society from penal colony to free settlements. BUP and Macquarie University signed memorandum of understanding (MoU) for education exchanges after mutual visits and meetings. Latin *Universitas Magistrorum et Scholarium* define universities: *the community of teachers and scholars* with inclusion of all - civil and military.

Higher education is supposed to benefit human beings but unethical use of higher education brings disasters like Hiroshima and Nagasaki atom bombings in August 1945 by learned military and civilian WW II allied leaders. Corona virus disease 2019 (COVID-19) pandemic thought to be joint venture by military and civilian joint research in some public university spawned from the minds of evil dictators who want unlimited control on planet Earth. Result of this research was destructive to depopulate our planet Earth by dark biological weapon (Bodner, 2020). On the contrary billions of dollars constructive businesses made by multinational corporations researching on vaccines and implementing vaccination worldwide. To save the humanity, here also defence forces and civilian higher education researchers and implementors worked hand in hand.

6.1 Strength, Weakness, Opportunity, and Threat (SWOT) Analysis of Defence Services in Higher Education

The important considerations in higher studies are academic freedom and non-vocational characteristics. The right of a travelling scholar to unhindered passage (*Authentica habita*), openness of discussions (*Chatham House Rules*), meritocracy above bureaucracy guided the creation of *Magna Charta Universitatum* by renowned universities of the world in 1988. The year was the 900th anniversary of the oldest Bologna University, Italy's foundation in 1088. University education is not learning only, it means unlearning and relearning too through andragogy and heutagogy. Legal environment is made by various parliamentary enactments to provide legacy of change including education. Army Act 1952, Navy

Ordinance 1961, Air Force Act 1953, Cantonment Act 2018 etc accommodate BUP Act 2009, BSMRMU Act 2013, BSMRAAU Act 2019, Private Universities Act 2010, PPP Act 2015 through adoptions and adaptions. These enactments are there to run organic faculties and affiliated institutes effectively. Balancing militarization and civilianization in military run universities and institutes with retired officers and soldiers from 3 defence services is a preferred way. Retired Armed Forces Officers Welfare Association (RAOWA) and Sena Kalyan Sangstha (SKS) may play important roles in this regard.

Figure 1: Logos of BUP, BSMRMU, and BSMRAAU

Source: Collection from University Authorities

'Excellence through Knowledge' as seen common in the logos and mottos of defence services universities, affiliated institutes and colleges is being materialized gradually with organizational and infrastructural strength, discipline, and management capabilities of 3 defence services. Brain and brawn double the productivity in military environment which occasionally remain absent in many of the public and private universities and higher education and training institutes in the civil sector. Universities usually lose the epistemological path of intellectualism if materialism is on the driving seat (Sofa, 1995). AFD through services HQ and sister organizations ensure national integrity strategy (NIS) in the defence services. This is why the expected results are seen in military edupreneurships – a portmanteau of education plus entrepreneurships. Defence Services officers both in uniform and in civvies are continuously energized with the Almighty bestowed entrepreneurial and innovative traits because of their inherent military value systems. BUP affiliated National Defence College (NDC), Military Institute of Science and Technology (MIST), Armed Forces Medical College (AFMC), Proyash Institute of Special Education and Research (PISER), Bangladesh Institute of Peace Support Operation and Training (BIPSOT) etc are drawing attentions of the world through ranking organizations.

Development thinkers like Adam Smith, Karl Marx, and John Maynard Keynes in their socio-economic paradigms suggested involving defence services entrepreneurial efforts in major affairs of education, health, and physical infrastructure of a nation (Skousen, 2007). History and practices of mercantilism, colonialism, physiocratism, capitalism, communism, neocolonialism etc prescribed and proscribed armed forces roles in defence and development. Their roles of safeguarding the sovereignty and national integrity remain primary, and secondary development roles reinforce the primary one (Abrams, 1989). Military efforts in higher education bring synergistic results when two-way civil military relations (CMR) and civil military cooperation (CIMIC) remain in place and practice. BUP, BSMRMU, BSMRAAU, BAUET, BAIUST, BAUST along with affiliated Armed Forces Medical College (AFMC), MIST, army medical colleges, NDC, Defence Services Command and Staff College (DSCSC), army institutes of business administration (AIBAs) etc welcome civilian faculty members and officers. Civil universities and institutes should also reciprocate and welcome military faculty members and officers.

Figure 2: Logos of BAUET, BAIUST, and BAUST

Source: Collection from University Authorities

Civil universities and institutes may make room for serving and retired defence services officers in their senate, syndicate, board of trustees, and faculties as defence services public and private universities and institutes already did so. Latin *Universitas Magistrorum et Scholarium* means that universities are the *communities of teachers and scholars* irrespective of profession, culture, religion, language, creed, and discipline. Old and medieval universities like the University of Ez-Zitouna (737), Al-Qarawiyyin (860), Al-Azhar (970), Bologna (1088), Oxford (1096), Cambridge (1209), Harvard (1638) etc welcomed 7 liberal arts *trivium and quadrivium* as the study of *humanity* (homo sapiens and progress) adding to the old study of *divinity* (god-goddess and religion). Renaissances furthered the higher education by inclusion of science, technology, engineering, and mathematics (STEM). Armed forces universities and institutes are always affluent with STEM education and international experiences that civil counterparts may always benefit from.

Figure 3: Logos of MIST, AFMC, and AIBA Savar

Source: Collection from Institute and College Authorities

7.0 Conclusion

Patriotic defence services of Bangladesh possess the visionary directives with love and affections from the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. The spirit of War of Independence 1971 and their active participation entrusted tri-military service Army, Navy, and Air Force with sustainable development responsibility besides safeguarding the sovereignty of the nation on land, sea, and air. Higher education is one of the important parameters of sustainable national development, integrity and security. The more knowledgeable the defence services are, the more productivity is expected from them in terms of quantity and also quality. Tertiary education, higher professional training, university graduation are synonymous terms used in epistemology - knowledge about knowledge. Higher education is no more a luxury in new millennium 'knowledge society'. It is essential now, be it in production sector or service sector including military. Development economists spoke about citizens' literacy and education that have snowball effect in sustainable development. Higher education helps to increase per capita income and life expectancy in an economy both quantitatively and qualitatively.

Defence and development go hand in hand as development gurus Adam Smith, Karl Marx, John Maynard Keynes etc described and prescribed in their socio-economic paradigms and sustainable development models. Polemology or war studies is thought to be a mother subject that gave birth to diverse departments and disciplines in universities and higher education institutes. Universities practice universality bringing civilians and military together as Socrates' disciple Plato made a Academy in olive grove for higher education in name of the Greek military hero *Akademos*. Defence services possess 3 public and 3 private universities; BUP affiliated 3 academies for military training, 1 marine academy, 1 public institute of science and technology, 1 public medical college, 5 private medical colleges, 2 business administration institutes and numerous other colleges and institutes. These are run under relevant acts like BUP Act 2009, BSMRMU Act 2013, BSMRAAU Act 2019, Private Universities Act 2010 etc. BUP Act Section 2 (19) 'Professionals' is defined as a person or a student willing to study and who is either serving now or will be serving in future at any sector. BUP and other military universities along with their affiliated institutes and colleges are thus open for all both military and civilian students.

Enactments gave authority to BUP, BSMRMU, and BSMRAAU for running numerous organic and/or affiliated colleges, academies and institutes. NDC, MIST, DSCSC, AFMC, BMA, PISER, BIPSOT, Bangladesh Naval Academy, Marine Academy, Air Force Academy, AIBA etc are few of 56+ organic and / or affiliated colleges and institutes. Defence services face challenges running higher education in such universities and affiliated colleges and institutes for inhouse military personnel along with civilian students. Ascending transformation take place for civilians to cope up with military environment whereas descending transformation take place for defence services members mixing up with civilians. Armed forces are energetic and entrepreneurial with their constant practice of brain and brawn together. NIS is followed cent percent without any deviation and compromise for which defence services productivity and outputs are always high. Defence services organizational strength, management supremacy, and unbounded patriotism and integrity bring them successes in all fields including higher education. Parents and guardians feel confident and rewarding with their children in higher education run by defence services.

The comparatively larger civil sector may explore inviting, engaging, and benefitting from the defence services personnel creating synergistic work environment in their universities and higher education institutes. The military universities and institutes display such CMR and CIMIC so that civilian counterparts may reciprocate equally. Military and civilians fought together for independence and they need to do the same in present and future too for our beloved Bangladesh. PPP, CIMIC, CMR etc. pay positively in sustainable development especially in higher education creating unity in diversity. Conspiracy theory try to depict COVID-19 as the destructive creation through unethical higher education and research by vested power group in any of the civil-military biological weapons laboratories. On the other hand, multinational corporations made billion-dollar businesses for constructive destruction of corona virus by vaccines through higher education and research in renowned universities. Higher education and research brought military and civilians together for both good and bad, ethical and unethical acts for and against humanity.

8.0 Recommendation

MoE and UGC may endeavour creating spaces in various tiers and hierarchies of higher education for accommodating serving and retired defence services officers. Sharing military higher education and training best practices will definitely add significant values in the larger civil higher education arena. Our neighbouring countries have such provisions of nominating military officers as chairman and members of UGC; VCs, Pro-VCs, treasurers, registrars, and in various other responsible offices in public and private universities. Lt Gen Zameer U Shah was a VC of Aligarh Muslim University (2012-17). Sikkim Manipal University has Lt Gen (Retd) MD Venkatesh as its VC since 2020. Similarly serving or retired armed forces officers may be in senates, board of trustees, syndicates, academic councils of public and private universities. Military participation will enhance diversity, efficiency, accountability, integrity and transparency in higher education of Bangladesh.

Faculty members selection both tenured and adjunct is very important for quality education in defence services universities and higher education institutes and colleges. Selection and appointment authorities may consider pool of retired defence services officers through AFD, 3 services HQ, and RAOWA. There are defence services related departments on conflict and peace studies, disaster management, international relations, public administration, development studies, operations management, Bangladesh studies etc where public and private university authorities may select military intellects as practicing and contributing professors. Academic exchange programmes may take place between defence services universities and institutes with civil universities and institutes. NDC, MIST, DSCSC, BIPSOT, AIBAs, AFMC, Army Medical Colleges, Corps of Military Police Centre and School, PISER etc possess rich curricula and expertise to share for national sustainable development.

Defence services officers and soldiers had to be sent to civilian universities and higher education colleges and institutes for recognized certification in related fields of expertise. Military higher education and training academies, schools, institutes, colleges are now affiliated with BUP, BSMRMU, and BSMRAAU. Steps may now be taken to issue university certificates and transcripts against all professional military courses. Deciding the certification levels may be by university credits and grades equivalence committees. Courses duration in terms of credit hours and contents of curricula will dictate the equivalence committees whether to provide graduation, post-graduation, diploma, or only qualification and attendance certificates. Transcripts mentioning duration and subjects should follow all certifications to guard against credentialism and over qualification. University recognized degrees, transcripts, and certificates will greatly assist in defence services officers' due recognitions and prospects for 2nd professions. These huge higher academic activities will be challenging but consequences will be definitely positive lifting our standard high nationally, regionally, and globally.

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Do Autotelic Personality and Study Techniques Help Students' to be Intrinsically Motivated?

Md. Enamul Hasan[1], S.M. Khaled Hossain[2]

Abstract

The aim of this research is to explore the motivational factors behind university (Undergraduate level) students having autotelic personalities and the intrinsic motivational orientation which may help them to have a focused career and vision. The attributes, or meta-skills include [a] curiosity, [b] persistence, [c] personal attitude, [d] materials control and [e] intrinsic motivation. We implemented a questionnaire survey and collected data from 240 undergraduate-level students. Employing structural equation model (SEM) with SmartPls, our findings exert that students having the higher level of autotelic personality, control over the academic materials, curiosity, persistence lead them to be intrinsically motivated, which in return may help them to succeed in their further career. The findings of this study may be of interest to the students who faces dilemma in their preference setting arena as well as to the institutions to help students to enhance their skills in this regard.

Keywords: Autotelic personality, intrinsic motivation, structural equation model, university students.

1.0 Introduction

Students' motivation is a crucial fact in tertiary level education, specifically owing to the significance of academic achievement in their

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[1] Md. Enamul Hasan is a Lecturer at Army Institute of Business Administration Savar, Dhaka, Bangladesh. His contact address: enamul@aibasavar.edu.bd

[2] S. M. Khaled Hossain is an Assistant Professor at Army Institute of Business Administration Savar, Dhaka, Bangladesh. He is also a PhD Fellow at Dept. of AIS, Jagannath University, Dhaka, Bangladesh. His contact address: khaled@aibasavar.edu.bd

career life. This research aims to find the aspects that will assist educational theorists in understanding students' attitudes toward learning, as well as what helps and inhibits learning. This will aid the educational community in predicting student academic achievement and identifying students before their grades start to decline (Kamauru, 2000). Lumsden (1994) found that children's desire to learn diminishes as they get older. Learning can sometimes feel more like a burden than a pleasure. As a result, a huge proportion of students drop out before graduating. Because of students' negative attitudes about education, only a small percentage of students are mentally present in the classroom. In these circumstances, students' motivation level can play a significant role in engaging them with their studies. Students' motivation is the factor that determines how students feel about the learning process. A number of studies have been undertaken to investigate the influence of student motivation on academic achievement. Lumsden (1994), for example, looked into students' involvement in education and the sources of their motivation. Marshal (1987) viewed student motivation as a force that is beneficial for the learners. According to Ames (1990), learning motivation is based on a long-term, high-quality attachment to learning and a commitment to the learning experience.

Intrinsic and extrinsic motivation are frequently used to categorize student motivation. When a learner is inspired from within, he or she is intrinsically motivated. Intrinsically motivated students are compelled to learn for a variety of reasons, including curiosity, pleasure, or enjoyment, as well as to fulfil their own intellectual and personal objectives. Students who are intrinsically motivated, according to Dev (1997), do not require any form of reward or incentive to initiate or complete a task. This type of learner is more determined to accomplish the assigned task and is drawn to activities that are difficult. According to Lepper (1988), intrinsic motivation is valued for the pleasure it brings or the sense of accomplishment it generates. Thus, students who are intrinsically motivated are more enthusiastic, self-driven, and enjoy their studies, whereas students who are extrinsically motivated try to drag themselves through academic assignments, feel compelled to learn, and always put forth minimal effort in order to receive maximum praise. Students who are intrinsically motivated are more likely to use tactics that involve more effort and allow them to process the information more thoroughly. Another important fact that might influence the intrinsic motivation level of the students is their autotelic personality. Many of the previous studies depicted that there exists a positive connection between autotelic personality of the students and their intrinsic motivation level (Jeng and Teng, 2008; Csikszentmihalyi, 2000; Ning and Downing, 2010). The current study aims to investigate the motivating factors that lead university students to develop an autotelic personality, as well as the intrinsic motivational orientation that may aid them in developing a focused career and vision. The findings of this study may be of interest to the students who face dilemmas in their preference setting arena as well as to the institutions to help students to enhance their skills in this regard. In section 2 the researchers have reviewed the related literature on the subject matter whereas in section 3 the methodological aspects of the study were described. In section 4 the researchers analysed data and interpret the results and finally, in section 5 the study concluded their remarks.

2.0 Review of Related Literatures

2.1 Autotelic Personality and Intrinsic Motivation

"The word 'autotelic' is made up of two Greek roots: auto (self) and telos (destination)". An autotelic activity is one that we engage in only for the purpose of experiencing it. When it comes to personality, autotelic refers to someone who "does things for their own sake, rather than for the sake of achieving some eventual external aim" (Csikszentmihalyi 1997). "The ability to manage a rewarding balance between the "play of challenge finding" and the "work of skill building" is the main characteristic of the autotelic personality" (Csikszentmihalyi et al. 1993). The concept of autotelic personality was first conceptualized by Csikszentmihalyi in

1997 as a revised version of flow theory. In the flow theory, Csikszentmihalyi (2000) defined flow as a condition of intrinsic motivation in which a person is fully engaged in what he or she is doing for the sake of the action itself. It is characterized by a fusion of action and awareness, a sense of control, strong concentration, loss of self-consciousness, and time transformation (Csikszentmihalyi, 2000; Csikszentmihalyi and Larson, 2014; Csikszentmihalyi and LeFevre, 1989; Nakamura and Csikszentmihalyi, 2002). The individuals who belongs autotelic personality prefer to put themselves in situations that allow them to experience flow states frequently (Csikszentmihalyi et al. 1993; Nakamura and Csikszentmihalyi 2002). Flow occurs when an individual finds a balance between the challenge of an activity and his or her own skills, according to Csikszentmihalyi's original paradigm (Csikszentmihalyi 2000). Csikszentmihalyi and Csikszentmihalyi (1988b) proposed in their revised model that flow occurs when both difficulties and capabilities are strong. Many of the previous literature (Jeng and Teng, 2008; Csikszentmihalyi, 2000; Ning and Downing, 2010) argued that the individuals who possess autotelic personalities are more intrinsically motivated and self-driven in their work than those who do not.

Integrating the flow and autotelic personality literature, we understand autotelic personality as a multifaceted construct with four attributes: (a) curiosity and interest in life (b) persistence, (c) personal attitude, (d) materials control. In designing the present study we consider four attributes of autotelic personality namely students' curiosity, persistence, personal attitude, and materials control as independent variables which may affect the intrinsic motivation level of students characterized as the dependent variable.

The first attribute of autotelic personality is curiosity and interest in life. Curiosity has been shown to have a favorable association with students' intrinsic motivation in prior studies (Litman, 2005; Shroff et al., 2008). Curiosity stimulates an internal urge or needs to study new knowledge or obtain information that learners have overlooked. This aspect has a direct impact on both students' intrinsic motivation and academic achievement. In a study of 581 university students in Hong Kong, Ning and Downing (2010) discovered that the students' motivation is the strongest predictor of their academic performance, but there have been few attempts to investigate more specific factors such as curiosity and external regulation to see if they affect intrinsic motivation among Hong Kong university students. The study discovered a strong link between students' intrinsic motivation and their curiosity.

H_1= There is statistically significant relationship between curiosity and intrinsic motivation level of students.

The second attribute of an autotelic personality is persistence. Grantt (2008) conducted a study in which he argued that there is a significant positive association between students' persistency with their intrinsic motivation level. According to the researcher, the students who are intrinsically motivated are more persistent with their studies in comparison to those who are not. In addition, the students who are persistent in their personality are more curious to learn new insights and take on new challenges, and because of that reason, they belong to more intrinsic motivation level for their study than the others.

H_2= There is statistically significant relationship between persistence and intrinsic motivation level of students.

The third attribute of autotelic personality is personal attitudes. The multitude of ways in which an individual responds to and communicates with others is defined as personality (Robbins & Judge, 2011). Despite being regarded by many experts as one of the most important aspects of human behavior and motivation, the relationship between personality and motivation is still poorly understood. Contrary to belief, personality attributes can even be a source of motivation (Ariani, 2015), as motivation is a powerful force that drives people to take action. Personality, according to Jeng and Teng (2008), can be a critical aspect in a variety of situations where an individual's personality might influence his or her performance. Personality has a role in a variety of situations, reinforcing the argument that it should be a source of motivation (Lumanisa, 2015). Intrinsically driven students, according to Kaufman et al. (2008), are outgoing, agreeable, attentive, and open to new experiences. (Komarraju et al., 2009) revealed a link between the Big Five personality traits and academic motivation, as well as establishing numerous important personality-motivation correlations.

H_3= There is statistically significant relationship between personal attitudes and intrinsic motivation level of students.

The fourth attribute of autotelic personality is attentional control or materials control. Many of the earlier researchers have found a positive connection between students' materials control and their intrinsic motivation level. Fadlelmula (2010) claimed that the students who are more organized in controlling the study materials are more concentrated with their study due to their intrinsic motivation level. Students with intrinsic motivation assimilated reading material more carefully obtained higher grades, and showed more persistence than students with extrinsic motivation, according to Vansteenkiste, Simons, Lens, Soenens, Matos, and Lacante (2004). On the other hand, Bye et al., (2007) showed that students who have no control over their study materials face a lot of problems during their exams and consequently they lose their motivation level to study.

H_4= There is statistically significant relationship between materials control and intrinsic motivation level of students.

3.0 Research Methodology

For the purpose of this study, data were collected from the students of Army Institute of Business Administration, Savar, using self-administered questionnaire. We collected responses from 150 students with the questionnaire consisting two sections, Section A (Demographic information) and Section B (Autotelic personality and intrinsic motivation related questions). The items used in to measure the Autotelic personality and intrinsic motivation were adapted from Tse et al. (2020). Respondents were asked to indicate their agreement or disagreement with several statements on a five-point Likert scale ranging from 1=strongly disagree to 5=strongly agree.

4.0 Findings and Analysis

4.1 Convergent Validity

The convergent validity of the measurement is usually ascertained by examining the loadings, average variance extracted (AVE) and also the composite reliability (CR) (Gholami et al., 2013; Rahman et al., 2015). The loadings are all higher than 0.708, the composite reliabilities were all higher than 0.7 and the AVE of all constructs were also higher than 0.5 as suggested in the literature (See Table1 and Figure 2).

Table 1: Convergent Validity

Constructs	Items	Loadings	Cronbach	rhoA	AVE	CR
Curiosity	CU_1	0.785	0.7	0.718	0.621	0.831
	CU_2	0.753				
	CU_4	0.825				
Intrinsic Motivation	IM_2	0.834	0.676	0.701	0.604	0.820
	IM_3	0.713				
	IM_4	0.779				
Materials Control	MC_3	0.72	0.685	0.696	0.614	0.826
	MC_4	0.81				
	MC_5	0.816				
Personal Attitudes	PAT-1	0.833	0.847	0.812	0.638	0.876

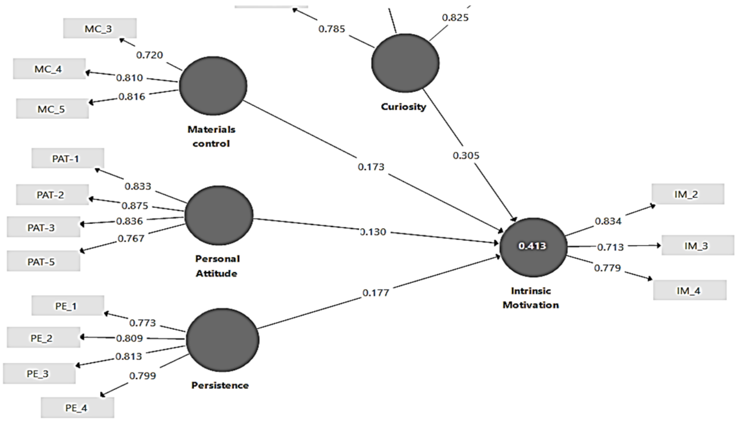
	PAT-2	0.875				
	PAT-3	0.836				
	PAT-5	0.767				
Persistence	PE_1	0.773	0.811	0.848	0.686	0.897
	PE_2	0.809				
	PE_3	0.813				
	PE_4	0.799				

Source: Authors' calculation

4.2 Discriminant Validity

We have tested the discriminant validity using the new suggested method and the results are shown Table 2. If the HTMT value is greater than $HTMT_{0.85}$ value of 0.85 (Kline, 2015), or $HTMT_{0.90}$ value of 0.90 (Gold et al., 2001) then there is a problem of discriminant validity. As all the

Figure 1: Measurement Model Results



values passed the $HTMT_{0.90}$ (Gold et al., 2001) and $HTMT_{0.85}$ (Kline, 2015), indicating that discriminant validity has been ascertained.

Table 2: Discriminant Validity (HTMT Ratio)

	1	2	3	4	5
1. Curiosity					
2. Intrinsic Motivation	0.566				
3. Materials control	0.445	0.463			
4. Persistence	0.623	0.535	0.482		
5. Personal Attitude	0.562	0.508	0.53	0.646	

Source: Authors' calculation

5.0 Conclusion

In conclusion, we developed and validated 22-item questionnaire as an alternative to measure the influence of individuals' autotelic personality and possibility of being intrinsically motivated. Our findings posit that students having such personality are more target oriented and intrinsically motivated, which may help them to be successful and more ethical employee to the organization or in their business activities. The findings of this study may be of interest to the students who faces dilemma in their preference setting arena as well as to the institutions to help students to enhance their skills in this regard.

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Sales Forecasting by Using Bagging Method: A Framework for Bangladeshi E-Commerce Website

Afzal Hossain[1]

Abstract

Ensemble Learning is transforming each stroll of our lifestyles and has come to be a major contributor in actual global scenarios. The revolutionary applications of Ensemble Learning can be seen in education, healthcare, engineering, sales, entertainment, transport and several more. Sales forecasting is even more vigorous for supply chain management in e-commerce with a massive amount of transaction data generated every day. E-commerce enterprises focus more on enlightening the correctness of sales prediction with Ensemble Learning algorithms. E-commerce is thriving day by day in Bangladesh, especially in crisis, the world is facing. There are many platforms available on these sites among which Clickbd, Bikroy, Rokomari, Daraz, Chaldal, Sohoz, E-valley, Alishamart etc. are the most successful marketplace. This online podium allowed people to do shopping, but many appraisals and commentaries made it challenging to select the best option. The purpose of this paper is to propose a dimension for predicting the future sales of Big Mart Companies keeping in view the sales of previous years. A comprehensive study of sales prediction is done using Bagging Ensemble Learning Method used with Linear Regression as base Classifier of Machine Learning Algorithms for forecasting model of selling the Ecommerce commodities.

Key Words: Machine Learning (ML), Ensemble Learning (EL) Sales Forecasting, Bagging, Linear Regression (LR), E-Commerce.

