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How Economic, Technological, And Pandemic Changes Have