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[1] Afzal Hossain is an Assistant Professor at Army Institute of Business Administration, Savar Cantonment, Dhaka, Bangladesh. He is pursuing MPhil from IIT, University of Dhaka, Bangladesh. His contact address: afzal@aibasavar.edu.bd

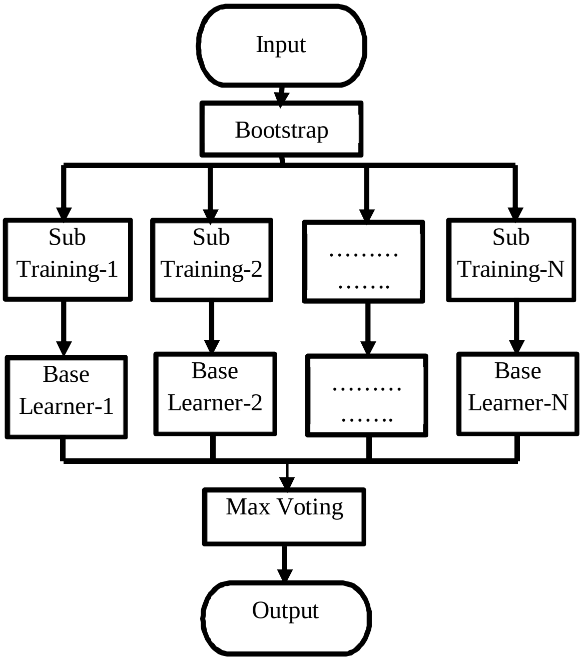
1.0 Introduction

Machine Learning (ML) is a method of data analysis that automates analytical model building. It is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. Because of new computing technologies, machine learning today is not like machine learning of the past. It was born from pattern recognition and the theory that computers can learn without being programmed to perform specific tasks. The iterative aspect of machine learning is important because models are exposed to new data, they are able to independently adapt. They learn from previous computations to produce reliable, repeatable decisions and results. There are different Machine Learning methods are used to predict the class level of data such as Decision Tree, Bayesian Belief Network (BBN), Naïve Bayes Classifier (NBC), K- Nearest Neighbor (KNN), Support Vector Machine (SVM), Linear and Logistic Regression. In this research work Linear regression (LR) is used as a base classifier. Ensemble learning methods usually use some kind of combination to combine the prediction results of multiple homogeneous or heterogeneous models and effectively improve the model generalization ability and prediction accuracy. Ensemble learning is primarily used to improve the classification, prediction, function approximation performance of a model, or reduce the likelihood of an unfortunate selection of a poor one. Other applications of ensemble learning include assigning a confidence to the decision made by the model, selecting optimal or near optimal features, data fusion, incremental learning, non-stationary learning and error-correcting.

The bagging ensemble learning strategy aims to integrate the prediction results of multiple homogeneous base learners, and the combination of this strategy can effectively improve the model generalization ability and avoid the occurrence of the overfitting phenomenon. The basic concept of the Bagging ensemble learning strategy is to randomly sample the dataset using the Bootstrap method and export a number of sub training sets of N equal size. Then, base learners are trained separately on the sub training sets, and finally, the prediction results of base learners are arithmetically averaged to obtain the final prediction results. The prediction process is shown in Figure 2.4. Bootstrap Aggregation (or

Bagging for short), is a simple and very powerful ensemble method. Bootstrap Aggregation is a general procedure that can be used to reduce the variance for those algorithms that have high variance.

Figure-1 Flowchart and Algorithm of Bagging Method



Bagging Algorithm:
Data: Input Dataset (X, y)
Result:
1-Selected Features
$F' = \{F'_1, F'_2, F'_3 \dots\dots\dots\dots . F'_l\}$
2- Aggregated Featured
$F = F_1, F_2, F_3 \dots\dots\dots F_n$
For i=1: l Do
$(X', y') = Bootstrap\ Sampling\ of\ (X, y)$
$F'_i = f(X', y')$
end
For j=1: n Do
$F_j = \frac{1}{l}\sum_{i=0}^{l} F'_{i,j}$
end
$F = F_1, F_2, F_3 \dots\dots\dots F_n$

Source: Developed by the Author

Ecommerce (or electronic commerce) is the buying and selling of goods (or services) on the internet. It encompasses a wide variety of data, systems, and tools for online buyers and sellers, including mobile shopping and online payment encryption. Most businesses with an ecommerce presence use an ecommerce store and/or an ecommerce platform to conduct online marketing and sales activities and to oversee logistics and fulfillment. To fully understand ecommerce, let's take a look at its history, growth and impact on the business world. The e-Commerce sector has seen dramatic growth since the early 2000's when Bangladesh lacked widespread internet access or a reliable online transaction system.

The e-commerce Association of Bangladesh (e-Cab), the trade body for e-commerce in Bangladesh, estimates there are 700 e-commerce sites and around 8,000 e-commerce pages on Facebook. Facebook remains a popular method for advertising and selling products, to a point that many businesses forgo creating websites. Ten billion taka in transactions take place on e-commerce sites per year according to a 2017 e-Cab report (Ahmed, 2020).

Forecasts are about the future. It's hard to overstate how important it is for a company to produce an accurate sales forecast. Privately held companies gain confidence in their business when leaders can trust forecasts. For publicly traded companies, accurate forecasts confer credibility in the market. Sales forecasting adds value across an organization. Finance relies on forecasts to develop budgets for capacity plans and hiring, and production uses sales forecasts to plan their cycles. Forecasts help sales operations with territory and quota planning, supply chain with material purchases and production capacity, and sales strategy with channel and partner strategies. Sales forecasting is the process of estimating future revenue by predicting the amount of product or services a sales unit will sell in the next week, month, quarter, or year.

This paper has been focused the way of forecasting sales using bagging methods of Ensemble learning. The collected data set are divided into training and test data. After that the training data has been sub divided to use in the bootstraps of bagging. The Linear Regression is used to construct a predictive model. Test data are applied to the predictive models and finally max voting methods are applied to make a final prediction of sales. Since the Linear Regression is used as a base classifier in bagging method whose name is given to Bagging Integration Regression Model (BIRM).

2.0 Literature Review

Jain et al. (2000) include a section on classifier combination. They list reasons for combining multiple classifiers: one may have different feature sets, different training sets, different classification methods or different training sessions, all resulting in a set of classifiers whose results may be combined with the hope of improved overall classification accuracy. Kleinberg (2000) bridged the gap between the theoretical promise shown by stochastic discrimination and a practical solution by providing the algorithmic implementation. He also showed that stochastic discrimination outperformed both boosting and bagging in the majority of benchmark problems that it was tested on. Kuncheva et al. (2000) considered whether independence is good for combining classifiers. Their results support the intuition that negatively related classifiers are better than independent classifiers, and they also show that this relationship is ambivalent. Dietterich (2000) compared the effectiveness of randomization, bagging and boosting for improving the performance of the decision-tree algorithm. Their experiments showed that in situations with little or no classification noise, randomization is competitive with bagging but not as accurate as boosting. In situations with substantial classification noise, bagging is much better than boosting, and sometimes better than randomization. Kuncheva and Jain (2000) designed two classifier fusion systems using genetic algorithms and found that selection of classifiers and (possibly overlapping) feature subsets worked well, but selection of disjoint feature subsets did not. Tax et al. (2000) sought to answer the question of whether to combine multiple classifiers by averaging or multiplying. They concluded that averaging-estimated posterior probabilities is to be preferred in the case when posterior probabilities are not well estimated. Liu et al. (2000) presented evolutionary ensembles with negative correlation learning (EENCL). Allwein et al. (2000) proved a general empirical multiclass loss bound given the empirical loss of the individual binary learning algorithms. E-commerce activities are embedded in the U.S. national accounts, including the GDP accounts (Fraumeni et al., 1999).

Forecasting is the art and science of predicting future events. It involves analyzing historical data and projecting a future situation. (Heizer and Render, 2006) state that most approaches use a mathematical model for making base predictions, combined with the good judgement of a manager. Moreover, (Heizer and Render, 2006) claim that even though our forecasting ability has improved, it has been outpaced by the increasing complexity of the world economy. This section comprises of an overview of forecasting models and measures of forecast accuracy being used in retail sales will be made, as well as detailed descriptions of selected models and developments in machine learning that have contributed to improve those and other models. Over the past 15 years the ICT revolution has driven global development in an unprecedented way. With an immense progress in technology, internet and its services have led to creation of new markets (D'silva et al., 2010).

3.0 Research Objective

The main objective of the research work is to determine the sales forecasting of Bangladeshi E-commerce website by using bagging method of ensemble learning.

4.0 Methodology

4.1 Feature Selection

SD reflects the degree of dispersion of data set, which is calculated as, where and denote the number of samples and mean value of the sample, respectively:

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots . (1)$$

CV is a statistic to measure the degree of variation of observed values in the data which is calculated as:

$$C_V = \frac{\sigma}{\mu} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots . (2)$$

PCC is a statistic used to reflect the degree of linear correlation between two variables, which is calculated as:

$$r = \frac{1}{n-1}\sum_{i=1}^{N}\left(\frac{x_i - \bar{x}}{\sigma_x}\right)\left(\frac{y_i - \bar{y}}{\sigma_y}\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots . (1)$$

where, $\left(\frac{x_i-\bar{x}}{\sigma_x}\right)$, $\bar{x}\ and\ \sigma_x$, represent the standard score, mean value, and standard deviation of x_i. $\left(\frac{y_i-\bar{y}}{\sigma_y}\right)$, $\bar{y}\ and\ \sigma_y$, represent the standard score, mean value, and standard deviation of y_i

4.2 Principle Components Analysis

Steps of Principle Components Analysis (PCA) are discussed below:

4.2.1 Standardization

The aim of this step is to standardize the range of the continuous initial variables so that each one of them contributes equally to the analysis. More specifically, the reason why it is critical to perform standardization prior to PCA, is that the latter is quite sensitive regarding the variances of the initial variables. That is, if there are large differences between the ranges of initial variables, those variables with larger ranges will dominate over those with small ranges (For example, a variable that ranges between 0 and 100 will dominate over a variable that ranges between 0 and 1), which will lead to biased results. So, transforming the data to comparable scales can prevent this problem. Mathematically, this can be done by subtracting the mean and dividing by the standard deviation for each value of each variable.

$$z = \frac{\mu}{\sigma}$$

4.2.2 Covariance Matrix Computation

The aim of this step is to understand how the variables of the input data set are varying from the mean with respect to each other, or in other words, to see if there is any relationship between them. Because sometimes, variables are highly correlated in such a way that they contain redundant information. So, in order to identify these correlations, we compute the covariance matrix. The covariance matrix is a *N* × *N* symmetric matrix (where *N is* the number of dimensions) that has as entries the covariance associated with all possible pairs of the initial variables. For example, for a 3-dimensional data set with 3 variables *x*, *y*, and *z*, the covariance matrix is a 3×3 matrix of this from:

$$CVM = \begin{bmatrix} Cov(x,x) & Cov(x,y) & Cov(x,z) \\ Cov(y,x) & Cov(y,y) & Cov(y,z) \\ Cov(z,x) & Cov(z,y) & Cov(z,z) \end{bmatrix}$$

Covariance formula for population: $Cov(x,y) = \frac{\Sigma((x_i-\bar{x})(y_i-\bar{y}))}{n}$

Covariance Formula for a sample: $Cov(x,y) = \frac{\Sigma((x_i-\bar{x})(y_i-\bar{y}))}{n-1}$

Where, x_i is the values of the X-variable, y_i is the values of the Y-variable, $\bar{x}$ is the mean of the X-variable, $\bar{y}$ is the mean of the Y-variable and **n** is the number of data points. Since the covariance of a variable with itself is its variance ($Cov(x,x) = Var(x)$), in the main diagonal (Top left to bottom right) we actually have the variances of each initial variable. And since the covariance is commutative ($Cov(x,y) = Cov(y,x)$), the entries of the covariance matrix are symmetric with respect to the main diagonal, which means that the upper and the lower triangular portions are equal.

4.2.3 Compute the Eigenvectors and Eigenvalues

Eigenvectors and eigenvalues are the linear algebra concepts that we need to compute from the covariance matrix in order to determine the principal components of the data. Before getting to the explanation of these concepts, let's first understand what do we mean by principal components. Principal components are new variables that are constructed as linear combinations or mixtures of the initial variables.

These combinations are done in such a way that the new variables (i.e., principal components) are uncorrelated and most of the information within the initial variables is squeezed or compressed into the first components.

4.2.4 Feature Vector

Computing the eigenvectors and ordering them by their eigenvalues in descending order, allow us to find the principal components in order of significance. In this step, what we do is, to choose whether to keep all these components or discard those of lesser significance (of low eigenvalues), and form with the remaining ones a matrix of vectors that we call *Feature vector.* So, the feature vector is simply a matrix that has as columns the eigenvectors of the components that we decide to keep. This makes it the first step towards dimensionality reduction, because if we choose to keep only ***N*** eigenvectors (components) out of ***M***, the final data set will have only ***N*** dimensions.

4.2.5 Recast the Data along the Principal Components Axes

In the previous steps, apart from standardization, you do not make any changes on the data, you just select the principal components and form the feature vector, but the input data set remains always in terms of the original axes. In this step, which is the last one, the aim is to use the feature vector formed using the eigenvectors of the covariance matrix, to reorient the data from the original axes to the ones represented by the principal components (hence the name Principal Components Analysis). This can be done by multiplying the transpose of the original data set by the transpose of the feature vector.

$$\begin{aligned} Final\ DataSet\ (FD) \\ &= Feature\ Vector(FV)^T \\ &\times Standardized\ riginal\ DataSet(SFD)^T \end{aligned}$$

4.3 Final aggregation for Classification

For Regression $\bar{f}(x) = \sum_{i=1}^{T} f_i(x) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..$ (4.3.1)

For Classification (Average) $\bar{f}(x) = Sign\left(\sum_{i=1}^{T} f_i(x)\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.$ (4.3.2)

For Classification (Max Voting) $\bar{f}(x) = Sign\left(\sum_{i=1}^{T} Sign(f_i(x))\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots..$ (4.3.3)

5.0 Framework Design and Development

5.1 Bagging Integrated Regression Model.

The basic idea of integrating the Regression model is to use the Linear Regression model as the base learner of the bagging strategy for ensemble learning, and its specific steps can be expressed as follows:

Step 1: *Data preprocessing. Preprocess the data and divide the data into train set and test set.*

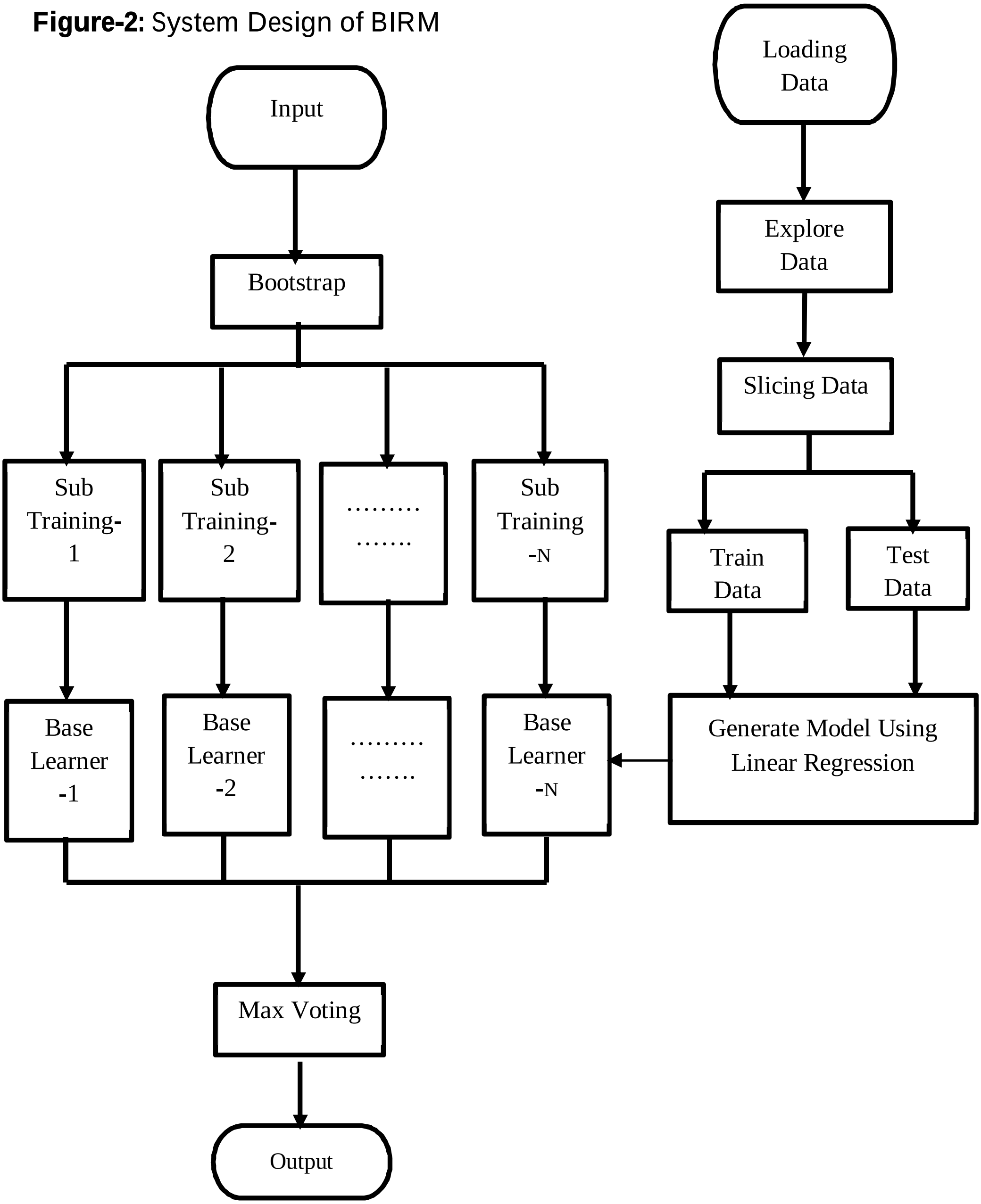
Step 2: *Bootstrap sampling. Divide the training set samples obtained in Step 1 into N sub training sets of equal sample size using Bootstrap.*

Step 3: *fitting the sub training set. N sub training sets are fitted separately using the Linear Regression model to obtain N base learners.*

Step 4: *The N base learners are predicted separately for the test set data, and the prediction results of each base learner are Max Voted to obtain the final prediction result of the integrated Regression model.*

5.2 System Design

Figure-2: System Design of BIRM



Source: Developed by the Researcher

5.3 Algorithm of Predictive Model

Linear Regression Algorithm (LRA):
Step-1: Loading the Data
Step-2: Exploring the Data
Step-3: Slicing the Data
Step-4: Train and Split Data
Step-5: Generate the Model
Step-6: Evaluate the accuracy

BIRM:
Step 1: Input Total Data N
Step 2: Split Training Data TD=N×.7
Step 3: Select Size of Data for each Bootstrap M= Ceil (TD ×.1)
Step 4: Find out the Number of Bootstrap Q= Ceil (TD/M)
Step 5: Repeat Steps- 6,7 For I=1 to Q
Step 6: Repeat Step-7 For J=1 to M
Step 7: A[J]=RAND (1, TD)
Step 8: Repeat Step- 9 For I=1 to Q
Step 9: Create Model M_i Apply LRI_i for Data A[I]
Step 10: Repeat Step- 11 For I=1 to Q
Step 11: Apply Max Voting on M_i for Final Output (Oi)

6.0 Numerical Experiments and Comparisons

6.1 Data Description

The dataset included in the analysis consists of data related to the products that are interfered with manually. The products in which stocks are not manipulated but stock entries are very high in a certain period. These high stock entries can be caused due to stock replenishment by merchants. There are certain products in which stocks are not manipulated but a big increase in sales speed during the campaign periods. The variables include stock, stock difference, page and order.

6.2 Source Data Series

The data used in the experiments was provided from Clickbd, Bikroy, Rokomari, Daraz, Chaldal, Sohoz., E-valley, Alishamart which is one of the most popular online e-commerce companies in Bangladesh. A few data also collected from Kaggle.

6.3 Data Preprocessing

The data has 541909 entries and 8 variables which are InvoiceNo, StockCode, Description, Quantity, Invoice_Date, UnitPrice, CustomerID and Country. Total training data 379,400. To eliminate the prediction errors due to the different data magnitudes, all predicted data are normalized by using

$$x^* = \frac{x - x_{min}}{x_{max} - x_{min}}$$

Where, $x*$ is the normalized data value, x is the input data, and x_{min} and x_{max} are the minimum and maximum values of the input data. Finally, 300000 data have been found for training. The size of each bootstrap is 30000 and total bootstraps were 10.

6.4 Sales Forecasting Using Proposed Method

After completing the data preprocessing, there are 300000 observations for training, and 8 features in the training set. The author had selected a random sample from the training dataset without replacement. A subset of 8 features is chosen randomly to create a model using sample observations. The feature offering the best split out of the lot is used to split the nodes. After that it had applied Linear Regression for creating model. The 200000 data had been used to test the models and final outcome was found using max voting method.

6.5 Results Analysis

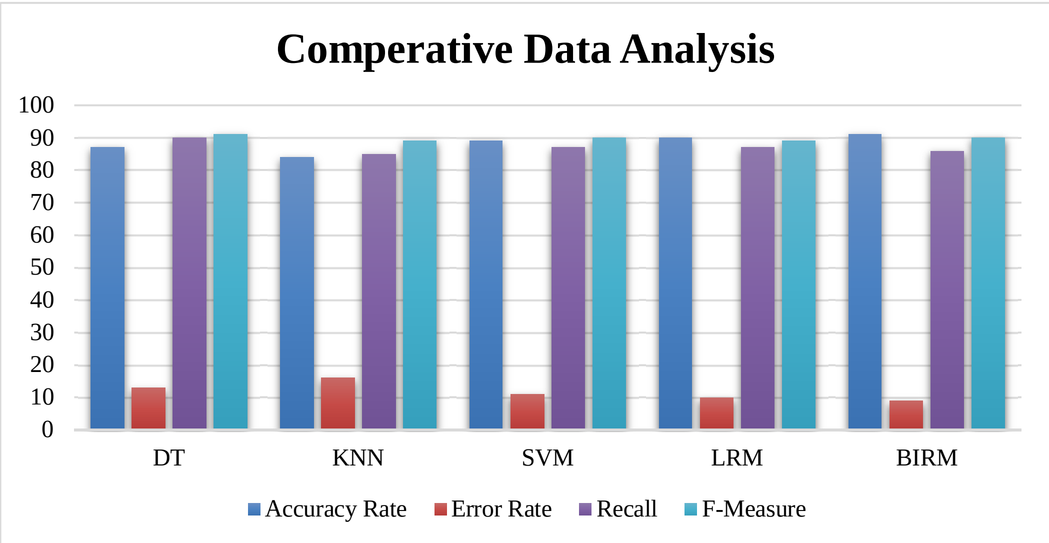
Different Machine Learning methods such as Decision Tree (DT), K-Nearest Neighbor (KNN) and Support Vector Machine (SVM) are applied on the training and test data along with the proposed method to check the accuracy rate which is shown in Table-1. The test set is used to verify the superiority of the proposed Bagging Integration Regression Model (BIRM). To shows that comparatively BIRM is better than all other machine learning models. The graphical representation is given in figure 5.4:

Table-1: Comparative Result

Models	Accuracy Rate (%)	Error Rate (%)	Precession (%)	Recall (%)	F-Measure (%)
DT	87	13	88	90	91
KNN	84	16	78	85	89
SVM	89	11	90	87	90
LRM	90	10	91	87	89
BIRM	91	9	92	86	90

Source: Developed by the Researcher

Figure-3: Result of Different Models



Source: Developed by the Researcher

7.0 Conclusion and Recommendations

With traditional methods not being of much help to the business organizations in revenue growth, use of Machine Learning approaches prove to be an important aspect for shaping business strategies keeping into consideration the purchase patterns of the consumers. Prediction of sales with respect to various factors including the sales of previous years helps businesses adopt suitable strategies for increasing sales and set their foot undaunted in the competitive world. This paper forecasts the sales indices based on the sales data sets of different E-commerce websites. Firstly, the literature analysis method and regression analysis method are used to establish the forecasting index system, and the segmented forecasting method is used to forecast sales price index in the coming year with the data information of the past ten years, and then, the bagging integrated Bagging Integration Regression Model (BIRM) model is used to analyze the final sales price indices of the different E-commerce website in experimental simulations.

While results cannot state that related algorithms had good results for one-week forecasting, it is likely that a stepwise forecast, instead of predicting the full week at once, would improve the one-week forecast to match more closely with one-day predictions. The same conjecture can be made for all poor one-week results. Even when learning on the previous 14 days of targets, a single instance just does not give enough context to allow great forecasts that far into the future in one step. Transformer encoding and decoding learning layers show potential for improvements in forecasting problems. Experiments with transformer-based models on different and larger datasets would be a very relevant way to continue with future work. For instance, this work only includes a single E-commerce site, which provides a narrow amount of data. Similarly, machine learning models show very promising results with one day testing.

BIRM may be useful in providing one-step predictions to be used as some stepwise prediction in a longer forecast window. Similarly, as ensemble methods provided good results, it may be worth allowing linear models to predict single-step sequences of daily differences in sales for use as feature labels when training and forecasting models. Further research on the forecasting model is appropriate as the technology is new, and few papers have been written on it specifically.

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Sustainable Banking: An Empirical Study on Bangladeshi Banks and Non-Banking Financial Institutions, and Customers' Perception

Kaniz Fatema[1]

Abstract

This paper research to explore the sustainable banking activities of Bangladeshi banks and non –banking financial institutions' to find out financial institutions' initiatives' for adopting sustainable banking through investing in green banking activities. A study has been conducted by 50 respondents for knowing the customers Perception about green banking products. Customers' demographic profile has been analyzed to show perception diversity based on gender, age and income level. Regression analysis has been used to analyze the data and to draw the findings. From the analysis, it has been found that inverse relation among the customers' positive views of green banking products and reasons of their usages. Several complications regarding these products also come into light.

Keywords: Sustainable Banking, Non-Banking Financial Institutions, Customers' Perception, Bangladesh bank, World Commission on Environment and Development (WCED)

1.0 Introduction

Sustainable banking is an emergent concept that occupies a significant position in the intersectional field of environmental policy, financial

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[1] Kaniz Fatema is a Lecturer at Army Institute of Business Administration Savar, Dhaka, Bangladesh. Her contact address: kaniz@aibasavar.edu.bd

services, and socio-economic development. In traditional banking financial activities mostly focused on economic motives, but sustainable banking highlights on generating long-term resilient and sustainable economic, social and environmental values having a green, responsible and inclusive banking strategy through transparent and efficient utilization of resources for ensuring sustainable economic development. The concern about sustainable banking intend to Bangladesh bank (BB) took several initiatives by instructing exercising this in every bank in Bangladesh as a vision of protecting environmental degradation and maintain long-term sustainability. Under the instructions of Bangladesh Bank, all banks have taken initiatives to formulate its Green banking policy with an aim to inculcate practices towards sustainable banking thorough optimum usage of natural resources and make every effort for environmental friendly activities. Bangladesh bank influence and pressure is one of the main reasons for adopting green banking with green financing. There are several factors those influence towards sustainable banking practice to financial institutions and customers. Constructing a sustainable banking environment, technological implementation is crucial.

As a part of this, modern banks propelled digital products. In Bangladesh, customers' perception about the digital platform for exercising sustainable banking are noticeable. It is important to find out the factors that influence customer's positive view toward green banking activities and whether they are facing any problems. In this study, the sustainable banking activities of Bangladeshi banks and non-bank financial institutions and customer perception towards this initiative are tried to be explored.

2.0 Literature Review

At present the concept of sustainable development, green economy, green marketing, and green banking become the concerning factors. Sustainable Banking initiatives have developed on the basis of these concepts. According to World Commission on Environment and

Development (WCED), "Sustainable development is development that meets the needs of the present without compromising about the ability of future generations to meet their own needs (Smith, Rees, and Gareth 1998). For that reason many environmentalist influencing the policy makers to follow the code of conduct implementing sustainable banking significantly. As a result, Bangladesh Bank has undertaken different steps to make green banking a reality. “Bangladesh Bank has launched the Tk 2.0 billion Green Banking Refinance Scheme in August 3,2009 to fund renewable energy projects in the country that has been reeling under chronic power cut”. According to Bangladesh Bank, “People are not aware of our green financing fund. They even do not know from where it is available. This is mainly responsible for the poor disbursement,".

According to Bangladesh Bank, “Implementing green banking policy will generate the following benefits for the banks: (1) increase goodwill or improve brand image by showing their commitment to save and protect the environment; (2) reduce giving loans to certain environmentally harmful projects; (3) check the necessary environmental due diligence factors before lending a loan / investment; (4) make efficient and effective use of resources and channel financing in an environment friendly manner; (5) introduce new technology in banking operations that would not only benefit our customers but also increase the productivity of our employees; (6) reduce carbon foot print in all branches and Head Offices of all banks; and (7) create awareness amongst the stakeholders about environmental and social responsibility enabling them to adopt environmental friendly business practices (Bangladesh Bank Green bank policy guideline).

Customer satisfaction is one of the major concerns for all kind of activities of a business organization. Almost every business organization tries to make a loyal customer base in the market to get a competitive advantage over other organization, and customer satisfaction is the vital issue for the service industries like banking, health, restaurant, education etc. for their success. Bennet (1992) found that customer driven strategy is the major factor to gain competitive advantage in the banking sector.

Moreover, according to Coldwell (2011), a customer who is fully satisfied may support a firm to produce 2.6 times much revenue as the one who is somehow satisfied. And a completely disappointed customer may cause a 1.8 times reduce in revenue as compared to a fully satisfied customer. However, commercial banks have performed various functions for the customers and sustainable banking products like plastic money are the most vital and modern function (Deviranjitham & Thamilarasan, 2014).

Khan (2010) stated the impact of ATM service quality on customers using five key ATM service quality factors: convenience, efficient operation, security and privacy, reliability and responsiveness. Money is always considered as a necessary medium for exchange and payment methods. In the recent years, money has turned its form from coins to paper cash and in the recent time money is usable in shapeless form as plastic money which is also called electronic money (Bishty et. al., 2015). Now-a-days, banking sector has changed their overall systems from traditional system to modern technology driven system. Consequently, green banking has seen significant progress in recent times because banks as financier has a huge influence on providing funding for the projects undertaken by industries, and thereby green banking can play a significant role in the creation of growth through investment in the environment and ensuring responsible behavior of other businesses too.

3.0 Research Objectives

The objective of the research is to study about 'Sustainable Banking: An empirical study on Bangladeshi Bank and Non-Banking Financial Institutions, and Customers' Perception'. The specific objectives are:

- To give an overview of Bangladesh Bank policy regarding sustainable banking
- To describe the factors influence toward sustainable banking
- To describe the Bank and Non-Banking investment for green financing
- To evaluate the customer Perception towards products uses for developing sustainable banking.

4.0 Methodology

4.1 Research Design and Data collection

The research is basically combination of quantitative and qualitative in nature and the purpose is to show the sustainable banking development in Bangladeshi bank and non-banking sectors with customer Perception. Identify the relationship between the variables, which is mainly focus on customer intention toward using sustainable banking products.

4.2 Research Variables

To conduct the research, collecting data of Green finance in FY21 by banks and non-banking financial institutions (NBFIs), collecting data through survey of customer Perception regarding sustainable banking products. Here, two types of variables have been used namely-Independent variable and Dependent variable. Dependent variable: Positive view to using about sustainable banking products and independent variables usage benefits, financial benefits, shopping benefits and Social concern, and demographic profile of the customers.

4.3 Data and Data Sources

A structured questionnaire has been prepared for data collection. Around 50 questionnaires have been sent to the respondents. Among 38 questionnaires were analyzed.

4.4 Data Analysis

For qualitative and quantitative analysis of data used:

- Green Finance in FY21 of bank and non-banking institutions
- Demographic profile analysis of the respondent using green banking products.
- Analyzing problems facing during using green banking products.

4.5 Hypothesis Development

Multivariate Time Series Regression Analysis & Hypothesis testing has been used to estimate relationship between selected independent (usage benefits, financial benefits, shopping benefits and Social concern) variables and Positive view to using about sustainable banking products. With four independent variables the prediction of Y is expressed by the following equation:

$$Y = a + \beta_1\ Usebenefits + \beta_2\ Finbenefits + \beta_3\ Shoppingbenefits + \beta_4\ Socialconcern + \varepsilon i$$

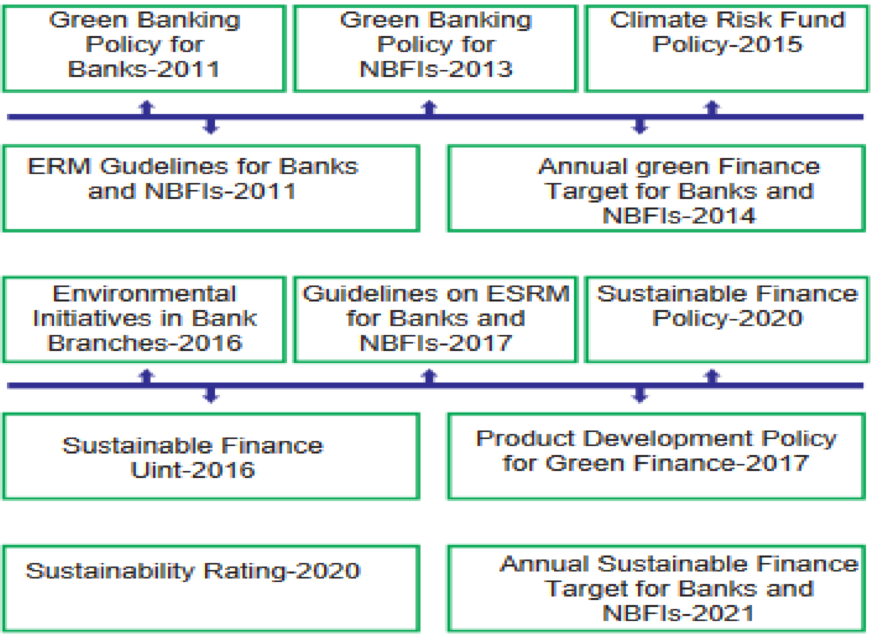
Ho: Usage benefits, financial benefits, shopping benefits and Social concern significantly influence to the customers‟ positive view toward green banking products.

H_1: Usage benefits, financial benefits, shopping benefits and Social concern have no influence to the customers‟ positive view toward green banking products.

5.0 Sustainable Banking State in Bangladesh:

5.1 Policy Initiatives by Bangladesh Bank

Figure-1: Different policy initiatives by Bangladesh Bank for sustainable banking



Source: Sustainable Finance Department, Bangladesh Bank.

6.0 Analysis and Findings

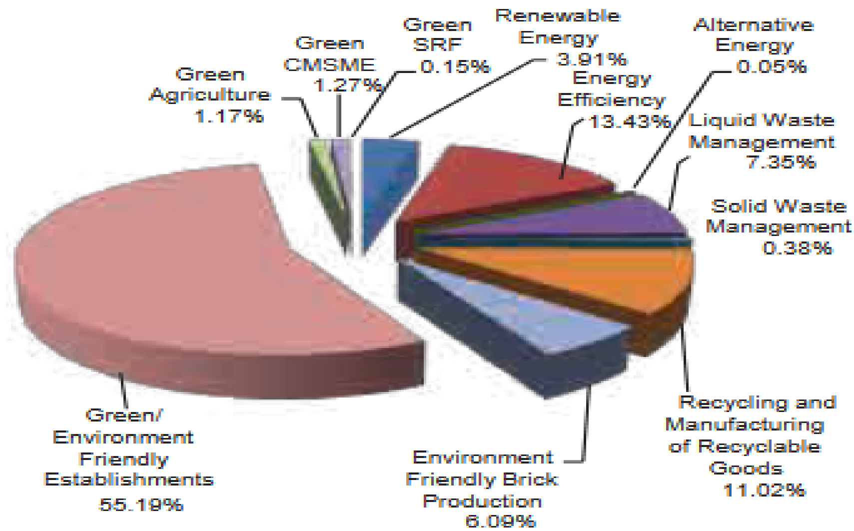
Recent Developments and Green Banking Activities of Banks and NBFIs in Bangladesh: This tables illustrates the green banking trends of Bangladesh in the recent years and exhibits green banking activities of banks and NBFIs in category-wise direct in 2021 for ensuring sustainable banking environmental growth.

Green finance in FY21 by Banks and Non-Banking Financial Institutions (NBFIs) (In Million BDT)

Types of Banks/NBFIs	Renewable Energy	Energy Efficiency	Alternative Energy	Liquid waste Management	SolidWaste Management	Recycling Manufacturing of Rcyclable Goods	Environment friendly brick production	Green friendly establishments	Green agriculture	Green CMSME	Green SRF	Total
SOCBS(06)	1,830.89	227.96	0.00	396.13	119.13	813.54	372.10	5,638.70	56.64	93.96	0.00	9,557.05
SDBS(02)	6.38	0.00	0.00	0.00	0.00	0.00	11.00	0.00	2.83	0.00	0,00	20.21
PCBS(40)	1,508.04	11,014.12	45.51	6,074.61	177.80	10,294.47	5,438.67	36,893.84	498.47	469.59	68.45	72,573.57
FCBS(09)	3.13	1,264.30	0.00	559.88	0.00	3.40	0.00	12,993.75	462.24	200.20	0.00	15,486.90
Bank's Total	3,446.44	12,506.38	45.51	7,030.62	296.93	11,111.41	5,821.77	55,526.29	1,020.18	763.75	68.45	97,637.73
NBFIS(33)	496.72	1,032.21	0.00	379.69	83.15	0.35	312.10	100.00	157.40	516.80	77.90	3,156.32
Grand Total	**3,943.17**	**13,538.59**	**45.51**	**7,410.31**	**380.08**	**11,111.76**	**6,133.87**	**55,626.29**	**1,177.58**	**1,280.55**	**146.35**	**100,794.05**

Source: Sustanable Finance Department, Bangladesh Bank

Figure-2: Share of category-wise green finance in FY21.



Source: Sustainable Finance Department, Bangladesh Bank.

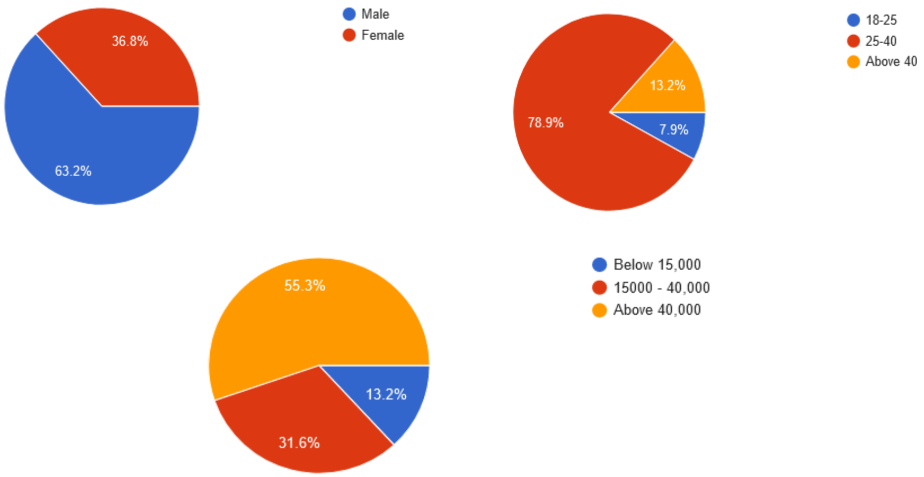
6.1 Data Analysis

6.1.1 Demographic Profile of the Respondents

For analyzing the customer perception towards sustainable banking products data have been collected from diverse demographic profile respondents. From 39 respondents, there were 36.8% female and 63.42% male users are identified, who are using green banking products.

The study was dominated by young people (age range 18-25, 26-35) and only 12.8% respondents were elderly. That shows the young people high interest toward green banking products. Moreover, people whose income level is standard (above 40,000 BD taka) to lead were more focus on these kinds of products about 55.3% users and others 54.7% income level.

Figure-3: Gender, Age and Income level of the respondents

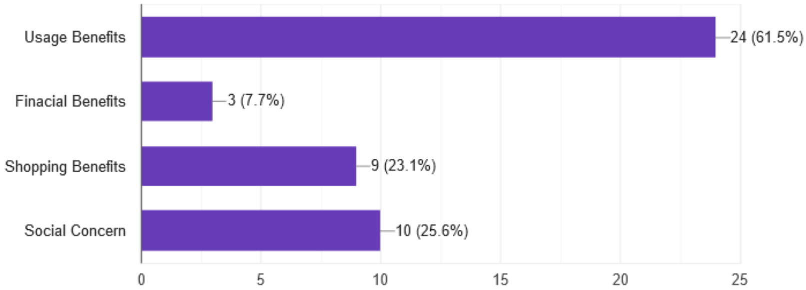


Below figure-2 illustrates that some commonly used product among the respondents. And Plastic money (ATM card) is the most useful method (34.2%), followed by internet banking, POS machine, various digital applications rapidly increasing in Bangladesh. However, a noticeable number of people (23.7%) also carry cash in their pocket.

Figure-4: Most usable products for transaction

The study below is conducted to find out the relationship between selected independent (usage benefits, financial benefits, shopping benefits and Social concern) variables and Positive view to using about sustainable banking products.

Figure-5: Number of users of green banking products for several reasons



Interpretation of output summary

Table1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.241a	.058	-.023	11.531	.058	.717	3	35	.549

a. Predictors: (Constant), Social Concern, Financial Benefits, Shopping Benefits

- *Relationship among the variables in relative terms*

Multiple R: 0.241= This is the correlation coefficient. It represents the degree of relationship. If the value is 1 that means perfect positive relationship. Here, 0.241 indicates that there exists minimal degree of positive relationship among the variables.

- *Explanatory power of independent variables*

R^2 **: 0.058 =** It shows how much of the variance of "Y" is explained in the regression. Here, 0 .058 indicates 5.8% of variations of positive views are explained by the variation of number of social concern, financial benefits and shopping benefits.

Adjusted R^2:-0.023 = It should be always less than R Square .And here it is.

Table:2 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	23.500	3.082		7.625	.000	17.243	29.757
	Financial Benefits	-7.500	7.336	-.178	-1.022	.314	-22.394	7.394
	Shopping Benefits	-5.583	4.536	-.229	-1.231	.227	-14.793	3.626
	Social Concern	-4.700	4.774	-.182	-.984	.332	-14.393	4.993

a. Dependent Variable: Positive View

- *Unit measurement*

The regression model is:

$$Y=a+ \beta_1 Finbenefits+\beta_2 Shoppingbenefits+\beta_3 Socialconcern+\varepsilon i$$

Positive view= -1.843-7.500-5.583x2-4.700

The equation indicates that if financial benefits, shopping benefits and social concern increase by 1 unit positive decreased increase by 7.5 units, 5.583 units and 4.700 units.

- *Significance of the result (Through ANOVA table*)

6.1.2 Hypothesis Testing

A hypotheses testing was done to find out the significant effect on positive view of financial benefits, shopping benefits and social concern.

Ho: Usage benefits, financial benefits, shopping benefits and Social concern significantly influence to the customers‟ positive view toward green banking products.

H_1: Usage benefits, financial benefits, shopping benefits and Social concern have no influence to the customers‟ positive view toward green banking products.

Here, usages benefits are excluded because of collinearity statistics tolerance is 0.

Level of significance α = .05

Table:3 ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	285.983	3	95.328	.717	.549[b]
	Residual	4654.017	35	132.972		
	Total	4940.000	38			
a. Dependent Variable: Positive View						
b. Predictors: (Constant), Social Concern, Financial Benefits, Shopping Benefits						

Significance F: 0.549

Decision -The critical P-Value is 0.05 because the confidence interval is 95% and the calculated P-value is 0. 549. So, Calculated P=0.549 > Critical P=0.05

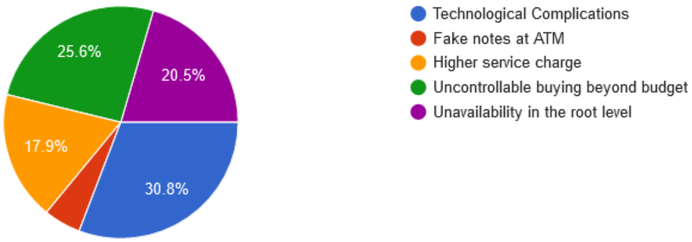
So, at 95% confidence interval, the null hypothesis is accepted.

Hence,

The independent variables financial benefits, shopping benefits and social concern have no significant effect on the dependent variable positive views.

6.1.3 Problems facing using green banking products

Figure-6: Problems facing using green banking products



Problems facing using green banking products are segmented by many different type of problem arises during the use of green banking products. The above result shows most of the people faces technical complications using these kinds of products, which is 30.8%.

7.0 Findings

From the analysis of Share of category-wise green finance in FY21 in differeent bank and non-banking financial inistitutions find out that finiancial concentration in investment in green and enivironment friendly establishments is in highest position, which is 55.09% and least investment shows in alternative energy sorces about to 0.05%. From demographic information, this is observed that a large proportion of the respondents are dominated by young people and income level higher than 40,000 are more interested these products. And these green banking products for creating sustainable banking are mostly dominated male. Furthermore, among variety of method customers are preferred to use plastic money (ATM) for transactions.

Though the conducted study regarding the relationship between selected independent (usage benefits, financial benefits, shopping benefits and Social concern) variables and Positive view to using about sustainable banking products showed insignificant outcomes but in real scenario customers are sometimes propel these green banking products due to different benefits and concern. Moreover, some problems of using these products have been identified, which is mostly technical complication.

8.0 Recommendations

Analysing category-wise green finance in FY21 in differeent bank and non-banking financial inistitutions finiancial concentration in investment in green financing shuld be more diversified and focused. For creating sustainable banking environment financial institutions should be focused on all age , gender and income level customsers and the problems that deter customers using these products.

9.0 Conclusion

At present government and people of the country are becoming more concern about environment and economic development. But in some cases fast economic expansion become responsible for imbalance environment. That's why developing sustainable banking concept by adopting environmental policy, financial services, and socio-economic development bring the longibility of the economic development and balanced environment. The initiatives taken by Bangladesh bank (BB) about sustainable banking is a vision of protecting environmental degradation and maintains long-term sustainability. Some green banking policy with an aim to inculcate practices towards sustainable banking thorough optimum usage of natural resources and make every effort for environmental friendly activities. Besides, customers' perception regarding products use for creating sustainable banking also remarkable. Though there are several problems also have been identified by customers. Bank and Non-Banking financial institutions should be concern about the problems customers facing and should take necessary steps to create sustainable banking in Bangladesh.

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The Influence of Social Media on the Academic Performance of the University Students

Md Nahin Hossain, PhD[1]

Abstract

The extent of poor academic performance among university students seems to be on the rise. Uncontrolled use of Social Media is responsible for this social damage. The goal of the preliminary study was to investigate how university students experience the impact of social media use in relation to their academic performance. Two focus group interviews (total n = 15) were completed and analyzed using reflexive thematic analysis, resulting in 5 themes and 10 subthemes. The results illustrate that university students experience social media as a tool for communication, but also as a potential cause of distraction from the study that reduced their academic performance. The participants called for universities to become better equipped to control their social media account inside and outside of the campus. Moreover, universities should install learning management system (LMS) to control.

Keywords: Social Media, Academic Performance, Reflexive thematic Analysis

1.0 Introduction

Social media is a network of websites and applications, which enables individuals to communicate with each other. It also allows users to generate, use, exchange and discuss the content available in the world wide web. Excessive usage of social media has not yet been termed as

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[1] Md Nahin Hossain is a Lecturer at Army Institute of Business Administration Savar, Dhaka, Bangladesh. He completed his Doctoral degree from Wuhan, P. R. China. His email address: md.nahinhossainsaad@yahoo.com

mental disorder but the term media addiction is widely accepted (Brunborg and Andreas, 2019). Social media on a general platform has been shown to assemble information into learning and research, use reduced time to provide clear communication and produce access to required information. It facilitates generation of ideas, resource exchange (notes and lectures), provides a clear insight of concepts and improves student engagement in classrooms (Kietzmann *et al.*, 2011). It is useful in enhancing collaborations, professional development and academic research. On the contrary, social media can also reduce cognition and enhance academic distraction that can lead to poor academic engagements. Psychological issues such as depression, anxiety and sleep disorders follow poor academic outcomes.

Social media become essential tools for the students to communicate on daily basis. Students from the Business Administrations comparatively more active (i.e., case competition) then students from other discipline. However, not all online activities are important for the academic success. However, it is surprisingly true; students are engaging with unrelated activities that reduce their academic performance (Twenge and Campbell, 2019). Thus, it is the responsibility of the teacher and guardian to understand the root cause to take corrective actions. In this preliminary qualitative study, this study aimed to explore student's personal experiences and understandings of the relationship between social media use and their academic performance.

2.0 Materials and Methods

2.1. Participants

Students of Army Institute of Business Administration Savar (AIBA Savar) contributed in this study. Information about this study was widely circulated to all the interested students. Students from BBA batch 6 and 7 approached to this Focus Group Discussion (FGD) process (Moretti *et al.*, 2011).

2.2. Data Collection

The focus groups met once for about 90 minutes with a ten-minute break halfway through the interview. The interviews were conducted on the zoom during the winter of 2021. The interview guide had two main questions:

1. How do you feel that social media can be a positive factor in your academic performance?

2. How do you feel that social media can be a negative factor in your academic performance?

Each of the main questions had several predefined follow-up questions that could be used by the moderator if necessary, and the moderator could ask other ad-hoc questions deemed relevant during the interviews. In addition, the guide had one opening question and two closing questions.

2.3. Data Analysis

The interviews were analyzed using reflexive thematic analysis (Braun and Clarke, 2019) , which is a flexible analysis method for identifying, analyzing, and reporting patterns or themes in qualitative data. The analysis followed the phases as proposed by Braun and Clarke; Phase 1: Read and re-read the material and noted potential themes. Phase 2: Identified relevant text segments and created codes individually. Phase 3: Sorted the codes into potential topics. Phase 4: Reviewing the topics in relation to the coded text segments. Phase 5: After the review, the themes were named.

3.0 Results

Based on the interviews, we created four main themes: (1) The role of social media in students' lives, (2) Perceived positive influences of social media use, (3) Perceived negative influences of social media use (see Figure 1).

3.1 The Role of Social Media in Students' Lives

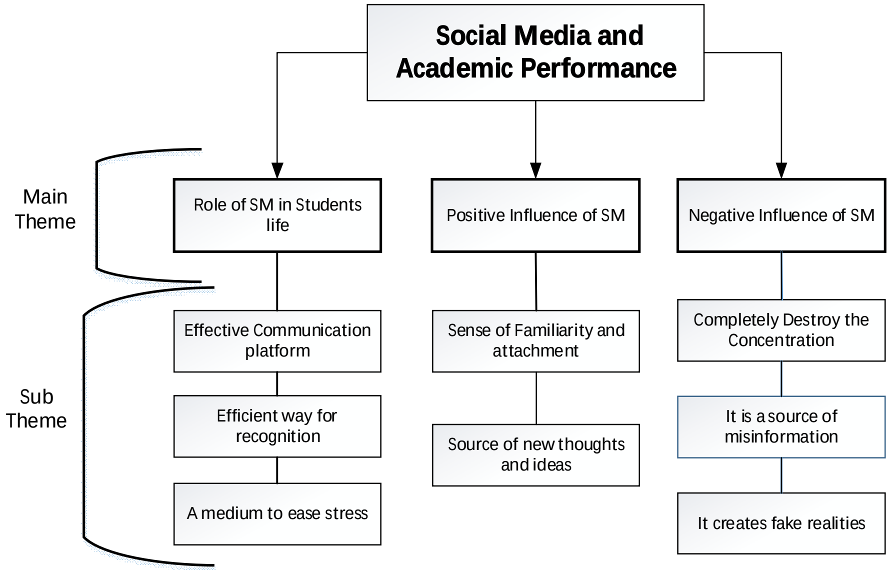
The participants from batch 6 & 7 discussed the importance of social media in their daily life. From those discussions given theme is identified.

3.1.1 Subtheme: Effective Communication Platform

Communication with others is a key motivation as to use social media. According to the students, social media is a meeting place where they can be part of a larger community. Students have uninterrupted communication flow that creates the sense of presence all the time. Usually information about class and important topics is available all the time (Seal *et al.*, 1998). Therefore, this also means that they have to be on social media in order to keep up and be where it happens.

According to student A (Batch 6): "They feel that, that is where they communicate. In addition, if they are not there, then they may be the only one in their class who is not there. Moreover, that isolates them very much from the update information".

Figure 1: Conceptual framework of Theme and Sub theme



Source: Developed by the Author

3.1.2 Subtheme: An Efficient Way of Recognition:

In both focus groups, the students highlighted need for recognition and acceptance. Social media full filled that needs in the form of "likes" and comments. The more comment and likes they get the more accepted they are.

According to student B (Batch 7): I think that there is a basic psychological need that can be fulfilled by social media, for example, when you talk about likes, then, that is about acceptance and recognition.

3.1.3 Subtheme: A Medium to Ease Stress

During the interview, students admitted significant factor, which is an anxiety that positively influence their excessive use of social media. Students argued that diversified news and content helps them to ease their anxiety.

Student C and D (Batch 6&7) stated that, it is the need for psychological wellbeing. The phone is a space for them to know diverse information. We search for feasible business ideas, read success stories and know the difficulties faced by popular celebrities. Thus, motivational and inspiring information help us a lot to ease the stress.

3.2 Theme: Perceived Positive Influence of Social Media (SM)

Students from both focus groups addressed positive aspects of social media use.

3.2.1 Subtheme: Sense of Attachments and Familiarity

According to the Students, social media is an important social arena where introverted young people can get a sense of belongingness. Students with the lack of social skills can find their likeminded networks through online gaming or other social media. In the discussion students mentioned the following statements.

For those who have previously lived a very isolated and secluded life, mostly alone in their room, then social media may be sort of a crack in the wall where a little light comes in. (Student E, F, G, and H from both batches).

3.2.2 Subtheme: Social Media is the Sources of New Thoughts and Ideas

Students talked about how social media can open for greater diversity and tolerance. They believed that subcultures and diversity helps them to have new ideas and thoughts.

According to students from batch 6 (A, I, G, k), in social media, qualified people (doctors, psychologist, business consultant etc.) inject innovative solutions for the old problems. Most of those guides are authentic and abide by the ICT law. Because, people will only follow them if those page are verified and certified.

3.3 Theme: Negative Influence of Social Media Use

From the focus group discussion, following negative themes were found.

3.3.1 Subtheme: Social Media Creates Complete Distraction

Students agreed that regular use of social media creates distraction to their study. The participants discussed that they cannot concentrate for the long time due to constant streaming of social media. The unhealthy interference from friends and peer groups stops regular flow of the study (Orben and Przybylski, 2019) . Therefore, participants honestly agreed that social media divert their concentration from regular study routine.

"I use social media to keep up with the news and follow the current events; I use it almost every hour of the day. I think I become addicted to social media. This creates unmanageable distraction for my study. I have tried a lot to develop the concentration but none of them works. (Students from F, H and C, E).

The students also discussed how social media use could cause stress. For example, one participant talked about that “Students have to perform better in the class and participate in social media activities”. This is an unrealistic expectation, which interfere with concentrating in the study. Therefore, students experience unnecessary stress load.

3.3.2 Subtheme: It is a Source of Misinformation

This study explored that every students acknowledged social media as the source of misinformation. Most users who generate misinformation do not share accurate information. Once the information have circulated, it becomes very difficult to control the flow. People do not justify before sharing with others. The very brief summary of the discussions are given as follows;

"*An era of fake news in which misinformation, generated intentionally or unintentionally, spreads rapidly. Affecting all areas of life, it poses particular problems in the education sector, where it can spread wrong information and explanation. For instance, students are not focusing on their basic university education. They are busy with unnecessary skill development courses which only provide counterfeit certificates.*"

One participant described how this online certification course are not valid anymore. According to his experience, those certificates cannot justify true skill and knowledge of students in the interview board. Students learning basic knowledge from the University evidences can perform better in the professional life.

3.3.3 Subtheme: It Creates Fake Realities

Participants in both groups talked about fake realities of social media. For example, more likes, more share and more comments on a particular post provide unrealistic satisfaction. One participant was concerned that social media weakens students on campus response. They are more vibrant in online than offline. Students cannot answer properly in the class. Based on the Focus group discussion students' comments are as follows.

We are more creative in comment writing than presenting the answer on the classroom. It is because we feel more secure and realistic in online. However, this reality is fake and only reduce our ability to present our argument face to face (Students from batch 6 & 7).

4.0 Discussion

The aim of this research was to investigate the Perception and experiences of the University students about the social media and academic performance. The analysis resulted in three themes that provide structure to and framing of what the students discussed in the focus group interviews. The students discussed the role of social media in their life (Theme 1). They strongly believe, it is an effective way for communication, recognition and acceptance from others. They also highlighted attachment with community and source of new ideas as positive aspects of social media (Theme 2). Furthermore, the participants emphasized that social media use can have negative consequences for them (Theme 3), both by leading to complete distraction in the concentration, by reducing study hour, and by replacing other fake and unrealistic skill development activities or tasks.

5.0 Conclusion

This preliminary research provides an insight into how students assess and experience the relationship between social media and their academic performance. Students saw social media as an important social arena that can contribute positively in the form of civic, belonging, openness, and tolerance and as a tool for communicating with others. However, the discussions also focused on the negative effects of social media, for instance that social media could lead to or exacerbate complete distraction, disturb classwork, and impair creativity and social competence. The findings emphasize that social media plays an imperative and central role in students' lives both in positive and negative ways. Therefore, Universities should become better equipped to meet the challenges that social media brings, both related to learning and to Academic performance.

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The Effect of Traffic Congestion on Employee Productivity in Dhaka, Bangladesh

Azmery Sultana[1]

Abstract

The study has defined the effects of traffic congestion on the performance and productivity of employees in Dhaka Bangladesh, one of the most current issues in today's world. To conduct the research, several employees from different public and private sectors have been chosen as the participants. The collection of data was completed through a structured questionnaire from different employees of private and public organizations in Dhaka Bangladesh. The information was solicited on how the traffic jam affects their productivity, their effectiveness, development, and activeness of performance within the organization. The performance construct was defined by the term's effectiveness, productivity, efficiency, development, progress level, and the quality of the outcome. The collected data were analyzed through descriptive statistics. Several people from different private and public sectors including the general public have participated here. The data shows the worst contribution of traffic jams on the effectiveness level of the people of Dhaka Bangladesh.

Keywords: Traffic Congestion, Productivity, Effectivity, Efficiency, Innovation, Quality of Work.

1.0 Introduction

Urbanization is considered to be one of the most important factors of the global phenomenon. To have efficient and economical movement

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[1] Azmery Sultana is a Lecturer at Army Institute of Business Administration Savar, Dhaka, Bangladesh. Her contact address: azmery@aibasavar.edu.bd

between the different parts of a country, the transportation system plays an important part in the modern-day (Downs, A., and Downs, A., 2004) Bangladesh is the world's most densely populated country with 1265 people per square kilometer. Though traffic jam is one of the most common problems in the world, Bangladesh, being a small country, is facing this major problem in the worst way. Again, the problem is increasing day by day. The economy of Dhaka is the largest in the Peoples Republic of Bangladesh, contributing $162 billion in nominal gross state product and $235 billion in purchasing power parity term as of 2020. The economy of Dhaka contributes 40% of the total GDP of Bangladesh. Among the major cities Dhaka, Chittagong, Khulna, Khulna, Rajshahi, Dhaka city is now the city which is facing the worst traffic jam in Bangladesh. Besides traffic jams, improper drainage, housing scarcity, gas, and water scarcity are making Dhaka, a place where life has become full of problems. (Monayem 2001) reveals that the average speed of one of the major roads of Dhaka, named, "Mirpur Road" is 15 to 17 kilometers per hour during the peak period. The good function of proper road links and transportation systems is the key to success for any country (Button and Verhoef, 1998). Because the lifeblood of an industrialized economy is the well-managed transportation system. Unfortunately, the existing road system of Dhaka is so congested due to the increased number of vehicles and the insufficient opportunity of widening the road. Though several steps have been taken to face the problem, Dhaka city is facing increased traffic problems day by day. Employees are the main concern for the development of any organization. A fixed schedule is maintained in every organization. Due to traffic jams, employees become unable to reach on time and even if they somehow manage to reach on time, their innovation and productivity are damaged in the worst way (Gullberg, A. and Isaksson, K., 2009).

2.0 Literature Review

Every organization in Dhaka city has a particular fixed schedule under which all workers start their work. The most common schedule is from

9:00 am to 6:00 pm. This is referred to as the most traffic-congested schedule in Dhaka. All workers use the transport within this schedule most, which results in heavy traffic. Dhaka's road network is nearly 3000 km (of which 200 km are primary) with few alternative connector roads. Only 7% of the total land space is consumed by the transport facilities having 400 kms of footpaths. Among the 400kms footpath, now at least 40% of the place is used by the road vendor.

According to Author Taylo, Brian D. (2001) on "Rethinking Traffic Congestion", One of the major problems of the world is Traffic which prevents the path of innovation and effectivity among employers. In Dhaka city, every employee has to face this and go through the long traffic congestion before starting their work. This mental pressure stops them from thinking in a fresh mind. Here about 100 participants shared their responses and more than average participants have shared their decreased effectivity level due to traffic congestion. Here beside the "Rethinking Traffic Congestion", the effects of traffic congestion have been drawn properly over the performance of the employees of the organization (Gullberg, A. and Isaksson, K., 2009).

(Using a traffic monitoring system as a maintenance tool, 1974), the related journal has stated the traffic monitoring system as the maintenance tool for every progress of the country. If traffic can be monitored and maintained in a structured way, it can be regarded as a maintenance tool for development. Most of the people of Dhaka city are service holders and have to present their work in time. Without having the proper traffic systems, the schedule is hampered. About 67% of people state that their productivity is disturbed a lot due to traffic congestion. Here the findings will define how traffic system control can be defined as a maintenance tool for the development of the economy of Dhaka Bangladesh.

Böther, Maximilian & Schiller, Leon & Fischbeck, Philipp & Molitor, Louise & Krejca, Martin & Friedrich, Tobias. (2021) have stated Traffic systems are an important criterion for the growth of any country and focused on the minimization of traffic in several ways. Using a single alternative route to an existing one as well as introducing multiple routes to avoid traffic congestion. In Dhaka Bangladesh, there are very few opportunities to have multiple routes as well as alternative routes. Though Dhaka city has several multiple routes, it is too much little compared to the use and the number of populations. In the survey, more than 50% of people have complained about the issue of not having a wider road system. As a result, every people have to face a traffic problem which in turn affects their level of innovation and creativity in their work.

An effective transportation system is significantly important in maintaining economic growth in contemporary economies as it defines a connection between different parts of a country and the whole world. (Traffic Congestion, 2022) has defined the significance of well-managed transportation systems and the impact of traffic congestion. Here it was mentioned that when the volume of vehicles is greater than the number of available roads, traffic occurs. In Dhaka city compared to the population, the usable road system is not that much greater and as a result, every citizen has to go through this problem.

Traffic congestion not only impacts the creativity of the employees of the organization but also the whole world and its economic system. Besides that, it has a worse impact on road safety. Due to traffic jams, several accidents have occurred in Dhaka city. Daily Star, 15th March 2022 has published a report on the unbearable traffic jam in Dhaka city. From school children to office going people, everyone has to face this problem which affects their productivity as well as health.

3.0 Research Objective

The research paper, “The effect of traffic congestion on employee productivity in Dhaka Bangladesh”, will analyze the impact of traffic jams on the productivity and efficiency of employees’ performance within the organization. The paper will analyze the responses from the employees of both the private and public sectors and will identify the most commonly faced problems and the worst effects on employees. The current situation of the traffic congestion in Dhaka Bangladesh will be defined in this research paper as well as the impact on the whole economy of Bangladesh.

4.0 Methodology

This study has followed quantitative methodology. The number of respondents were 126 employees from both public and private sectors including housewives in Dhaka. Several factors cause an impact on human day-to-day life due to traffic jams. Some of the factors that are discussed here are time management, productivity level, work-life balance, health issues, and expenses. The pie charts define and analyze the responses and evaluate the outcome. The survey was conducted online by maintaining the Likert Scale format.

5.0 Analysis and Findings

To have the response from the employees of both the private and public sectors, a survey was conducted. Data of a total of 126 responses to the Survey Question about Traffic Congestion along with the frequency level is given below:

Statements	Scale	Frequency	Rate%
Traffic nowadays greatly affects an individual's productivity in the workplace	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 0 0 40 86	0 0 0 31.746 68.253
You cannot reach on time most of the days because of traffic jam	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 2 5 41 78	0 1.587 3.968 32.539 61.904

Statements	Scale	Frequency	Rate%
You do feel a negative effect on your health because of Traffic Jam	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 1 7 57 61	0 0.794 5.556 45.238 48.413
You remain stressed in your work whenever you face a traffic jam.	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 3 6 61 56	0 2.380 4.762 48.413 44.444
You have to increase your expense whenever you face traffic jams while hiring private transport.	Strongly Disagree Disagree Uncertain Agree Strongly Agree	2 2 7 56 59	1.587 1.587 5.555 44.444 46.825
Your work-life balance is disturbed because of Traffic jams.	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 2 4 52 68	0 1.587 3.175 41.269 53.968
Because of Traffic jams, you think your skill of innovation does not work properly.	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 11 31 55 29	0 8.730 24.603 43.650 23.015
There is no structured way of managing the traffic in Dhaka	Strongly Disagree Disagree Uncertain Agree Strongly Agree	3 26 15 43 39	2.380 20.634 11.904 34.126 30.952
You sometimes leave the office late to avoid traffic	Strongly Disagree Disagree Uncertain Agree Strongly Agree	1 16 29 56 24	0.793 12.698 23.015 44.444 19.047
Your working energy is disturbed whenever you face a traffic jam while going to work.	Strongly Disagree Disagree Uncertain Agree Strongly Agree	0 1 2 63 60	0 0.793 1.587 50 47.619

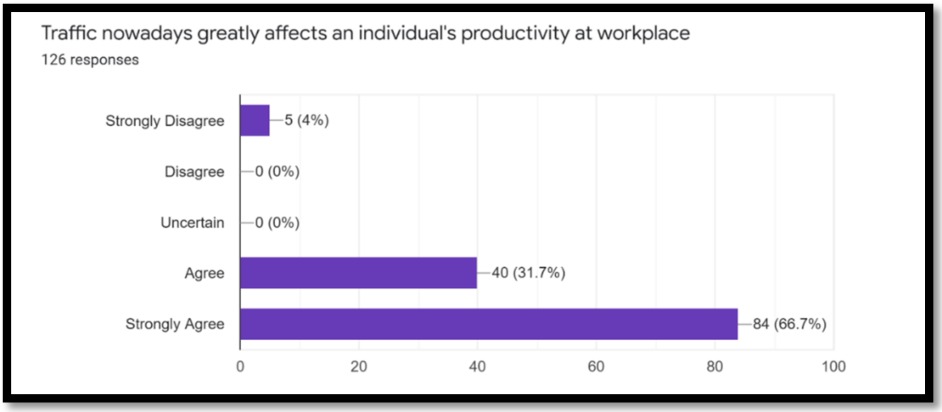
Source: Author's Calculation

The response rate of each question will define the current situation and the impact of traffic congestion in Dhaka Bangladesh. Most of the respondents were agree with each of the problems faced by traffic congestion. They also strongly agree about the impact of traffic jams on their productivity level in their workplace.

5.1 Impact of Traffic Congestion on Productivity

In Dhaka Bangladesh, most people strongly agree on the fact that the traffic problem hurts the level of productivity of employees. Around 84 participants out of 126 strongly agree about the problem. According to the employees, due to traffic jams, though they want to start their day with a fresh mind and full energy, they become unable to meet their expectations.

Figure-1: Impact of traffic Congestion on Productivity

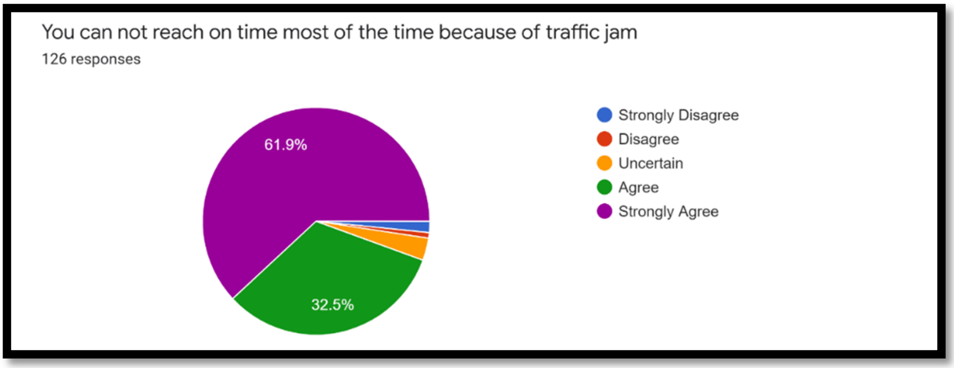


The stress level of employees increases due to traffic congestion. Within the organization before the traffic congestion, the productivity level of employees was around 70% whereas due to the traffic problem this level comes to only 40-50%. More than 30% of people feel the adverse impact of traffic problems on their productivity level.

5.2 Impact of Traffic Congestion on Punctuality

In Dhaka Bangladesh, the transportation system is not flexible compared to the demand of the population. The office hour is quite fixed from 9:00 am to 6:00 pm. As a result, at that time the demand for transport is high compared to the other schedule. Due to high traffic congestion, no employee can reach their workplace on time which affects their punctuality.

Figure-2: Impact of Traffic Congestion on Punctuality

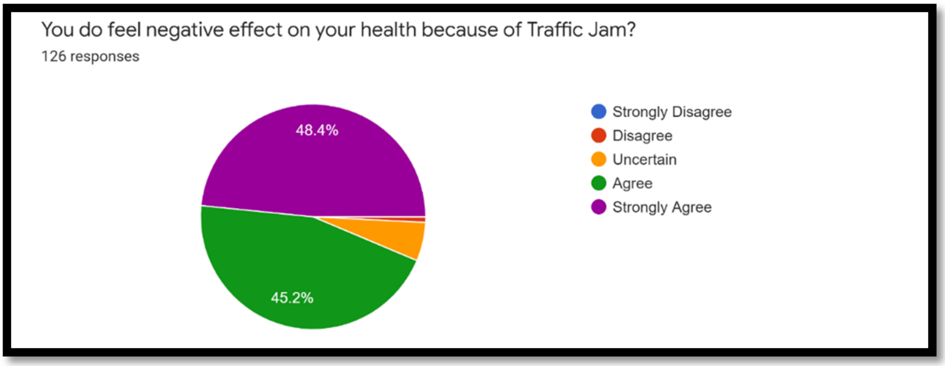


Among the 126 respondents, 61.9% of employees strongly agree with the fact that, due to traffic congestion, their punctuality habit is disturbed and they become often late because of it. About 41 participants also agree in this regard. But about 4 employees remain neutral as they feel there are other many reasons behind their going to the organization late. Most of the people start for their office around 7:30 am to be there at 9:00 am sharp. But unfortunately, due to heavy traffic, they never reach their office on time. At the same time, going to the office so early can be considered a waste of time. And the duration of the traffic usually decreases their level of energy. So, after reaching the office, they can not start their work with a fresh mind.

5.3 Impact of Traffic Congestion on the Health Issue of Employees:

Due to heavy traffic, every employee has to spend a certain amount of time on the road. As Dhaka is the most populated city where people do not feel so much flexible while moving here and there because of the summer season almost all of the months of the year, many employees become sick very frequently. Around 5-10% of people face heat stroke due to this traffic jams and the weather. Again, many employees feel a decreased level of energy and low pressure. As a result, they become so tired and less energetic.

Figure-3: Traffic Congestion and Impact on Health

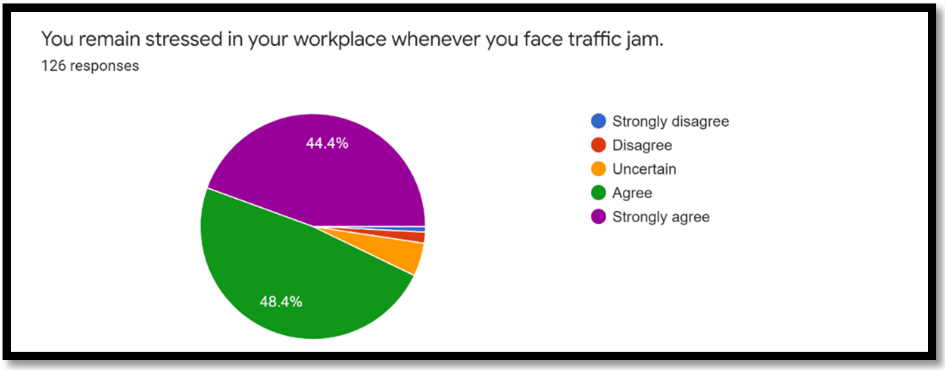


From the survey, around 49% of employees agree on the fact that traffic jam is hampering their health issue and their energy level and strength power are decreasing day by day. As a result, they are unable to concentrate on their work. Again, around 45% also feel the same. In Dhaka city, several people become sick and face major health-related problems due to the traffic problem. Because of high stress, pressure, weather, and dust, people become sick so frequently and as a result, the absence rate is increasing day by day.

5.4 Impact of Traffic Congestion on Stress Management:

Stress management is one of the most important keys to having an increased productivity level in an organization. Every citizen of Dhaka city from school-going children to the employees of both private and public sectors has to go through this stage before starting their daily work. In a survey of the school-going children done by the Daily Star, it was found that more than 90% of respondents said, they usually lose their energy level and stress management ability staying a long period on road due to traffic congestion. Even another report in this newspaper presents the overall situation of this traffic congestion as an unbearable situation for the citizens of this Dhaka Bangladesh.

Figure-4: Impact of Traffic Congestion on Stress Management

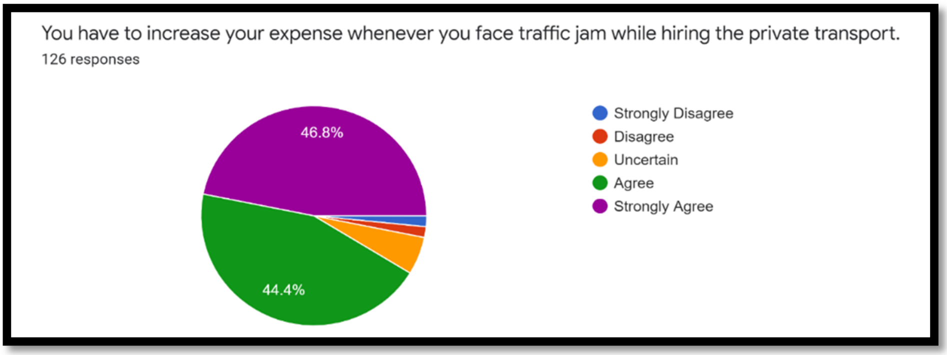


According to the survey, more than 80% of employees agree that they usually lose their stress management ability due to traffic jams. As a result, they cannot do their tasks in which way they should be managed and handled. Which in turn results in poor performance. Besides that, they also define, this poor stress management situation stays a long period for the employees.

5.5 Increased Expense Due to Traffic Congestion

Traffic congestion not only decreases the productivity level of employees within an organization but also increases the expenses of the employees. Employees are seen to hire private transport instead of public transport to reach the organization on time which increases their expenses. Besides that, the vehicles usually remain standstill due to traffic jams face the increased expense for used petrol and gas.

Figure-5: Increased Expense due to Traffic Congestion

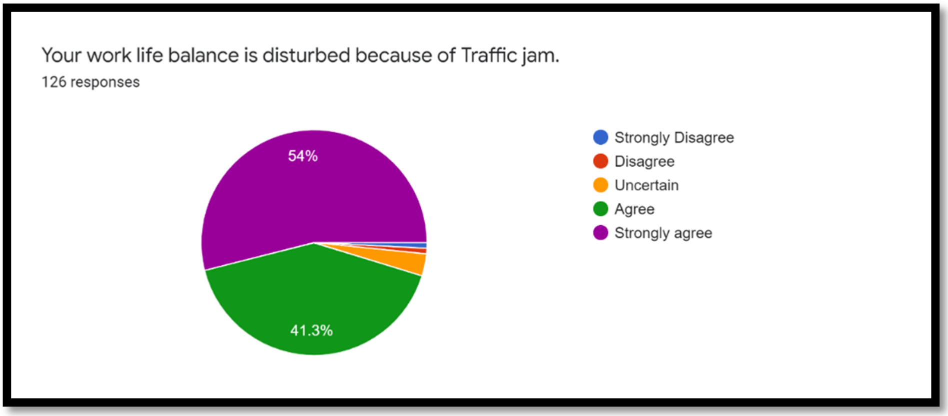


According to the survey, more than 80% of employees agree with the fact that they have to hire private transport to reach the office which in turn increases their average expenses. Many employees have shared their viewpoints regarding this issue. They have said, as the vehicles have to pay the increase used of petrol and gas which in turn increase the passenger's expenses. As a developing country, the employees of Dhaka city have to bear these expenses due to the traffic congestion.

5.6 Impact on Work-Life-Balance Due to Traffic Congestion

Due to traffic congestion, employees of both private and public organizations cannot maintain their work-life balance. The employees face difficulties while maintaining a fixed period for their personal and official issues.

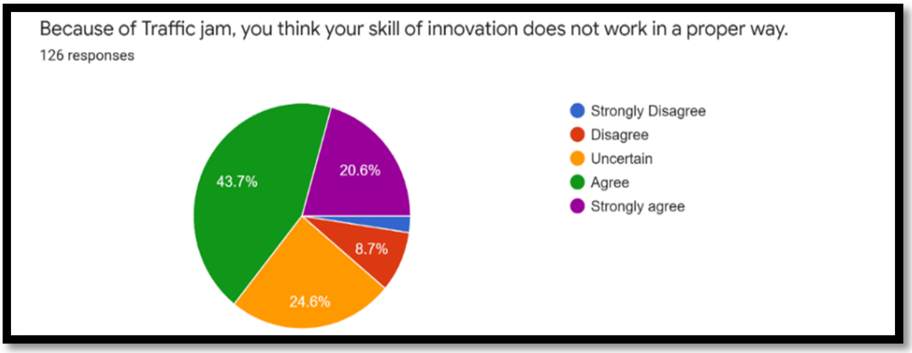
Figure-6: Impact on Work-life-balance due to Traffic Congestion



According to the survey, more than 50% of employees strongly agree with the fact that their work-life balance is disturbed due to traffic congestion. Again, around 42% of employees also agree with this impact of traffic congestion. As a result, their mental and physical issue is also disturbed.

5.7 Impact of Traffic Congestion on the Skill of Innovation

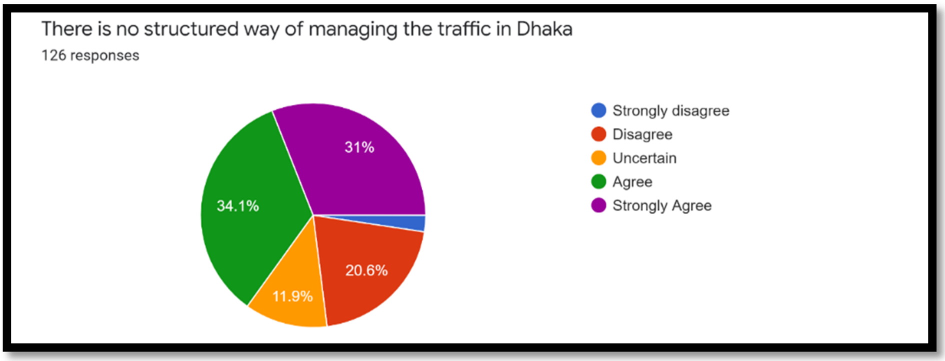
Figure-7: Impact of Traffic Congestion on the Skill of Innovation



According to the survey, around 44% of employees said, their innovation and working skill does not work in the proper way having a disturbed mind due to traffic congestion. Though some employees around 9% do not agree on this issue. According to them their innovation skill is not that much disturbed due to this issue. They have mentioned another reason behind this.

5.8 No Structured Way of Managing Traffic Congestion

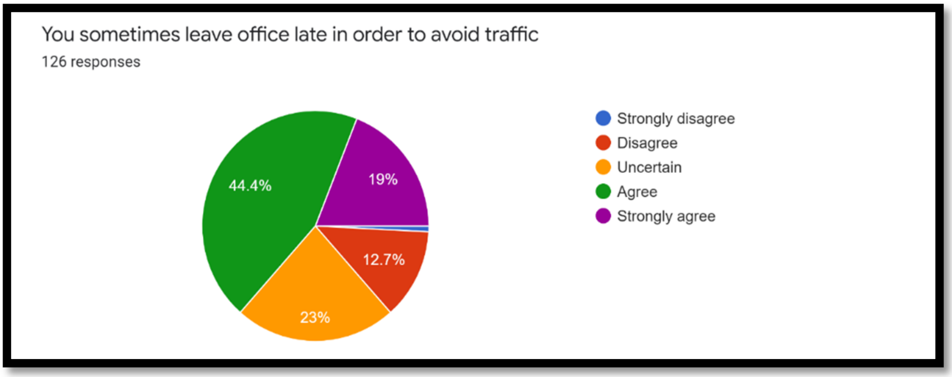
Figure-8: No Structured Way of Managing Traffic Jam



Dhaka city is the capital of Bangladesh and has an insufficient number of facilities for efficient traffic control systems. Here the transportation system is not having a developed structure for managing heavy traffic congestion. Around 65% of employees agree with this. Because of not having enough space and the structured way, employees and all the citizens of Dhaka Bangladesh have to face this heavy traffic every day.

5.9 Impact on Time Balancing Due to Traffic Congestion

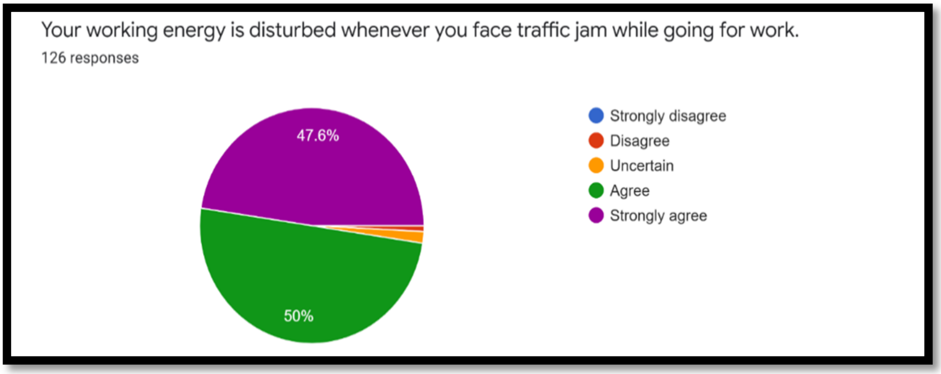
Figure-9: Impact on time balancing due to traffic congestion



In Dhaka City due to heavy traffic congestion, employees are unable to start their homes at the same time. As the organization has a fixed schedule from 9:00 am to 6:00 pm, every employee usually leaves their office at the very same time. As a result, at that time heavy traffic congestion occurs. So around 60% of employees leave their office late to just avoid the traffic which in turn disturbs their work-life balance.

5.10 Impact on Energy and Efficiency Due to Traffic Congestion

Figure-10: Impact on Energy and Efficiency due to Traffic Congestion



Traffic congestion hurts the energy and efficiency level of employees. More than 95% of employees think that due to traffic congestion, their level of energy and efficiency is disturbed and as a result, they are unable to have their desired outcome at their workplace. Staying several periods in a traffic jam, people usually lose their energy level and their productivity which in turn produce damage to the organization.

6.0 Conclusion

The transportation system is one of the major factors for the development of a country. Dhaka is only a small portion of Bangladesh contributing a major part of the total GDP of this country. Employees of both the private and public sectors usually face heavy traffic congestion which in turn produces several adverse effects for the organization. Employees lose their creativity and innovation skills due to this heavy traffic by losing their all-energy level. Besides that, the health issue and the work-life balance of the employees are disturbed due to this major problem. Employees play an important for the development of an organization which has an important part in the progress level of a country. So, all this progress is prevented due to the heavy traffic which needs an important action to be solved within a short period.

7.0 Recommendations

Traffic congestion imposes several adverse impacts on the employee's work and the contribution sector needs proper attention. The following recommendations are given analyzing the survey outcome of the employees.

- The fixed schedule can be relaxed and rescheduled as every organization follows the same schedule. It may decrease the level of traffic congestion as not every employee will start their work at the same time.

- The structure of the work schedule should be designed in such a way so that the work-life balance of the employees is not disturbed.
- The work and activities should be designed in such a way that from heavy traffic, employees can relax for a certain period and then can start their work with full productivity skills.
- Though Dhaka city does not have enough space to have an extended road system, enough steps should be taken to use a road in different ways.
- Around 70% of employees mentioned the heavy traffic congestion for their decreased level of productivity, necessary alternatives steps should be welcomed.

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Impact of Influencer Marketing on Consumer Buying Decisions: A Study on the Bangladeshi Restaurant Industry

Md Mahabub Morshed[1], Syed Muhammad Hussain Mubasshir[2], Israt Jahan[3]

Abstract

The research aimed at determining the impact of Influencer Marketing on consumer buying decisions from the perspective of the Bangladeshi Restaurant Industry. Influencer marketing is becoming popular because of the popularization of social media. The impact of influencer marketing is huge as it impacts customer awareness, interest, evaluation, trial, and the adoption process actively. The customer decision-making process in the restaurant industry of Bangladesh is greatly shaped by the food bloggers (influencers). The research determined that all the stages of the customer adoption process are directly affected by the food bloggers. Influencer marketing is quite successful because it can communicate the brand name or food item first to the customers as well as make them search for the restaurant or food, thus knowing more enhances brand familiarity. After that, the customer moves to the next stages of purchasing and finally, the end up with consuming the product. Research also determined that influencer marketing can create interest among the customers because it has a direct impact on the perception of the customers which shapes the buying attitude greatly. The research recommends some courses of actions to take into account

[1] Md Mahabub Morshed is a Lecturer at Army Institute of Business Administration Savar, Dhaka, Bangladesh. His contact address: mahbub@aibasavar.edu.bd

[2] Syed Muhammad Hussain Mubasshir is an undergraduate student at Army Institute of Business Administration Savar, Dhaka, Bangladesh. His contact address: husseinmubasshir.aiba@gmail.com

[3] Israt Jahan is an undergraduate student at Army Institute of Business Administration Savar, Dhaka, Bangladesh. Her contact address: isrataarobi465@gmail.com

for optimizing the benefits of influencer marketing are- selecting the right influencers so that the customers take their words seriously because they put a trust on the expertise of the influencers, avoiding controlling influencers' words so that the credibility gets enhanced and the customers can match the words with the performance of the products, and ensuring the relevance of the influencer which will enhance reliability.

Key-words*:* Influencer, Influencer marketing, Consumer buying decision, Adoption process.

1.0 Introduction

1.1 Background

A revolutionary shift is experienced by the contemporary business world. Firstly, the industrial revolution has driven to a great change, and then came the mass media revolution. Now, the world is experiencing the disruptive impacts of the digital revolution (Jin, et al. 2019). The consumers of this contemporary world are no longer getting attached to brands with only traditional marketing efforts rather, it has become easier to access these customers with digital marketing through different social media platforms. The focus on these digital marketing approaches has created a new marketing technique that is "influencer marketing" (Jahnke, 2018).

Influencers are those who frequently publish their daily activities on social media and have a good number of people who follow them. They have got a strong base of an audience who loves their activities and admire their opinions. Generation Y and Z are highly influenced by them which is encouraging the companies to access these influencers and use them to promote their products (De Veirman, et al. 2019). In 2016, the size of the market was $1.7 billion and it reached $9.7 billion in 2020. It is projected that in 2022, the size of the industry will grow to $16.4 billion that is showing the effectiveness of this marketing strategy (Santora, 2022).

1.2 Rationale

In Bangladesh, the restaurant industry is going through a boom as the people of Bangladesh have got habituated to consuming foods from restaurants regularly. As a result, around 60,000 restaurants got established all over Bangladesh and 8,000 of them are situated in Dhaka. The size of the restaurant industry is around BDT 4500 crore (Bhattacharjee, 2021). Because of too many options, the customers often get confused to choose the right options to eat out. As a result, they take reviews and ratings from previous customers. This need has made food reviewers or bloggers popular. In consequence, the number of food bloggers is increasing in Bangladesh and many of them are achieving great popularity as well. Some famous food bloggers of recent times are MetroMan, Rafsan TheChotoBhai, Petuk Couple, Khudalagse, and Khai-dai.com (Uz Zaman, 2020). Over time they have become influencers in the restaurant industry as Rafsan TheChotoBhai has recently got the Marvel of Tomorrow Influencers award (Sifat & Karmaker, 2021). As a result, the restaurants are promoting their foods by inviting them and experiencing a huge impact as well. Thus, the research has picked this topic to explore the effectiveness of influencer marketing in the restaurant industry of Bangladesh.

The research paper will be completed using 7 chapters. The first chapter will show rationale, and background information. The second chapter will identify the impact of influencer marketing the customer buying process. The third chapter will state the four objectives of the research. The fourth chapter will explain the methods that were applied in the research. The fifth chapter will show the customer decision-making process in the restaurant industry of Bangladesh and the way it is shaped by the food bloggers (influencers). The sixth chapter will analyze the findings of the research and determine how all the stages of the customer adoption process are directly affected by the food bloggers. The seventh chapter will summarize the research and given some recommendations.

2.0 Literature Review

2.1 Concept of Influencer Marketing

Vrontis et al. (2021) depicted that influencer marketing is one kind of social media marketing tool which is a mix of old and new ways. It is a content-driven marketing campaign. Through this campaign brands and influencers collaborate. It is stated by Childers, et al. (2019) brands utilize influencers to promote their products on a large scale. Influencers are famous and well known online. Zietek (2016) opined that influencers can build strong relationships with consumers so that they play the role of experts and sources of reliable information.

2.2 Influencer Marketing VS Celebrity Endorsement

According to Haenlein, et al. (2020), influencer marketing and celebrity endorsement are two different sides of social media marketing. Celebrities are not involved in influencer marketing rather than influencer marketing involves those who would never think of themselves as renowned offline. Celebrities are famous both online and offline. Sammis, et al. (2015) opined that engagement is a big differentiator between influencer marketing and celebrity endorsement.

2.3 Impacts on Consumer Buying Decision

2.3.1 Awareness

According to Xiao, et al. (2018), it is very difficult for a brand to create an impact or to stand out in a crowd in this world. Brands need to be there for the long term for their target market. It will help them to be in the consideration set of consumers. Building a strong relationship is sounds difficult but with the side of an influencer, it becomes quite easy. Glucksman (2017) stated that influencers have a strong bond with their followers and this opportunity can a source for brands to use and communicate with the target audience.

2.3.2 Interest

Lou & Yuan (2019) opined that the level of interest of consumers in a brand can be triggered through influencer marketing. Sometimes brands fail to create interest among consumers through thousands of attempts. But when they work side by side with influencers they can easily build interest among consumers. Lagrée, et al. (2018) told that influencers tend to have a lot of followers and when the followers see the influencers adore a brand or product, automatically interest builds in them the brand.

2.3.3 Evaluation

According to Ye, et al. (2021) evaluating a brand before making a purchasing decision is very important. Without knowing whether the brand is worthy or not it is foolish to take any decision. Influencers help consumers to evaluate between brands. Santora (2022) opined that several brands of similar products are available in the market and it is very difficult to choose the right one. But influencers help to choose the right one with the right price.

2.3.4 Trial

It depicted by Jin, et al. (2019) influencers can make consumers try something new for the first time. An influencer is a source of trust for the followers. When an influencer promotes a brand attractively, it creates an intention among consumers to try the product. Jahnke (2018) found that 17% of companies are using their 50% of marketing budget on influencer marketing to achieve more consumers.

2.3.5 Adoption

De Veirman, et al. (2019) stated that adoption is the last stage of a consumer’s decision of buying a product. The adoption decision of a consumer can be shaped a lot by social media influencers. Ali, et al. (2020) told that in today’s world, people follow influencers more than their instinct so when an influencer suggests and uses any brand, the followers also imitate them and buy those specific products from specific brands.

2.4 Literature Gap

Anjos (2020); Haenlein, et al. (2020); Amin & Tarun (2019) opined that influencer marketing has a great impact on consumer buying decisions in terms of creating awareness, interest, evaluation, trial, and adoption of a brand. Islam, et al. (2018); Uddin (2019); Childers, et al. (2019) opposed that influencer marketing can create awareness and interest only. People evaluate the products on their own using the internet or taking feedback from their friends and family. This controversy will be solved through this research paper.

3.0 Research Objectives

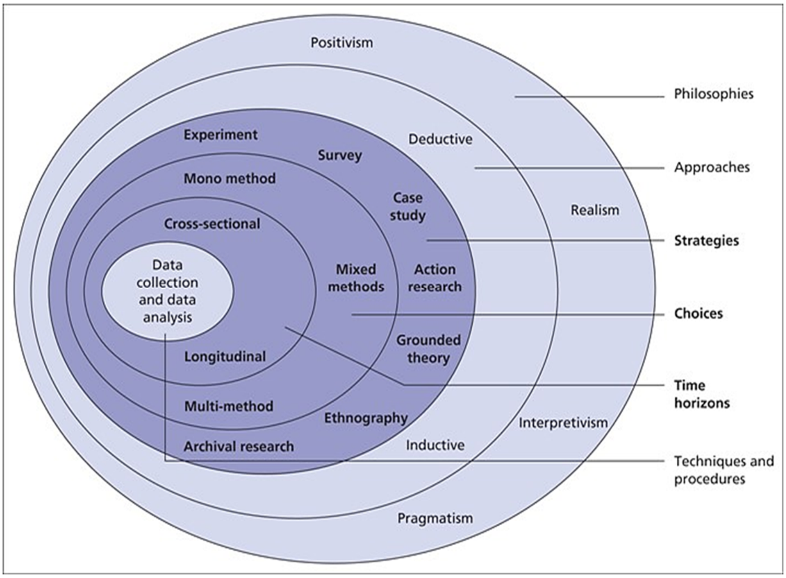
The research aims at investigating the impact of Influencer Marketing on consumer buying decisions from the perspective of the Bangladeshi Restaurant Industry. The objectives of the research are-

- To understand the concept of influencer marketing.
- To determine the factors of influencer marketing that are shaping customer decisions.
- To assess the impacts of influencer marketing on customer buying decisions in the restaurant industry of Bangladesh.
- To recommend some strategies to optimise the benefits of influencer marketing in the restaurant industry of Bangladesh.

4.0 Methodology

Research onion has six layers and each layer illustrates different stages of research. They are- philosophy, approach, strategy, method, time horizon, data collection, and analysis (Goddard & Melville, 2004).

Figure 1: Research onion



Source: Goddard & Melville, 2004

Conclusive design is followed for solving and finding the conclusion of a problem that has theoretical background whereas exploratory design is followed for solving a new research problem (Snyder, 2019). This research is required to determine the impact of influencer marketing on consumer buying decisions so the appropriate design is conclusive (Chawla & Sodhi, 2011). The positivism philosophy is used in this research as the problem is objective. Here, this is objective research and the variables are well-defined. So, data was collected from a large population following the quantitative method (Ørngreen & Levinsen, 2017).

The population was large so an online survey strategy was followed to collect the responses of the respondents (Ketchen Jr & Bergh, 2006). The researcher collected data from primary sources through an online survey (Baker, 2000). Simple random sampling method is used in this research as the respondents are chosen randomly, each of them had the possibility of being selected (Singh, 2006).

5.0 Analysis and Findings

5.1 Demographic Analysis

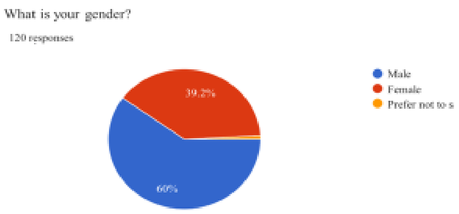


Figure 2

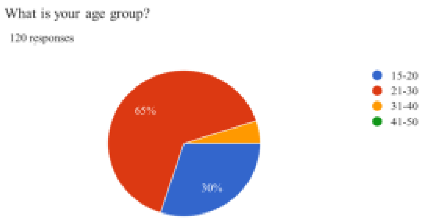


Figure 3

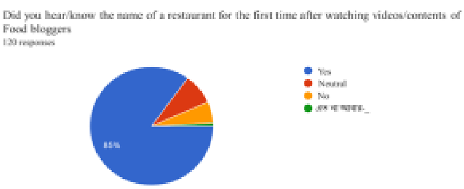
Gender of the participants

Gender	Percentage
Male	60%
Female	39.2%
Prefer not to say	0.8%

Age group of participants

Age group	Percentage
15-20	30%
21-30	65%
31-40	5%
41-50	0%

5.2 Frequency Analysis



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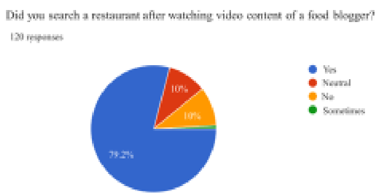

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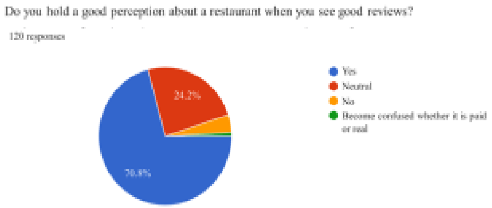

Figure 6

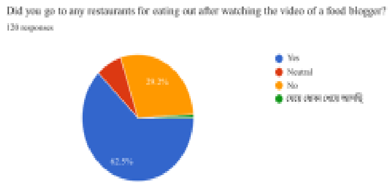

Figure 7

1: Do you hear or know the name of a restaurant for the first time after watching videos or contents of food bloggers? (Fig 4)

The researcher asked the respondents heard or know about a restaurant for the first by watching the contents or videos of the influencers and the positive responses recorded for this question was 85%. It is reflecting that influencers are creating a huge impact on creating brand awareness.

2: Did you search for a restaurant after watching the video/content of a food blogger? (Fig 5)

The above pie chart is highlighting that 79.2% of people are showing their agreement with the statement of the researcher that the contents of the influencers searched the restaurants. It is the first phase of brand awareness that can generate leads for the companies.

3: Do you hold a good perception of a restaurant when you see good reviews? (Fig 6)

The third question of the researcher was whether the customers hold a good perception about the restaurant after seeing good reviews about it and this question attained 70.8% positive responses. So, it is clear that influencer marketing can create interest among the customers.

4: Did you go to any restaurant for eating out after watching the video of a food blogger? (Fig 7)

Through this question, the researcher wanted to understand whether the customers go to restaurants after watching the content of the influencers and it found that 62.5% of customers have agreed.

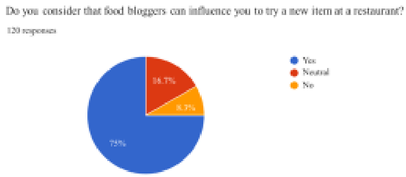

Figure 8

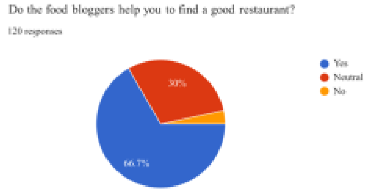

Figure 9

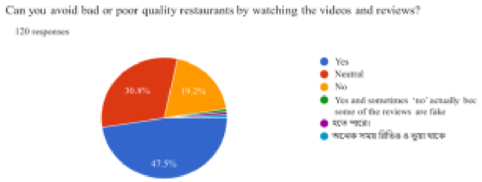

Figure 10

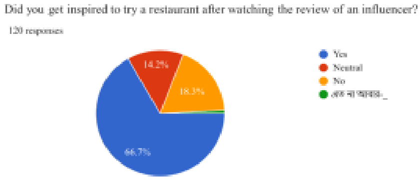

Figure 11

5: Do you consider that food bloggers can influence you to try a new item at a restaurant? (Fig 8)

The researcher wanted to determine whether influencer marketing is capable of making the customers select a new item for consumption and the result is showing that 75% of people gives a positive response to the question because they believe that they have tried new items from restaurants by watching the contents published by the food bloggers.

6: Do the food bloggers help you to find a good restaurant? (Fig 9)

The responses to the question are reflecting that the evaluation process of the customers gets shaped by influencer marketing in the restaurant industry because the percentage of responses for the option "yes" is 66.7%.

7: Can you avoid bad or poor-quality restaurants by watching the videos and reviews? (Fig 10)

47.5% of respondents believe that through influencer marketing they are knowing more about the foods of the restaurants so that they can avoid the restaurants who are making fake promises about the quality and taste of their products.

8: Did you get inspired to try a restaurant after watching the review of an influencer? (Fig 11)

The purpose of asking the question was to understand whether the trial process gets shaped by influencer marketing. 66.7% agreed that they get inspired by the contents of the influencers to try a restaurant.

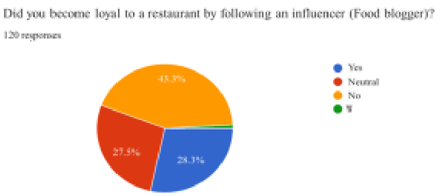

Figure 12

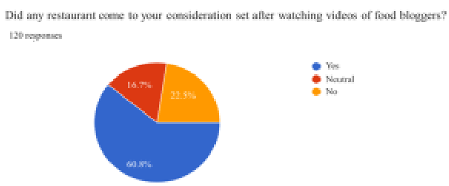

Figure 13

9: Did you become loyal to a restaurant by following an influencer (Food Vlogger)? (Fig 12)

This question is showing that food bloggers cannot make a customer loyal to a restaurant rather they can create awareness, interest, and inspire to try because the above figure is showing that 43.3% of respondents have disagreed with the statement of the researcher.

10: Did any restaurant come to your consideration set after watching videos of food bloggers? (Fig 13)

The purpose of asking the question was to find out whether the influencers can help a restaurant get a position in the consideration set of the customers and the result is outstanding because it can be seen that 73 respondents out of 120 have agreed that it happened to them.

6.0 Discussions

The entire customer adoption process is directly influenced by the influencer marketing strategy in Bangladesh (Popy & Bappy, 2020). The first stage of the customer adoption process is awareness. This is the step where the customers become aware of the new product or new brand (Ali, et al. 2020). In this stage, the customers become familiar with the products which is a crucial factor as it shapes the buying attitude of customers positively. Awareness creates interest among the customers (Anjos, 2020). Research has found that influencer marketing is quite successful in this stage because it can communicate the brand name or food item first to the customers (Haenlein, et al. 2020).

The second stage of the customer adoption process is the interest that leads customers towards searching for information about the product (Amin & Tarun, 2019). Through influencer marketing, the restaurants can create this interest among the customers so that the customers look for more information about the restaurants (Islam, et al. 2018). The third stage of the product adoption process is the evaluation where the customers assess whether the product is meeting all the criteria that they need. Influencer marketing is actively shaping this stage because research has found that the videos and reviews of food bloggers help them to find good restaurants with minimum searching costs (Uddin, 2019). Therefore, it can be determined that influencer marketing is crucial in the product evaluation stage leads to trying the products on a shorter scale (trial). In this stage, customers try to understand whether the product will be able to fulfill their needs as well as be priceworthy (Popy & Bappy, 2020). Influencers have an indirect influence in this stage because they already make the customers hold a good perception (Sifat & Karmaker, 2021).

Then comes, the final stage which is product adoption. In this stage, customers start purchasing the products. This stage is also an outcome of influencer marketing as they create a huge impact on all the other four stages which leads to the final stage (Amin & Tarun, 2019). Thus, it can be claimed that influencer marketing can create a high impact on the purchasing decision process of the customers in the restaurant industry.

7.0 Conclusion

7.1 Conclusion

The research aimed at investigating the impacts of influencer marketing on consumer buying decisions from the perspective of the Bangladeshi restaurant industry. The overall research paper has been completed through seven different chapters introduction, literature review, research objectives, methodology, analysis and findings, discussion, and conclusion and recommendations. The introductory section has given a brief background and rationale. In the literature review section, the available theories and scholarly context of the research were added.

The research methodology section defined the methods applied for conducting the research where it stated that the research was conducted following the positivism philosophy, quantitative method, and descriptive design using primary data collected through an online survey strategy. The analysis and findings section analysed the effectiveness of influencer marketing by taking responses from 120 respondents on 10 questions that are related to the customer adoption process and buying decision and found satisfactory results. The discussion chapter analysed the findings of the research with relevant theory. Finally, the conclusion and recommendations chapter has concluded the research with some suggestions for improvement.

7.2 Recommendations

From the above discussion, the researcher has found some tactics that can help to optimize the effectiveness of influencer marketing in the purchasing behavior of the consumers in the restaurant industry of Bangladesh that are-

- **Selecting the right influencers:** Based on the target customer group, the influencers should be chosen. It will help to get effective results because the target group admires that influencer.
- **Avoid controlling influencers' words:** It is a common tendency of Bangladeshi restaurants to make paid reviews with the influencers

which lead to dissatisfaction among customers and high expectation. As a result, they do not go to the adoption process in most of the cases as they find the information of the influencers fabricated.

- **Ensuring the relevance of the influencer:** It is crucial to select the relevant influencers instead of going for a famous one. For example, if a tech influencer or sports influencer promotes the food of a restaurant, the customer will not be able to trust it as they do not have expertise in the field.

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Challenges of Offering Doctoral Degrees in the Private Universities of Bangladesh

Md Anwarul Islam[1]

Abstract

Ever since the enactment of the Private University Act in 1993 offering doctoral degrees remained outside the purview of the private universities which is at the core of creating new knowledge. Academicians associated with the private universities opine that despite various challenges, some of these universities have made remarkable improvements not only in providing quality undergraduate and graduate education but have also acquired expertise, capabilities, and research base to offer doctoral degrees, thus contributing to creating new knowledge. The primary objective of the study was to identify the challenges of the PvU for offering doctoral degrees. The basic approach was secondary data search and empirical observations through questionnaires and interviews of 33 academicians, and an opinion survey response of 437 randomly selected 4th-year students and alumni of the PvU. The study identifies seven challenging areas in offering doctoral degrees. These are (1) Governance and Management (2) Development of R&D Capacity (3) Access to Higher Education due to financial reasons. (4) Quality of Higher Education and Quality Assurance (5) Availability of Supervisors (6) Lack of adequate information & communication technology infrastructure. (7) Allocation of research funds. The study also supports the view that the few top universities have generally acquired an acceptable level of expertise, resources, and research facilities to offer doctoral degrees.

Keywords: Private Universities; Challenges; PhD; Doctoral degrees.

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[1] A retired Brigadier General, a PhD fellow of Bangladesh University of Professionals (BUP), and Registrar of Independent University, Bangladesh (IUB). His contact address: anwar2242@gmail.com

1.0 Introduction

Higher education institutions, especially the universities take the responsibility of setting-up moral standards, creating social awareness, crafting a sustainable future by developing the educated workforce, and most importantly providing moral leadership to the country during the national crisis (Anthony, 2003). Within the broad purview of the above, the primary role of a university has always been the creation, dissemination, and application of new knowledge for the global community (Krishna, 2019, Ahmed et al. 2018). A study suggests that (Bangladesh Economic Review of Ministry of Finance, MOF, 2019) there is a considerable demand for researchers in the internal market and the PvU can play a significant role by offering research-based programs. (Haque, 2014; Essays UK, 2018).

Although the acquisition and dissemination of new knowledge for the community have not been adequately addressed by the PvUs, the current global rankings show that some of the top PvUs have established themselves as institutions of excellence (Daily Star, 2016; Webometrics, 2018; FES, 2018) and have acquired an acceptable level of expertise, resources, and research facilities to offer doctoral degrees. As such, there is now a strong conviction among the people in academia that allowing the PvUs to offer doctoral degrees will not only increase the in-house R&D capability of the country but also increase the overall profitability of the private companies by 5-15 percent (Islam, 2021). World Bank study shows that the universities in Bangladesh currently face many challenges in the field of quality, research infrastructure, and governance, which limit the quality of higher education in general and R&D at the universities in particular (WB 2009 & 2017).

In view of the above, it is felt that a research study would be useful for all stakeholders to ascertain the existing challenges of offering doctoral degrees based on which an objective assessment of the PvU may be done to evaluate their potential for offering doctoral degrees. Therefore, the research objective of this paper is to identify the key challenges which the PvU are facing or are likely to face in order for them to be capable of offering a doctoral degree. This will also serve as a guide for the PvU in their gradual effort of quality development in research and prepare them for offering doctoral degrees when the government decides to allow the PvU to offer the same.

2.0 Literature Review

This study used secondary data, statistics, and empirical observations from existing books, booklets of universities, research publications, thinks tanks, etc. Handbooks of universities on doctoral degrees, scholarly articles, research manuals, journals, periodicals, articles, and research papers are available from different libraries and websites. Literature on the modalities of preparing students for pursuing a doctoral degree was generally used to understand the challenges associated with the research capability of the PvU. Several articles on the doctoral degrees offered by various universities from home and abroad, strategy paper on higher education & challenges associated with research (Santos & Lo 2018, UOI 2019, UOB 2019, Santos & Lo 2018, NU 2019), handbooks, and manuals, (MMU 2019, UOK 2019, UOE 2019), for the guidance of the researcher and the supervisors and staff from admission through the defence of the doctoral degree, were reviewed but those did to specifically address the need of the Bangladeshi PvU and the challenges associated with the offering of doctoral degrees.

Some literature, Santos & Lo (2018), identifies major issues related to educational leadership, especially doctoral degrees; why students should prefer professional doctorate degrees over traditional PhD, does and don’ts to be practiced by the researchers (UOE 2019), how doctoral degrees help in the professional advancement and related benefits. However, the literature like UGC Publications (2018), UGC Annual Report (2018), Bangladesh Education Statistics 2017 & 2018, BANBEIS, (2018) were very useful as sources of secondary data about the PvU.

3.0 Research Objective

The primary objective of the research work was to identify the challenges associated with offering a doctoral degree at the PvU of Bangladesh. The secondary objective was to generally evaluate the research capabilities of the top five selected PvU to find out whether they are currently capable of offering doctoral degrees.

4.0 Research Methodology

This was qualitative exploratory research conducted using primary and secondary data with pragmatic and interpretive philosophy and inductive approach. The basic approach to the research was secondary data search and empirical observations through questionnaire study, opinion survey, and personal interviews. Interview and survey strategy, with personal interaction through semi-structured face-to-face personal interaction with a predetermined questionnaire, were used. For the interview, thirty-three academicians and top management personalities of the PvU board of trustees were selected. For the student survey, four-hundred and thirty-seven students in their 3rd and 4th years and alumni of the PvU were randomly selected. The researcher himself as the principal researcher was responsible for data collection and analysis. The questionnaires comprising of eight to ten questions were used for collecting data, endorsing subjective and objective opinions on the study, institutional views, and validating data. Overall data collection effort was focused on what are the research challenges associated with offering a doctoral degree at the PvU of Bangladesh.

5.0 Results and Discussions

5.1 Challenges of Introducing Doctoral Degrees at the Private Universities

The study reveals the challenges of introducing doctoral degrees in the PvU in Bangladesh covering several areas which directly or indirectly contribute to the overall research environment at the university. These are (1) Governance and Management, to include higher governance and statutory functions at the university, autonomy, university management, PvU Act (2) Development of Research & Development (R&D) Capacity, to include quality of research, absence of research centres at the university, R&D facilities and integration of the private sector and PvU through R&D, research capacity and lack of training for R&D. (3) Access to Higher Education at the PvU. (4) Quality of higher education and quality assurance, to include the absence of a workable strategy for higher education, absence of required soft and hard skills of the graduates, and lack of overall quality of education and quality assurance. (5) Availability of adequate senior faculty members to supervise research. (6) Lack of adequate information & communication technology (ICT) infrastructure, and (7) Inadequate higher education financing and research funds.

5.1.1 Governance and Management of the Private Universities

Governance is an umbrella term that includes autonomy, transparency, accountability, participation of all stakeholders, efficiency, responsiveness, capacity building, awards and punishment, equity and justice, and sustainability (WB 2018).

The PvU has been confronting the problem of governance from the beginning and it continues (Islam, 2009). Eighty percent of the respondents in the academia opines that the Board of the PvUs are reluctant to follow the guidelines of the UGC and some even try to run the universities as their private enterprises. The Board of Trustees (BOT) is comprised of twenty-one members, where the VC is the ex-officio member. He is the Chief Executive and chairs the syndicate and academic council (PUA, 2010; ADB 2015), the power of which is again limited by the PvU Act. The study finds that the VC, appointed by the Chancellor though, in many universities, practically remains fully subservient to the BOT and implements the decision of the board (ADB 2015). Many PvU do not have an approved Service Rule / Statute and in absence of the same the FMs and employees always remain in job uncertainty which prohibits a good academic and administrative ambiance at the university. Approval of the academic curriculum remains with the UGC, which, evaluates the curriculum with the ‘prism’ of the PU and fail to realize that the market philosophy of the PvU. The number of new programs allowed to be offered is limited to one only in a year, which is unacceptable to the respondents of the PvU.

The study finds that the PUA 2010 is inadequate to deal with many critical affairs of the PvU. The Act does not have adequate guidelines for graduate school and offering RBPs, which is essential for the creation of new knowledge. 85% of the respondents in the interview opined that all the PvU should have separate ‘graduate school (GS)’ with clearly defined roles and responsibilities. The PUA 2010 needs to be reviewed and updated to fulfil the current need and adequately define the roles and responsibilities of the management, the BOT, syndicate, academic council, and other administrative functionaries of the university to eliminate undue pressure by the board.

The study suggests that there is a need to protect the interest of all stakeholders and yet maintain a fair academic environment without jeopardizing the integrity and autonomy of the PvU. The existing PUA 2010 needs to be revisited and be brought within a common framework of academic rules and regulations like the PUs, under the guardianship of an independent body to make it suitable for offering doctoral degrees. Amendments of the PUA may include representation of the govt and other stakeholders in the BOT to ensure better management oversight, quality assurance, and remove irregularities.

5.1.2 Development of Research & Development (R&D) Capacity

Research in different types of Universities and Challenges

The study shows that the development of R&D capacity remains a major challenge of the PvU. Although ‘research’ is generally one of the most important undertakings of a university, there are differences in the priority a university provides to research activities. Based on the priority provided by the university on research, the university can be termed as a teaching university, research university, or a combination of teaching and research. The PvU in Bangladesh are primarily teaching universities, although some are involved in doing research. Some PvU do allocate substantial percentage of budget on research generally most PvU lack adequate infrastructure for credible doctoral research. In addition to that heavy teaching load of faculty members, inadequate time for research, inadequate research-fund and grants impede credible research in the PvU.

Development of Research Centres at the University

The study reiterates that there is a need to create an independent and autonomous National Research Council (NRC) and Central Research Laboratory (CRL) following the spirit of the SPHE 2018-2030. These bodies may act as the highest independent and autonomous regulatory bodies for coordinating research activities at the national level. Some PvUs have research centres, but their output is yet to be fully satisfactory. The respondents opine that unless the PvU are allowed to offer research-based programs and establish their own research centres, developing a ‘culture of research’ and offering a PhD will remain a challenge.

R&D and the Knowledge-Economy

Although R&D has been adequately emphasized in the Strategic Plan for Higher Studies of Bangladesh (SPHE 2018-2030) as a basis for the future ‘Knowledge-based Economy’ (K-Economy), the allocation of funds in R&D has been inadequate in the PvU. Research shows that 1% increase in the ratio of R&D expenditure to GNP increases the growth rate of GDP by 0.78%, which leads to the belief that the future growth potential of the country depends on its capacity to produce knowledge than knowledge-based goods. Developing countries generally spend less than 1% of GDP, while the developed ones invest more than 2%, and few (Sweden, Japan, and Finland) up to 3% of GDP for R&D. The study shows that there is no short-cut to spending money for R&D and capacity building for the same.

SPHE 2018-2030 suggests 2% of GDP by 2022 and 6% of GDP by 2030 to be spent on higher education. The PvUs should allocate generous funds from within to establish a solid infrastructure for R&D and encourage fundamental and applied research through their existing Grad programs.

Integration of Private Sector and Private Universities in R&D

The study shows that the private sectors are increasingly recognizing the economic incentives of investing in R&D and are now playing key roles in funding and carrying out R&D activities. In Central Asia, the private sector plays the most important role (Kyrgyzstan highest 50.9%, Azerbaijan lowest 21.1%) though but the role of the HEIs is the highest in Europe and North America, followed by countries in Latin America. In Asian countries, the contribution of HEIs to R&D is limited (India 2.4%) and govt takes the initiative of the majority of them (66.3%) fundamental R&D activities. The private sectors are gradually entering into the area of fundamental research thus challenging the monopoly of the public laboratories and universities.

The study suggests that the private sectors in Bangladesh should fund more project-based research activities following the lines of applied research in the sectors which are more research-driven and where profitability is high (computers, communication, electronics, medical devices, biotechnology, pharmacology, etc). In 2018, out of the $441 billion from the private sector spending, the companies spent 7% on basic research, 15% on applied research, and 79% on development. The distribution was like 2017 (6%, 16%, and 78%, respectively). These companies spent 86% of their own fund. SPHE (2018-2030) has put a lot of emphasis on university-industry linkage and collaboration (UIC) for research and institutional arrangements for the commercialization of university research outcomes. The study concludes that unless an adequate amount of funds is available for R&D as part of the (UIC) by the PvU, offering RBPs will remain a far cry and a fundamental challenge for offering PhD by the PvU.

Research Capacity: Training for R&D

The universities continue to play dominant roles in research training through their graduates and advanced level programs. Besides there are govt, or quasi-govt and multi-disciplinary institutes, private institutes, and research associations which also offer R&D training. The study shows that the PvU should develop research institutes or research centres, and run regular modular courses on research methodology, qualitative and quantitative data analysis, referencing, archiving of data, literature search and review etc which will prepare and empower the graduates and staff to be productive members of the research community (Sanyal and Varghese 2007). The study reiterates four factors on which the country's future research potential will depend; These are i) the amount of money invested in research; ii) the staff training and availability; iii) the capacity of the system to retain these people in R&D activities, and iv) an expanded higher education system. The PvUs should work consistently to contribute to all three potential areas and prepare for the future, which remains a challenge for the universities.

5.1.3 Access to Higher Education at the Private Universities

Although the overall enrolment in the HEI is increasing [Ahmed et al. (2018), Elizabeth & Mannan (2014)] raising the skills and quality of human resources and creating more opportunities for higher RBP remains a challenge in the PvU. The study reveals that the PvU's share of students is about 16% of the total students, 60% of the students in campus-based education. National University and its affiliated institutions, 68.11%, BOU and its affiliated institutions 13.04%, 37 PUs and their affiliated institution 13.05%, and Islamic University and their affiliated institutions 5.8% (UGC 2020). Enrolment for higher education at the PvU are more from among the financially solvent category of people, which accounts for two-thirds of all students (Samarrai, 2017) Students from rural areas enrol more in the PU and enjoy the highly subsidize student fees and residential facilities which are not available in the PvU.

The study shows that few students from poor financial backgrounds get an opportunity to reach the university level. Universities whether private or public enrol about 6-7% of the eligible age cohort of students in Bangladesh. Although enrolment in the PvU in recent times has increased, the same ratio is 15% in India, 50% in South Korea and 100% in Singapore, 26% in China, 50% in Thailand, and from 20-30% in Latin American countries. Ahmed et. Al, 2015 conclude that the low-tertiary enrolment rates in Bangladesh can be attributed, in part, to the poor quality of education and lack of finance for higher education. The PvU and their students do not receive any govt-sponsored loans or scholarships. ADB study views that the absence of scholarships, financial aid, grant, or student loans etc are causing the country to lose out considerable talent, especially from the low-income category families who are otherwise capable of pursuing RBPs. The govt and the PvU management need to work out ways and means to improve the accessibility of the poor but meritorious students to pursue higher studies, which is now very limited, and remains as a challenge for the PvU.

5.1.4 Quality of Higher Education and Quality Assurance

All respondents agree that the quality of HE varies widely between the public and private sectors and across individual institutions and overall quality needs to be improved. The overall unemployment rate at the tertiary level of education in 2017 was 11.2% as compared to the national average of 4.2% reflects a lack of quality education in the HEIs. The study shows that 'Industry-Academia Gap' i.e., the differences between the content of the curriculums taught at the universities and the requirement of the job market, and the skill set of the graduates, are the main reasons for high unemployment. Unless the overall issue of quality is addressed holistically and its assurance across the length and breadth of the HE is implemented at every level of the university years of study, the situation will continue.

Absence of a Strategy and Required Soft and Hard Skills

There is an absence of a clear strategy as to how to respond to the industry's demand for skills that may be followed by the universities, especially through research. There is an urgent need to focus on the curriculum and quality assurance (QA) for HE programs and their curricula toward appropriate competencies that match the demands of the economy as a whole and requirements of RBPs like MPhil & PhD.

The study shows that the PvU requires cultivating "soft skills" such as communication skills, critical thinking, problem-solving skills, teamwork, lifelong learning, information management, entrepreneurial skills, ethics and professionalism, and leadership skills, among the students. In addition to the soft skills, the 'hard skills' such as professional and technical skills the PvU need to address the issue of curricula updating, teaching and learning process, and examination system in the HEIs.

Quality Assurance (QA)

Quality Assurance (QA) is the single most important concern for the PvU towards offering RBPs and needs a deliberate intervention (WB 2019). Policies to enhance teaching and learning should include greater ICT accessibility and use; smart classroom; audio-visual system for online and blended learning system; well-equipped laboratories; library facilities with access to e-resources, online journals, a wide collection of dissertations, book-lending facilities, etc are essential for all PvU. The respondents agree that a central academic entity like Graduate School can ensure the right quality for offering RBPs at the PvU.

The study shows that the existing IQAC is inadequate to oversee the RBPs. The percentage of the responses are in the figure below. 21.74% of the Academics and 30% of the management personalities feel that the present IQAC is inadequate and 73.91% of the Academics and 70% of the management personalities suggest a new body either under UGC or Accreditation Council, would be required for overseeing the compliance issues related to offering a doctoral degree program.

Preparing Students for RBPs & Ensuring Relevance as a Quality Objective

The study suggests (Owens et.al 2009) that the PvU management needs to focus on the ‘relevance' as an aspect of quality improvement objectives, updated curriculum, market need, and most importantly applied research for the graduate students. This will help create a better linkage with the market. The most important aspect of relevance as quality is its connection with the long-term overarching theme of human resources development of the country from time to time envisioned in the development plans. The (GoB Yearly Plan, 2016) PvU should be smart enough to identify the key areas of focus of the govt to secure funds for research and develop meaningful ties with PUs and the market.

PvU should offer undergraduate and graduate programs that are in line with the global trends, essential for long-term economic growth such as pharmacy, nursing, biochemistry and biotechnology, clinical psychology, and ICT, that will eventually produce researchers to pursue RBPs. The RBPs should be able to inculcate consciousness, conscientiousness, and capability in the researchers, and the HEIs should be the epicentre of modern learning and serve the community by strengthening contemporary learning where the role of research is fundamental (Andaleeb, et.al. 2009). The study suggests that the BAC may develop a separate oversight mechanism for QA for a doctoral program and accord accreditation to the qualified PvU for offering PhD based on pre-decided criteria / standards for inputs, processes, and outputs.

Faculty Development Program

The PvUs hardly have an elaborate program for in-service training of the faculty members (FMs). FMs train themselves either at home or abroad on their own initiative. All PvU should have faculty development plan (Hargis et. al. 2018) for promoting the right ambiance for teaching, learning, and scholarship activities and categorize their FMs based on their qualification and continuous contribution in teaching, scholarship, and service activities. The suggested four categories are Scholarly Academics (SA), Practice Academics (PA), Scholarly Professionals (SP), and Instructional Practitioners (IP). The requirements of each category should be specified in the faculty development plan. The SAs are valued the most and the university requires at least 40% of their faculty as Scholarly Academics. The study shows that PvU are heavily dependent on the adjunct FMs, mostly from the PU and the corporate sector. With a few exceptions of the top PvU, overdependence on adjunct faculty and junior lecturers seriously affects the overall quality of teaching at the universities. The study suggests that the PvU should gradually reduce its dependence on adjunct faculty members.

5.1.5 Adequate Senior Faculty Member to Supervise Research

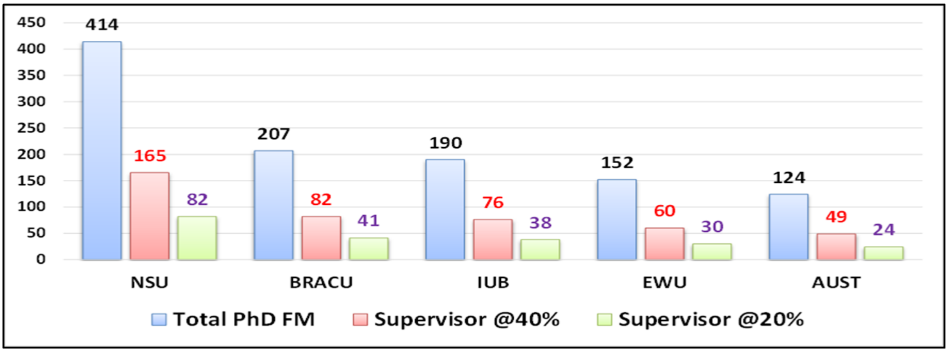
The PvU needs to have FMs with PhD and postdoc who are suitable as supervisors for doctoral students. Supervisors remain primarily responsible for providing guidance and assistance to doctoral students so that they may carry out their research and present the results in an appropriate manner. They should continuously seek professional development through regular study, networking with other researchers, up-to-date research, and training as part of the academic and professional development. Such FMs are scares and difficult to recruit at the university, which remains a difficult challenge for the PvU. The study shows that the teaching load, research release time, and other academic and non-academic incentives should be designed and implemented in a manner so that it creates the right ambiance for the professionally sound research active FMs to continue, contribute, remain purposefully engaged, and take the knowledge frontier ahead. The table below shows the number of full-time faculty members, faculty members with PhD (full-time and adjunct), and their percentage.

Table 1: Numbers of Faculty Member (Fulltime and PhD) and Percentage of Faculty Member with PhD in 15 Selected Public and Private Universities in Year 2019.

Ser	Univ	Full-time Faculty	Faculty with PhD	Percentage of PhD Faculty
Selected Five (5) Private Universities				
1	BRACU	518	207	41.07
2	NSU	523	414	79.15
3	IUB	209	190	90.48
4	AIUB	348	85	24.43
5	Daffodil	742	125	16.8
Selected Five (5) Public Universities				
1	Dhaka University	2188	938	42.87
2	Ctg University	1407	320	22.74
3	Rajshahi University	1150	743	64.6
4	Jahangirnagar University	836	352	42.1
5	Khulna University	489	163	33.33
Source: UGC Report 2019, Table 2.3.1 & Pages: 354, 85-118, 162-170, 177, 184-186, 192, 200 & 208				

Table above shows that the top five PvU have adequate PhD FMs to offer doctoral degrees. The respondents agree that 20-40% of the available PhD FMs will be available to the university and qualify to supervise doctoral students. Based on the above rationale, the figure below shows the number of potential supervisors available in the selected five PvU for supervising doctoral students. However, a closer introspection is required to really identify and evaluate their research activeness to find out as to how many of them really be suitable to be supervisors for PhD researchers. This will remain a challenge for the universities.

Figure 1: Number of PhD Faculty Members Available as Supervisor in Five PvU-2019 @ 40% and 20% of the PhD Faculty Members.



The table below shows the research and publication output of the selected ten PvU in Bangladesh in the year 2019. It is seen that the PvU in general has a lot of work to do in this regard. Publications in foreign and peer-reviewed journals need to be increased to enhance the international visibility of created new knowledge. It also shows that there are sharp differences in the combined output of the first five and the second five universities. This indicates that the first five universities are contributing more to this field, while the others need to catch up quickly. In general, the PvU needs to work harder to increase publications in foreign journals and peer-reviewed journals.

Table 2: Research & Publication Output (In No.) in Ten Private Universities-2019

Ser	Univ	Research Projects Undertaken	Publications in Foreign Journals	Publications in Local Journals	Peer Reviewed Publications
1	BRACU	91	142	36	70
2	NSU	456	497	184	577
3	IUB	66	79	49	1
4	AIUB	119	111	42	80
5	Daffodil	21	65	80	2
6	AUST	14	126	27	33
7	UIU	41	124	18	0
8	EWU	15	144	12	2
9	UAP	40	121	17	0
10	IIUC	0	75	20	100

Source: UGC Report 2019, p162, 164,166,167,168,169,170,171,177,184,185,186,192 & 200

5.1.6 Information & Communication Technology (ICT) Infrastructure

The PvU needs to work more for increasing competencies in ICT for their graduates to be competitive within and outside the country, and to ensure a state-of-the-art e-learning environment at the campus. Haque and Shahriar (2016) show that the students of PvU are comparatively performing better than the PU in nine out of the fifteen key indicators related to the ICT infrastructure. The study shows that the PvU have a comparatively better ICT infrastructure, the teacher-student ratio, and computer–student ratio than the PUs. The study, however, suggests that the PvU (1) Develop a need-based ICT infrastructure to include developing IT professionals capable of teaching RBPs at the Graduate Schools of the university; (2) Equip the GSs with adequate ICT hard and software, internet connectivity, and other states-of-the-art IT laboratories; (3) Regularly update the ICT curriculum for UG and Grad studies to consider the needs of the market and govt systems within and outside the country; (4) Work with the govt and corporate sector for financing and setting up of ICT infrastructure with related hardware, software, network infrastructure, academic staff training, digital libraries, and research and development; (5) Be part of nation-wide ICT network that connects all public and private HEIs.

The study suggests that the PvU should be supported by the academic innovation funds of the UGC [(Higher Education Quality Enhancement Project (HEQEP) and the Skills and Training Enhancement Project (STEP)] like the PU. The universities willing to offer doctoral degrees should take full advantage of the above opportunity and provide specialized internet services for the academic and research communities within the university. Therefore, developing a full-fledged ICT infrastructure would remain a challenge for the PvUs for offering RBPs.

5.1.7 Higher Education Financing and Research Fund Allocation

Unlike the PU, the PvU depend on the students' tuition for meeting all expenses including research. Establishing research infrastructure for offering RBPs and creating the right environment for research, is an expensive proposition, which, only with students' tuition, is unsustainable. All over the world PhD programs are heavily funded by outsiders, not by the researchers themselves. The study suggests that the PvUs should allocate more funds for research from sources outside the students' tuition. Unless alternative means financial support, other than the tuition fee of the students, is ensured, offering doctoral degrees in PvUs would be an impossible proposition.

The study shows that the scenario of higher education finance is fast-changing, and the global education market is estimated to reach to USD 10 trillion by 2030, with new opportunities emerging in countries of the Middle East, Africa, and Asia. There is an increasing interest for the private sector in the emerging economies and countries for education financing (Chia 2015). In 2017, in India alone, the market size was USD 133 billion, which included USD 56 billion in private spending. (Sattva. 2017). The expenditure for higher education has increased more than 175% in the last 15 years (Chia 2015). The GoB promised 2% of the national budget by 2022 and 6% by 2030, in the SPHE 2018, which is not only inadequate but looks after the interest of the PU only. The study finds that it would be very difficult for the PvU to offer RBPs without any outside support.

Bangladesh allocates 11% of its education budget to higher education, compared to the international benchmark of 15%–18%, and the entire amount is primarily allocated to the PU and other national universities. The PvU does not get any fund from UGC or MoE. Although the PvU management in generally reluctant to spend money on expensive research, but the study shows (UGC 2018 & 2019) that the per-student expenditure of the top five PvU is praiseworthy in comparison to the PU which are fully financed by public money.

Table 3:Expenditure (In BDT) per Student in Top 10 Private Universities-2018 & 2019

Ser	Name of the University	Expenditure Per Student-2019	Expenditure Per Student-2018
1	BRAC University BRACU	1,60,446	1,42,614
2	North South University NSU	1,45,775	1,06,549
3	Independent University, Bangladesh IUB	1,70,850	1,61,141
4	American International University Bangladesh AIUB	1,84,342	1,74,275
5	Daffodil International University	91,819	85,565
Source: UGC Report (2018, p318 & 2019, p354). Statistic Table No-2.3.1.1.			

In absence of generous govt funding and the stringent allocation of funds for research, it is difficult to offer RBPs at the university. The figure below shows that some PvU are motivated to develop a research culture within the university despite being primarily a teaching university by allocating research funds.

Figure 2: Last Four Years Average (2016, 2017, 2018 and 2019) Research Expenditure
in 12 Public and Private Universities.

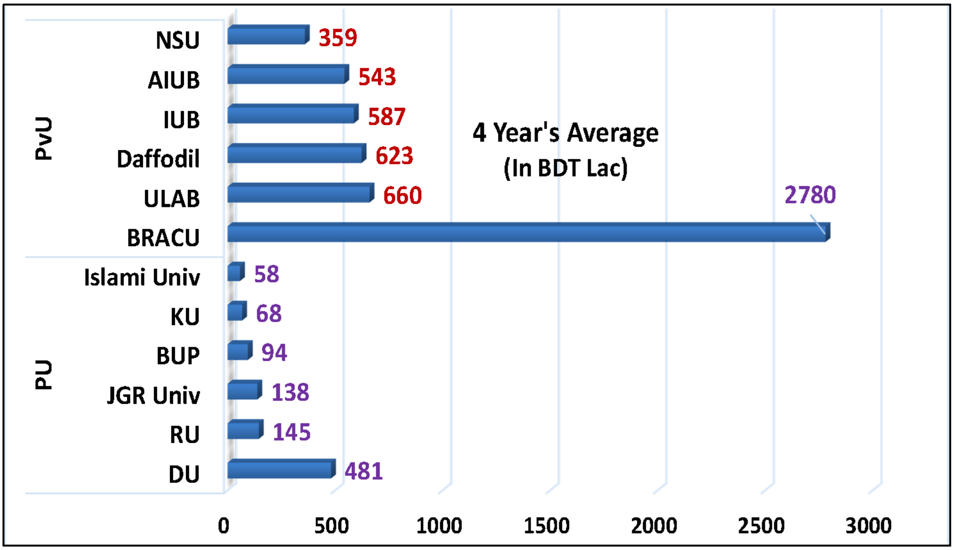


Table 4 and Table 5 below show the research expenditure in the last four years and the comparative research expenditure and the output through research publications of five selected public and private universities between 2016-2019.

Table 4: Research Allocation by Various PvU for the Years 2016, 2017, 2018 and 2019.

Ser		Research Allocation 2016 (In BDT Lac)	Research Allocation 2017 (In BDT Lac)	Research Allocation 2018 (In BDT Lac)	Research Allocation 2019 (In BDT Lac)
1	BRACU	35.61	3497.74	3876.43	3709.71
2	NSU	27.66	198.23	556.08	653.00
3	IUB	109.00	504.84	306.63	439.00
4	AIUB	507.11	330.91	433.88	898.25
5	DAFFODIL	667.00	396.00	675.81	753.96

Sources: UGC Yearly Report 2016, 2017, 2018 & 2019

Table 5: Research Expenditure (In BDT Lac) & Publication Outputs (In Numbers) of Five Public Universities & Five Selected PvU in Last Four Years (2016-2019).

Ser	PU	2016		2017		2018		2019	
		Research Expn	Research Publication	Research Expn	Research Publication	Research Expn	Research Publication	Research Expn	Research Publication
1	DU	440.25	193	754.10	574	207.60	527	520.17	472
2	RU	100.00	63	38.96	72	0.00	63	440.00	183
3	JGR	50.00	363	75.00	219	199.00	548	227.51	309
4	KU	20.00	219	32.50	162	40.00	0	177.50	0
5	CU	10.00	71	60.00	200	293.51	535	275.00	518

Ser	PvU	2016		2017		2018		2019	
		Research Expn	Research Publication	Research Expn	Research Publication	Research Expn	Research Publication	Research Expn	Research Publication
1	BRACU	35.61	139	3497.74	208	3876.43	108	3709.71	248
2	NSU	27.66	121	198.23	366	556.08	493	653.20	577
3	IUB	109.00	189	504.84	149	306.63	167	439.88	129
4	AIUB	507.11	130	330.91	115	433.88	336	898.25	233
5	Daffodil	667.00	106	396.00	129	675.81	410	753.96	147

Sources: UGC Yearly Reports 2016, 2017 p247, 2018 p272 & 2019 p293.

The study suggest that the student-loan program may be introduced by the govt keeping in view the average household monthly income and expenditure of the common people and considering their repayment at reasonable instalments. While the govt should increase its allocation for higher studies in PvU following the footsteps of PU, at the same time, the PvU also should increase research allocation for HRPs. The research shows that the BRACU, Daffodil, AIUB, NSU, and IUB do regularly allocate a respectable amount of money for research as compared to the reputed PU in the country. BRACU is at the top of the list with Tk 3709.71 lac in 2019.

Taking advantage of their flexible decision-making process, public-private partnerships (PPP), and university-industry linkages (UIL), all PvU should gradually develop research infrastructure and competencies to seek funds from external sources, donor countries, NGOs and local philanthropists. The study reiterates that dependence on the student's tuition only for research is an unsustainable model and suggest that endowment funds should be established for sponsoring research supervisors, students, and providing grants as practiced in universities around the globe. Wealthy alumni, business organizations, philanthropists, and donor agencies may be approached for the endowment funds. The PvU should gradually build resource-base by selling intellectual property and offering consultancy services, technology transfer to industry and business entities to help generate additional income which could be spent for research. The study concludes that the students willing to pursue doctoral degrees must be financed by the universities themselves or by any other outside sources, without which, attracting students to pursue doctoral degrees would be close to impossible and would remain a major challenge for the PvU.

6.0 Conclusion

This study provides a comprehensive list of challenges for effective evaluation of the private universities' overall readiness for offering doctoral degrees. These are (1) Governance and Management (2) Development of R&D Capacity (3) Access to Higher Education at the PvU due to financial reasons. (4) Quality of Higher Education and Quality Assurance (5) Availability of Supervisors for Ph.D. (6) Lack of adequate information & communication technology (ICT) infrastructure. (7) Higher education financing and allocation of research funds. These challenges will also serve as guides for the higher education regulatory bodies to develop criteria that the PvU may follow while preparing for offering research-based programs like MPhil and PhD. This will also remain available to the universities as standards to follow, improve performance, and acquire a competitive advantage over others in their quality assurance endeavour.

The study shows that despite various challenges and limitations, few PvU have been innovative and effective in creating and supplying qualified human resources for the market and have achieved commendable research competencies comparable with good universities. They have not only established themselves as institutions of higher learning and centres of excellence for research but have acquired an acceptable level of expertise, resources, and research facilities to offer doctoral degrees.

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The Dimension of Public Health Facilities with Special Reference to COVID-19 Pandemic: A Legal Analysis from Bangladesh Perspective

Mariha Mahboob[1]

Abstract

This paper is on the legal dimensions of public health facilities in Bangladesh especially during the Corona Virus Disease 2019 (COVID-19). Bangladesh because of being a country of low-income faced lot of issues while dealing with the pandemic. Despite the fact that it has come through a long way of two years, there are still some room of discussions to be made. The paper mainly aims to examine the current legal framework to see whether it is adequate for dealing with the epidemic. It identifies the legal gaps and other challenges that have been impeding the prevention and treatment of the disease and finally make a relevant recommendation in this regard. It examines thorough studies throughout many Acts, policies, data, statistics etc. and also made a survey to understand the opinion of people of various age and profession. It agrees that there is improvement in COVID-19 recently, but to sustain that the legislation must be modified. Many works were done in the beginning, but as time passed, individuals no longer felt the need to be concerned with COVID-19 whereas it is still present everywhere, wreaking havoc, and needs to be investigated further. This is an updated study, and this paper has attempted to include all of the pertinent material that a reader could need.

Key-words: Pandemic, Epidemic, COVID-19, Government

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[1] Mariha Mahboob is a LLM Student of Bangladesh University of Professionals, Dhaka, Bangladesh. Her contact address: mariha.mahboob@gmail.com

1.0 Introduction

SARS (Severe Acute Respiratory Syndrome) Coronavirus-2 is a new coronavirus that caused COVID-19 disease in China in 2019. These viruses circulate among animals and occasionally spread to humans, causing illnesses ranging from minor symptoms of life- threatening illness. It has jeopardized the world’s health and economic sectors. Bangladesh is a small country with a long way to go in terms of development.

Bangladesh has confirmed its first COVID-19 case on 8 March 2020. Bangladesh has become one of its worst sufferers, with 1,556,758 confirmed cases and 27,531 deaths from 3 January 2020 to 1 October 2021 as mentioned in the report of WHO. It is still dealing with the epidemic and needs to strengthen healthcare infrastructure such as testing capacity, instituted quarantine, and isolation centers, as well as raise awareness. Only contrivances are therefore explored, such as severe lockdown, social distance, and increasing the existing immune system.

2.0 Literature Review

According to Rahman (2006) to promote citizens' health rights and ensure their progressive realization, the government should take a holistic strategy. Every individual right to health should be respected by the state, which should protect people from illness and disease while also enabling and providing the bare minimum of basic services and health promotion. This author has focused on the medical rights of and individual with special reference to the ground of equality among the people of the state. But it has not got a precise idea to what the basic necessities refer to. Zakaria (2020) acknowledged that despite the fact that Bangladesh is a party to the International Covenant on Economic, Social, and Cultural Rights, which states that everyone has the right to the greatest levels of bodily and mental health, Bangladesh is having problems defending its citizens' health rights. One of the state's obligations is to mitigate, treat, and regulate the effects of the COVID-19 epidemic in the country. But the author has not mentioned current actions by the government. For which the clear concept about the reason behind the ineffectiveness of Bangladesh in fulfillment of the medical rights of people is not understood.

According Siraj (2020), the Infectious Diseases (Prevention, Control, and Eradication) Act, which went into effect in November 14, 2018, is intended to increase public knowledge of contagious or communicable diseases, as well as to prevent, control, and eradicate them. This paper has analyzed the whole Act in details. It also has mentioned about the health-related policies taken by the health ministry with reference to COVID-19 pandemic. In addition to this there was inclusion of the directives given by the WHO to prevent COVID-19. All these were discussed by maintaining a correlation with the Act, 2018. But the paper vaguely discussed the plot of COVID-19, steps taken by the ministry and directions by WHO. It was mostly detailed analysis of the act. As per Tobin (2011), the requirement to "guarantee the supply of medical help" would include the creation of a "system of emergency medical treatment in cases of epidemics, and other comparable health threats in emergency situations." In a nutshell this article has mentioned that medical and health right should be a mandatory obligation of a state and the means and policies taken as progressive realization to ensure these rights has to be reasonable and carefully taken.

Anwar (2020) have outlined the primary concerns about COVID-19 testing kits inadequacies. Five weeks after the first COVID-19 case was detected in Bangladesh, the equal to around 68 tests per million people. For the first three weeks IEDCR was the only diagnostic facility in the 180 million-person country, and daily testing rates remained below 100 per day. The author mainly portrayed the fact that detection of COVID-19 disease was becoming difficult because of inadequate testing kit. He has also mentioned in details about the import of the COVID-19 testing kits in Bangladesh. But the data that has been used was an initial one. It has vividly no information about the present condition.

3.0 Research Objectives

i. Examine the current legal framework to see whether it is adequate for dealing with the epidemic;
ii. Identify the legal gaps and other challenges that have been impeding the prevention and treatment of the disease;
iii. Make a relevant recommendation in this regard.

4.0 Methodology

This research is both qualitative and quantitative. The major source of data are relevant domestic laws and reports, as well as some specific statute sections and relevant international treaties and agreements. Blogs, books, research papers, and judicial decisions are used as secondary studies along with online legal and non-legal journals. In addition to all of this, there is a survey with medical professionals, the general public, and patients to determine their views on the current state of medical facilities during the pandemic.

5. Legal Framework on the Development of Medical Rights and Right to Life in Bangladesh

5.1 The Constitution of Bangladesh, 1972

The right to healthcare services is not explicitly stated in the Constitution of the Bangladesh. It gives it a fundamental responsibility of the state to ensure the provision of medical care for its residents under Article 15(a). As mentioned again in Article 16, the state shall take reasonable steps to improve public health. Besides, the key responsibility of the constitution is to safeguard and promote public health, as stated in Article 18. The state's obligations relating to medical treatment or public health do not give any legal rights for the people because these Articles are under the domain of the Fundamental Principles of State Policy. Thus, Article 32 of the Constitution, which guarantees the Right to Life as a basic right, contains the most essential clause dealing to people's health rights. In compared to Articles 15(a) and 18, this Article is more holy and powerful since it explicitly recognizes the right to health care as a corollary to the right to life. As a result, a combined reading of these Articles appears to impose an obligation on both the state and individuals to be aware of the rights of patients with life-limiting diseases.

5.2 The Infectious Diseases (Prevention, Control and Eradication) Act, 2018

Bangladesh's Infectious Diseases (Prevention, Control, and Eradication) Act went into effect on November 14, 2018. To solve public health emergencies and reduce health risks, the Act aims to improve awareness of, prevent, control, and eradicate contagious or communicable diseases. On March 8, 2020, a novel coronavirus disease (COVID-19) was discovered in Bangladesh, prompting the Ministry of Health and Family Welfare to release a gazette on March 23, designating COVID-19 as an infectious disease and declaring it a public health emergency. The government would be able to track the transmission of infection according to the gazette. The goal of the Act is to protect people from infectious diseases by preventing, controlling, and eradicating them on a national and worldwide level. In the case of an infectious disease outbreak, the Act allows for global notifications and mutual aid, enhancing risk management skills. The International Health Regulations and WHO publications on the transmission of education, the review of infectious disease propagation, and the protection of human rights can all be used with little modification.

The Act in a nutshell includes provisions on formation of advisory body, their functions, composition etc. It also includes the functions of the Directorate of Health where instructs Health Directorates to take the necessary steps to address public health emergencies and reduce health risks, as well as to improve public awareness of infectious diseases and to prevent, control, and eradicate them. The act also has the methods that say the way of treating of patients, collection of samples for test and lastly punishment for person who transmits or contributes to the spread of an infectious disease.

5.3 National Preparedness and Response Plan for COVID-19, Bangladesh

This is the 5th version of preparedness plan and was drafted in march, 2020. The goal of health-emergency preparedness planning is to reduce the burden of a health threat in terms of mortality and morbidity, hospitalizations, and demand for health-care goods and services; to maintain essential services, protect vulnerable groups, minimize economic and social disruption, and allow for a rapid return to normal conditions. The goal of the plan is to prevent and control COVID-19 in Bangladesh, minimizing the disease's impact on the country's health, well-being, and economy. The plan's goal is to avoid disease introduction into the country and, in the event of importation, to minimize or limit local transmission. Six nation levels have been developed based on COVID19 infection status to help plan and select response levels.

To determine the response level, a risk assessment should be undertaken at each level. There are no cases in the country during level 1, imported cases during level 2, limited local transmission during level 3, and widespread local transmission during level 4. The transmission decreases at level 5, and the final stage is the recovery phase. The country will carry out the actions outlined in a national plan through multisectoral committees that include representatives from relevant ministries, national and international organizations, and development partners.

5.4 Bangladesh Preparedness and Response Plan for COVID-19

On July 20, 2020, the "Bangladesh preparedness and response plan" (BPRP) for COVID-19 was drafted. It outlines the objectives, planning scenarios, areas of work, and priority activities that the Bangladesh health sector will need to scale up its core capacities to prevent and quickly detect the virus's spread, characterize the response, and efficiently control the threats, all in a coordinated manner, as required by the International Health Regulations (2005). The suggested plan's major purpose is to prevent and manage the spread of COVID-19 in Bangladesh in order to limit the impact virus on the country's health, well-being, and economy, as well as to establish a framework for treating sick people. The enforcement of mandatory mask-wearing and safe hygiene practices outside the home, including in the workplace; a zoning approach to containment; community-based prevention practices, case identification, and quarantining utilizing local community health capacity for slowing disease spread and sustaining behavior change following lockdown; the maintenance of physical distancing regulations based on latest experience and industry assistance; and the empowering of frontline health workers and other important workers to make them change agents and address any potential COVID-19-related worries and concerns in order to turn the pandemic around. The plan outlines a multi-sector coordination structure that includes ten technical pillars that focus on epidemiological response and health service delivery, such as surveillance and laboratory support, contact tracing and mitigating community transmission, points of entry and quarantine, infection prevention and control, COVID-19 case management, and ensuring essential health, population, and nutrition services delivery, as well as a multi-sector coordination structure.

5.5 National Guidelines on Clinical Management of Coronavirus Disease 2019 (COVID-19)

This document titled, “National Guidelines on Clinical Management of Coronavirus Disease 2019 (COVID-19)” is the Version 7.0 and was drafted on 28 May 2020 by Disease Control Division, Directorate General of Health Services Ministry of Health & Family Welfare Government of the People's Republic of Bangladesh. This guideline is part of the plan, and it contains specific advice for the case management of COVID-19 cases in Bangladesh which includes mostly clinical advice along with advices such as, every physician in Bangladesh will follow the case definition of suspect, probable, and proven COVID-19 (and death), which will be updated on a regular basis. Case testing and isolation, as well as tracking, tracing, and quarantining of close interactions, will all be implemented. COVID-19 and non-COVID-19 patients must be treated in every hospital. These hospitals will establish a separate zone in the hospital premise for COVID-19 and non-COVID-19 patients (subject to government policy), and a triage method will be used to classify and differentiate the patients. The COVID-19 zone will be divided into two sections: one for proven COVID-19 patients and another for suspected or possible COVID-19 patients. All public and private hospitals in Bangladesh will treat mild patients with major risk factors, moderate, severe, and critical cases. If a healthcare worker has come into touch with a COVID-19 patient, they do not need to isolate themselves. Unless they are symptomatic or have tested positive for COVID-19, they can continue to care for their patients while wearing proper PPE.

6.0 Analysis and Findings

6.1 Tables and Figure:

In order to conduct fruitful research, this paper had collected some data through google forms. the male female percentage were 59.3 and 40.7 respectively. There were respondents of different age, profession and education level.

Table-1: Methods for Prevention and Cure

	Methods	**Percentage**
Preventive method	Wearing Masks	93.2
	Maintenance of social distance	66.1
	Sanitization	72.9
Curative procedure	Self-isolation	81
	Home treatment as per doctor's advice	72.4
	Hospitalization	29.3
	Self- treatment without doctor's advice	12.1

Table-2: Issues faced by patients and doctors

	Issues	Percentage
Issues faced by patients	Rush of patients	48.6
	Insufficient beds	37.1
	Insufficient doctors	42.9
	Irresponsible authorities	45.7
Issues by doctors	Huge rush of patients	66.7
	Fatigue from workload	38.9
	Inadequate supplies	33.3
	Indiscipline patients	44.4

6.2 Data Analysis

From Table-1 it can be seen that the most popular method used to prevent COVID-19 was wearing masks (93.2%). Later there were maintenance of social distance (66.1%), sanitization (72.9%) and isolation etc. The most popular ways followed as COVID-19 cure were self-isolation (81%) and home treatment as per doctor’s advice (72.4%). Along with these, hospitalization (29.3%) and self- treatment without doctor's advice (12.1%) also prevailed as a curative procedure.

It has also been found that there were people who didn’t consult physicians because they were confident about own knowledge (18.2%), they had trust issues with doctors (18.2%) and e.t.c. On the other hand, From Table-2 it can be observed that there were people who faced difficulties while conducting treatment which included huge rush of patients (48.6%), insufficient beds (37.1%), insufficient doctors (42.9%), irresponsible authorities (45.7%) and e.t.c. Even almost 60% of physicians found it difficult to treat patients because of huge rush of patients (66.7%), fatigue from workload (38.9%), inadequate supplies (33.3%) and indiscipline patients (44.4%). Other than all these, it was found that almost 60% of people has no idea that there is individual legislation to protect their health rights during the pandemic. Though they vaguely know that there have been some policies taken by the government in prevention of COVID-19. There was a very blurred answer to the question whether or not Bangladesh has done a good job in prevention of COVID-19 pandemic. 32.2% of people has answered in positive, same percentage of people were unsure and the rest answered in negative.

7.0 Findings of the Study

Upon working on the topic in the following research, this paper came to certain findings which are discussed below:

- Bangladesh has laws to protect the health rights. But these are not enough to ensure a good health of the people. The provisions are either not enforceable or not well drafted. In addition to these there are no such notable law that has been formulated keeping in mind about the health care only. COVID-19 is a situation never like before. There no such act that can be termed as enough compatible to control the situation.
- The Infectious Diseases (Prevention, Control and Eradication) Act, 2018, has given no proper definition of the term 'Infectious Diseases'. It even has no definition or concept of the terminologies like, epidemic, endemic, pandemic etc.
- The Act of 2018 does not address how a patient should be treated if they are contaminated with an infectious disease. Because institutional ethics committees in hospital settings are not common in Bangladesh, the problem is determining how limited resources should be distributed in times of need, as during the COVID-19 pandemic.
- The Act of 2018 discussed more about the administrative decorum in health sector / ministry, but has no such guidelines suggesting the core duties that has to be followed by health workers for treating COVID-19, formation of COVID-19 hospitals, beds, collection of apparatus etc.
- Moreover, there may be certain additional risk factors of natural disasters, such as a tropical storm, occurring in a country

vulnerable to climate change, which may put more strain on the government. But neither the laws nor the policies has any provision or guidelines to reduce the issue caused during those times.

- It can be deemed that COVID-19 pandemic is being dealt as any other epidemic or endemic by the government. Though there is the National Guidelines on Clinical Management of COVID-19, but, this plan yet does not stand enough to prevent the pandemic.
- Bangladesh has taken many initiatives to decrease COVID-19 transmission in accordance with WHO standards. Among the policies are lifestyle adjustments, the use of face masks, activity restrictions, social isolation, and changes in hygiene routines. Furthermore, through local media, the government and the private sector are partnering to improve public awareness about personal hygiene habits.
- The Bangladeshi government has implemented a number of steps to prevent and control the spread of COVID-19. Bangladesh's MOHFW prepared the "Bangladesh Preparedness and Response Plan for COVID-19." The primary purpose of this strategy is to prevent and limit the disease's spread.
- The government increased the number of intensive care units (ICUs), hired and trained 2000 doctors and 5000 nurses, and implemented medical personnel safety measures. The government provided medical equipment, personal protective equipment, and other medical aids to COVID-19 patients and health care workers.
- Bangladesh, on the other hand, lags behind in terms of the patient-to-doctor-to- nurse ratio. Inadequate COVID-19 diagnostic facilities, as well as inadequate clinical and health-care resources, are major obstacles to treating COVID-19 patients in Bangladesh.

8.0 Recommendations

From the findings of this study, this paper has the following recommendations which can be implemented within our system and they are discussed below:

- The current act has to be amended or there should be a well-drafted act for the COVID-19 situation with the inclusions of important definitions, concepts, treatments, vaccination policy, preventive protocols etc. If passed, this law will clear up any uncertainty about the legal foundation and breadth of the government's powers that are being used or may be used to combat the pandemic. This will help to avoid not just lengthy delays in the implementation of vital measures, but also potential legal difficulties in the future.
- The penalty for the violation of COVID-19 protocols has to be increased and enforced.
- There has to be a set of guidelines or provisions specified for everyone saying what has to be done during a sudden emergency during the pandemic. This can be disaster or sudden climate change or anything.
- The government must provide enough protective equipment for healthcare workers who will be in direct contact with COVID-19 patients.
- There has to be insurance of cost friendly COVID-19 treatments in all the hospitals so that the Government hospitals and health workers don’t get overburdened with patients and duties.
- If a substantial number of people from vulnerable populations contract COVID- 19, they may need to be hospitalized and treated intensively. As a result, every hospital, clinic, and medical center must provide ventilation support.
- To reduce hospital overcrowding, all non-essential surgeries and hospital admissions should be canceled immediately. Because

hospitals can transmit COVID-19, it's best to decentralize healthcare and provide care at home wherever possible.

- There has to be maintenance of strict COVID-19 protocols like wearing masks. It is observed that people in social gathering are not using masks and this is subject to taking an action.
- Government rest homes and private hotels can be turned into emergency response healthcare centers. Bangladesh, as a riverine country, also possesses a substantial water transportation system. Large water vehicles, such as steamers and launches, can be used as mobile healthcare clinics for persons who live in remote areas.
- Vaccination has to be ensured for every citizen as there are people who yet doesn’t understand the graveness of the situation and doesn’t get vaccinated.

9.0 Conclusion

Bangladesh, as a lower-middle-income country, has so far faced significant challenges in controlling the virus's spread. It went through severe economic breakdown because of the sudden lockdown at the beginning. There is no scope that the country can go for it now. But there are still some options to try out in order to prevent the pandemic.

As said earlier in the recommendations, the country's legislative powers and obligations must be expanded. It must take the appropriate steps at the right moment. Above all, improvised and timely steps implemented in a coordinated manner may assist the country in combating the deadly illness.

This paper examined many articles, laws, policies and finally narrowed them all down to this paper so that the readers get a clear concept about the most updated scenario. There have been many works in the beginning but as the days passed, people have stopped feeling the need to be too concerned about COVID-19. But it never can be denied that COVID-19 is still prevailing in every corner of the country and is causing devastation in every possible way and it has to be studied more. This research is that updated study and it has attempted to incorporate all those necessary information that a reader might search for.

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Evaluate the Effects of Employees' Commitment on the Performance of Army Institute of Business Administration (AIBA) Savar

Md Abul Kalam Azad[1]

Abstract

This paper aims to examine the level of effects of employee commitment on the overall performance of Army Institute of Business Administration (AIBA), Savar and recommend how to optimize the performance. In doing so, a background of the study is discussed briefly followed by objectives and tested by research hypothesis. To get a proper picture on the topic a review on literature of the topic is also carried out with due importance. The study focuses on employee commitment, employee motivation, and performance of AIBA, Savar. Following the literature review, research hypothesis is sought through a simple calculation based on the information collected from the employees currently working for AIBA Savar. The paper takes AIBA Savar as a case study for the analysis of employee commitment. The calculation used for the analysis of the acquired data from the employees of AIBA Savar is kept so simple, so that anybody having simple education can decipher the true picture. The findings of the paper clearly show that AIBA Savar has been performing well both in economic and non-economic terms. It also shows that employees of the institution are highly motivated but they are moderately committed to the Institute. The paper recommended that with the increase of motivation amongst employees, commitment can be increases. Authority of AIBA Savar is also recommended to

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[1] Md Abul Kalam Azad is the Additional Director of Army Institute of Business Administration Savar, a retired Lieutenant Colonel of Bangladesh Army. His email contact: azad3741@yahoo.com

increase the wages for upper and middle level employees and rewards and incentives for lower-level employees to make them more committed to get the best from them to meet the Institute's goal.

Key-words: Employee commitment, employee performance, motivation, reward and incentive, institutional goal.

1.0 Introduction

1.1 Background of the Study

In this era of competition, success, and achievement have almost become a fashion to the academics, business-mughals, managers and other related professionals to talk about organization's performance. Because, basing on its performance, an organization can reach its set goals. On the contrary, poor performance of any organization can lead it to its demolition. Thus, main concern for them is how to improve the performance of the organization. In this attempt, many researches, theses, projects had been undertaken in the past and many more are being carried out currently. The findings of these already accomplished studies included 'employee performance' as one of the important factors that actually can harness the performance of any organization. Because, it has been observed that among many other reasons performance of the employees played a key role for the success or failure of any organization. Interestingly, they came up with many plausible ways as to how the management of any organization can help with their employees improve the latter's performance.

Motivation is found to be the main aspects to increase the employee commitment. It is generally believed that if an employee is well-motivated, s/he is likely to render better performance. Once motivated, an employee becomes completely committed to her/his job. Thus, commitment of employees is very crucial in their performance. It is an innate human quality that when a person is assigned with duties that s/he is capable of carrying out and if the person is well-motivated to perform his/her duty at any cost, s/he must keep the commitment for both his/her impression and of the benefit of the organization. It has been conspicuous that committed employees build up a tie with an organization and that results in a better organizational performance. With the presence of such emotional bond to the profession, interaction with their fellow colleagues and tie with the organization, they are likely to both perform better and serve the organization better.

Here, it is also noteworthy that leadership of any organization is very crucial for its success. Good leadership can prudently handle the case of motivating their employees. But problems arises when employers fail to understand the true reason as to why their highly-competent workers under-perform. For this, it becomes essential for organization to identify the actual attributes that both play significant role and have huge impact in enhancing their employees' commitment. In the process, a number of factors are recognized in the literature as determinants of employee commitment. To mention few may contain: Lo (2009) style of leadership, Ponnu and Chuah, (2010) organizational fairness, Ali et al (2010) corporate social responsibility etc.

AIBA Savar is a small and a new organization that been performing comparatively better comparing to other academic organizations in Bangladesh. One of the reasons behind its better performance is, no doubt, its dynamic leadership, besides, there might be other reasons i.e. employee commitment, employee motivation and so on. But, none of the past studies on employee commitment were related to AIBA Savar. As such, it is pertinent to examine the role of employee commitment in achieving organizational performance in the context of AIBA Savar.

1.2 Objective of the Study

The general objective of this study is to examine the impact of employee commitment in AIBA Savar and specific objectives are to examine if the motivation augments the employees' commitment and recommend the measures to optimize the employees' performance.

1.3 Research Hypotheses

Hypothesis I

Ho: Motivation does not improve employees' commitment for the better performance of AIBA Savar.

H_1: Motivation improves the employees' commitment for the better performance of AIBA Savar.

Hypothesis II

Ho: Employee commitment does not enhance organizational performance of AIBA Savar.

H_1: Employee commitment enhances organizational performance of AIBA Savar.

2.0 Literature Review

2.1 Definitions of Employee Commitment

Different scholars define employee commitment differently from their own view points. Akintayo (2010) sees it as a level of employee's devotion as they feel towards their organization. On the other hand, Ongori (2007) opines that it is an effective response to the whole organization and the level of belongingness or allegiance that employees feel to their organization.

To Zheng employee commitment is basically employees' attitude to organization (Zheng, 2010). Unlike other definitions his one is, of course, broader in its scope as employees' attitude takes in various components in its capacity.

2.2 Employee Commitment and Workers' Performance

Success of any organization is calculated in terms of achievement of its set objectives within the stipulated time. Achievements of such objectives depend on various factors. When an organization is seen performing better, we understand that it is likely to achieve its set goals. But there remains the question as to 'how' an organization performs well. The simple answer would be if its employees perform well. Then next question comes as to 'when' the employees perform better. The general answer is when the employees become committed to their Jobs. And we know motivation, quality leaderships and some other factors help employees to be committed. It is observed that generally individuals are not interested in achieving the organizational goals, they prefer to achieve personal benefits. As a result, any better job offered by other organization can easily influence them to quit their present organization. On the other hand, high commitment to an organization makes employees feel themselves as an essential part of the organization. Anything that happens to the organization-positive or negative- also touches them with same intensity and kind and do something better for the organization to meet the set goals.

Different scholars have studied the relationship between employee commitment and workers' performance under different topics. Khan (2010) who studied the impact of employee commitment that included affective commitment, continuance commitment and normative commitment on workers' job performance. He selected a number of 153 employees both from public and private sector of Pakistani oil and gas sector. His research showed that there is a positive relationship between employee commitment and employees' job performance. So, employees' job performance appeared as one of the yardsticks for employee commitment. In this regard, Khan, (2010) put suggestions to the managers to consider the past history of employee commitment and other factors that promote employee commitment in order for increasing employee performance that will ultimately increase organizational performance.

Habib, (2010) studied the effect of employee commitment and employee attitudes towards their work on performance. He surveyed on 310 employees from 15 advertising agencies of Islamabad of Pakistan to collect his data. He found that employees with greater commitment perform better and employees with good attitude towards their job are better satisfied than the employees with less inclination towards their jobs. Ali, (2010) has also recommended that organizational performance can be improved if employees' commitment can be ensured.

2.3 Determinants of Employee Commitment

A number of factors have been identified by the scholars and practitioners of the discipline that inspire commitment. For example, Ongori (2007) affirms that job fortification, employee empowerment, and recompense are the factors on which the degree of job commitment or loyalty of the employees to the organization largely depends.

Camilleri (2002) has found some very important antecedents that help employees to be committed to an organization. In this effort, he has used regression method and analysis of variance. He has discovered that level of education, personality of the individuals and position of the employees are key factors that play a significant role in determining the level of employee commitment. Lo (2009) using regression analysis has investigated the relationship between styles of leadership and employee commitment in Malaysia. In this regard, his focus was mainly on transformational and transactional leadership styles. He has found that transformational leaders are capable than transactional leaders. His research shows transformational leaders have better relationship with employee commitment than that of transactional leaders. This indicates that if the leaders provide their followers with necessary advices and supports, and if they pay attention to the individual needs, they are likely to increase the level of employee commitment. Shastri, (2010) has carried out a research to find out the relationship between charismatic leadership and employee commitment in Indian organization. He has taken a sample of 147 employees from Eastern and Northern India. His research has revealed that the two key antecedents, namely, charismatic leadership and job satisfaction apply strong effect on employee commitment.

Finally, Motivation is the reason that drives all of the actions. The motivation provides the employees with trust upon the organization they are working for and thus, makes employees perform better (Ali, 2016). Greenberg (2000) believes that motivation can be enhanced among employees by providing them not only with promotion but also with gratitude to the employees.

Again, the main components i.e salary, non-monetary incentives, relationship with colleagues, relationship with leadership, company's culture, learning and development opportunities, processes within the company, personal life, performing meaningful work that contribute to employees' motivation are mostly determinates for the commitment of the employees. Abraham Maslow's hierarchy of needs also says that human actions are motivated by five corporeal needs. It is showed by a pyramid where needs are physiological needs, safety needs, social needs, esteem needs and self-actualization. (https://www.verywellmind.com Feb 14, 2022).

So, care should be taken so that employees' needs are properly met to motivate them to get them more committed. On the other hand, with the help of Herzberg's Motivation Theory model, or Two Factor Theory i.e., motivators and hygiene factors, the authority can influence their employees in the work place. (http://expartprogrammanagement.com)

3.0 Institutional Overview

As an organization AIBA Savar started its journey in 2015 with a view to educate students in business administration to meet the demand of the market both at undergraduate and post graduate levels as an affiliated Institution of Bangladesh University of Professionals (BUP). AIBA Savar is a combination of public, private and autonomous characteristics. It has been assigned to generate its own income to meet its overall expenditure and to make its own profit. From this point of view it is a business organization.

Performance of AIBA, Savar has been calculated from two aspects: one from economic aspect and second from non-economic aspect. Both are measured as successes in attaining the set goals of the organization. So, in order for measuring organization performance the author takes some figures pertinent to its financial income of three consecutive years as a parameter of performance into consideration. For example, the Institution started its journey with a very small number of employees housed in a shared campus and with a scanty amount of money. But, it succeeded within a very short period of time in accumulating much income that it is capable now to build its new campus by its own budget. Another factor is number of students enrolling in the Institution. For instance, total strength of BBA -7 batch was 87 (winter), BBA-8 batch was 57(summer), again 160 students were enrolled in BBA 9 batch (winter); whereas students were much lower in any batch before these batches. Comparing the numbers for last three consecutive batches one can understand if the institution is performing well or not. As per the hypotheses are concerned in this ongoing study, the figures of income generation for last three consecutive years and number of students enrolled in the same time are the best way to estimate the performance of the Institution.

4.0 Research Methodology

4.1 Research Design

The author followed descriptive research design and a qualitative research survey method following deductive research approach in this study. Primary data are collected from the Staff of AIBA Savar using OCQ as a scale to measure the level of organizational commitment of the employees.

4.2 Population of Study (Source of Data)

A total of forty three (43) respondents were chosen out of fifty-four (54) for the survey. Thus, a sample of substantial number of employees was taken into consideration in order to get the advantage of avoiding fallacy of statistics.

Respondents consisted of administration, faculty members, and administrative staffs. A total of forty three (43) questionnaires were sent to each of the person working for AIBA Savar out of which thirty-five (35) were retrieved.

4.3 Research Instrument

The research instrument used for this study was questionnaire. The questionnaire, administered contained seventeen (17) items, which sought information from the respondents based on the research objectives. The first 10 questions seek to obtain the data for measuring the level of motivation and while the rest 7 questions contain the information aiming to measure the level of employee commitment. This, two types of statements were chosen to show the relationship between motivation and commitment. In other words, to show if the motivation has any influence on employee commitment.

4.4 Data Analysis Procedures

The responses to the questions on the questionnaire were of two types, namely, 'Yes' and 'No'. Both the answers have numerical values. For 'Yes' it is (+5) and for 'No' it is (-5). But, for questions no 9 and 15 the opposite numerical values were fixed where answer 'No' would carry (+5) and 'Yes' would carry (-5). Therefore, each statement of the questionnaire, if responded, either got (+5) or (-5). Only summation of the total values of each statement was calculated and then the number was divided by the total number of respondents to get the average. The idea was if the average was a positive number, then it would be understood that there was commitment and motivation among the respondents. And if the result was negative then the opposite scenario was obvious. To measure the level of commitment it was set that the more it inclined to (+5), the higher the level is and the more it inclined to zero (0), the more neutral the level was and the tendency towards negativity would lead to opposite of motivation and commitment.

4.5 Analysis of General Characteristics of Respondents

Table 4.5.1: Distribution of Respondents by Sex

Sex	Frequency	Percentage (%)
Male	30	85.71 %
Female	05	14.29 %
Total	35	100 %

Source: Field Survey, 2022.

Figure 4.5.1.1 Pie Chart showing distribution of respondents by Sex

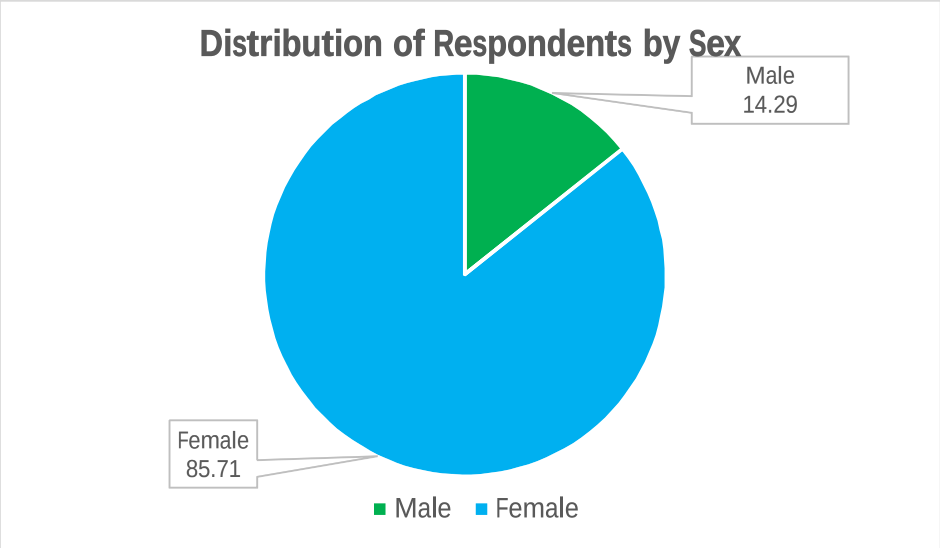
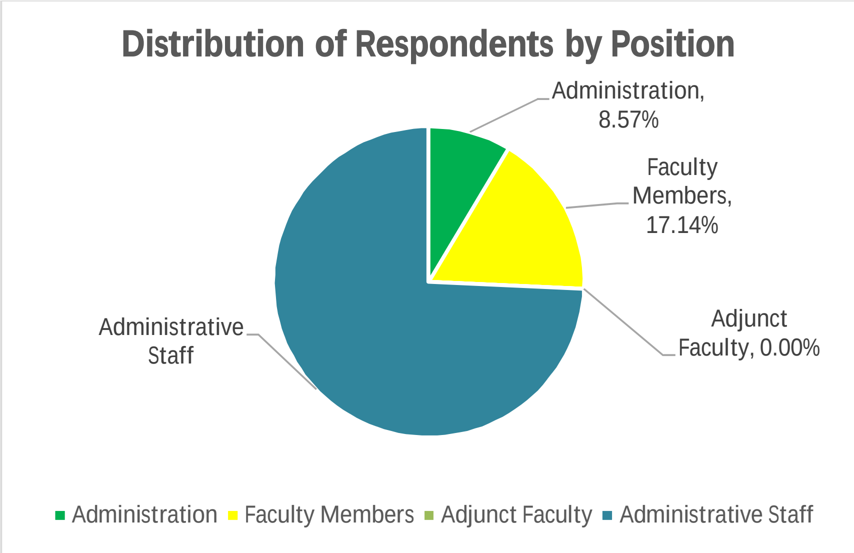


Table 4.5.2 Distribution of Respondents by Position

Position Held	Frequency	Percentage (%)
Administration	03	08.57%
Faculty Members	06	17.14%
Adjunct Faculty	00	00.00%
Administrative Staff	26	74.29%
Total	35	100.00%

Source: Field Survey, 2022.

Figure 4.5.2.1 Pie Chart showing distribution of respondents by position



4.6 Data Analysis and Findings

Table 4.6.1: Data Analysis

	Questionnaire Statements	Data Calculation	Mean
Q.1	Are you delighted to be a member of AIBA Savar?	35*(+5)=175	+5
Q.2	Do you feel proud to discuss about AIBA Savar with your relatives and friends?	35*(+5)=175	+5
Q.3	Do you think that your hierarchy follows democratic and coaching leadership style	32*(+5)+{3*(-5)}=145	+4.149
Q.4	Do you think that you can contribute for the good of your organization always?	31*(+5)+{4*(-5)}=135	+3.857
Q.5	Do you think your good works are always appreciated?	29*(+5)+{6*(-5)}=115	+3.285

	Questionnaire Statements	Data Calculation	Mean
Q.6	Do you have the opportunities for your professional development?	32*(+5)+{3*(-5)}=145	+4.149
Q.7	Are you satisfied with your wages and incentives?	25*(+5)+{10*(-5)}=75	+2.143
Q.8	Do you have flexible work schedules?	34*(+5)+{1*(-5)}=165	+4.714
Q.9	Do you feel any difficulty connecting the appropriate superior in case of any need?	6*(-5)+29*(+5)=115	+3.285
Q.10	Do you feel secure about your job here?	33*(+5)+{2*(-5)}=155	+4.428
		Total Points 1400 / 1750	Average Mean +4.001 / +5

	Questionnaire Statements	Data Calculation	Mean
Q.11	Are you satisfied with the kind of work you do in this job?	35*(+5)=175	+5
Q.12	Are you satisfied with the environment you are working in?	33*(+5)+{2*(-5)}155	+4.428
Q.13	Do you think that AIBA Savar will prosper in the days to come?	35*(+5)=175	+5
Q.14	Do you believe that your success leads to institution's success?	35*(+5)=175	+5
Q.15	Will you leave AIBA Savar if it faces difficulties in earning revenues for a certain period of time?	2*(-5)+33*(+5)}=155	+4.428

Q.16	Is your working place very near to your residence?	9*(+5)+{26*(-5)}=-85	-2.428
Q.17	Are you provided with a transport facility from AIBA at a very cheap cost / no cost?	11*(+5)+{24*(-5)}=-65	-1.857
		Total Point +685 / +1225	Average Mean +2.8

4.6.2 Findings

From first ten questions, by adding the total values of the scores we can get the highest possible points would be 5*35=175*10=1750 points and average mean would be +5. But, in this case the researcher got a total of (175+175+145+135+115+145+75+165+115+155) =1400 points. *This indicates that the employees of AIBA, Savar is well motivated.* The average mean of the points is

(5+5+4.149+3.857+3.285+4.149+2.143+4.714+3.285+4.428) / 10= 40.01 / 10= 4.001

The average mean also shows the same since the number is positive and inclined to +5. Regarding the measuring of employee commitment through later 7 questionnaires, the highest possible score would be (175*7) =1225 points and that of average mean would be +5. At this stage the findings show that with a total score of (175+155+175+175+155-85-65) = 685 points.

This indicates that employees are moderately committed to AIBA Savar.

Here, the average mean is (+5+4.428+5+5+4.428-2.428-1.85) / 7=+19.571 / 7=+2.7958= (+2.8). *The average mean also shows that employees are moderately committed to AIBA Savar.*

4.7 Interpretation of Results

Following instances also support the above result. Considering the income generation of last two/three years in comparison with previous years, it is evident that the AIBA Savar is performing well as the year passes by. Same is the case if the numbers of student's enrolment in AIBA Savar is concerned.

It is mentionable that army brand image, working environment of AIBA Savar, army discipline that is seen in the overall activities of the authority who once served Bangladesh Army in their past career are likely to be the few important factors for their motivation besides the ones as stipulated in questions numbers from one to ten.

Figure: 4.7.1 Pie Chart showing Motivation State

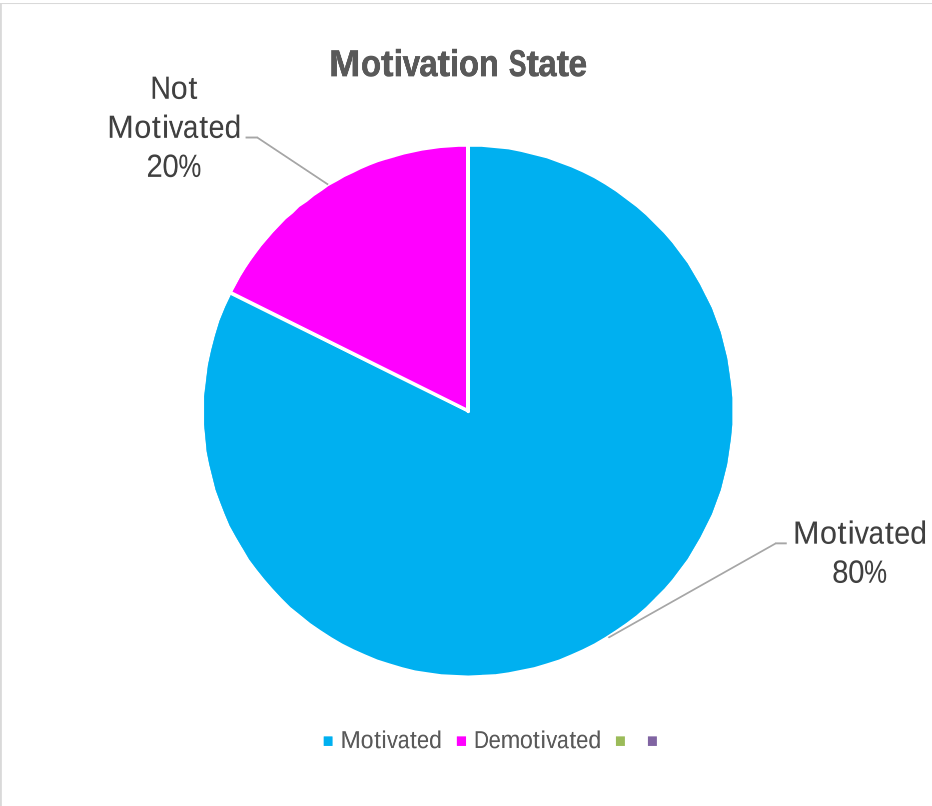
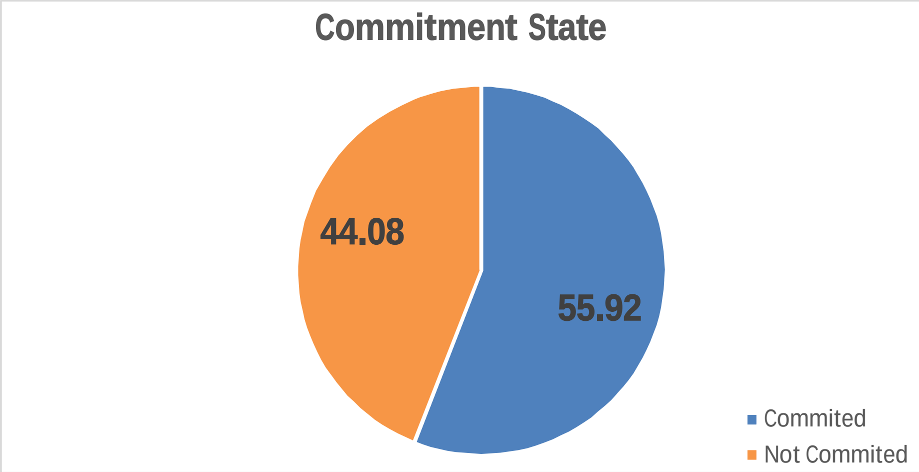


Figure: 4.7.2 Pie Chart showing Commitment State



4.8 Hypothesis Testing

Hypothesis I

Ho: That motivation does not improve employees' commitment for the better performance of AIBA, Savar.

H_1: That motivation improves the employees' commitment for the better performance of AIBA, Savar.

From the data analysis and findings we find that employees of AIBA Savar are highly motivated. So we can reject the null hypothesis Ho and accept the alternative hypothesis H_1.

Hypothesis II

Ho: That employee commitment does not enhance organizational performance.

H1: That employee commitment enhances organizational performance.

From the data analysis and findings we find that employees of AIBA Savar are moderately committed that enhance organizational performance. So we can reject the null hypothesis Ho and accept the alternative hypothesis H_1.

5.0 Major Findings

5.1 The major findings of the study are highlighted below:

- It was evident from the responses that the employees of the Institute are somehow concerned about the performance of the institute. This indicates the affirmation of their commitment to the Institute.

- It was found that the level of employee commitment of the Staff of AIBA Savar is moderate, may be due to their wages i.e., salary and incentives, transportation and residential facilities etc (average mean +2.143 out of 5).

- It was also evident from the responses that few employees are not motivated because of their block post.

- The report again exposed that majority of the employees who responded are highly satisfied with their jobs and they do not feel to quit the Institute.

6.0 Recommendations and Conclusion

6.1 Recommendations

The researcher of this paper suggests the following recommendations basing on the results of this study:

- As the findings of this study reveals the fact that highly motivated employees are more likely to be committed than the less motivated employees, AIBA Savar authority should be well aware of taking all possible measures to motivate their employees. If it is maintained then it can be desired that their employees would be more committed to AIBA, Savar.

- Authority should endeavour to create progressive post for the employees i.e., Cook (Master Cook, Assistant Master Cook and Cook etc.), Driver (Head Driver, Assistant Head Driver, driver), Guard (Chief Guard, Assistant Chief Guard and Guard etc.).

- Authority should endeavour to increase the rewards and incentives i.e increase of salary, as mentioned for middle and upper-level employees and transportation and residential facilities etc. for lower-level employees.

6.2 Conclusion

The practical results show that there is a quite close relationship between employee commitment and organizational performance in AIBA Savar which implies that employee commitment contributes to the Institute's performance. It is therefore inferred that employee commitment has a direct effect on organizational performance.

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(http://expartprogrammanagement.com)

(https://www.verywellmind.com Feb 14, 2022)

"If we knew what it was we were doing, it would not be called research, would it?"

-Albert Einstein (1879-1955), Nobel Prize in Physics (1921).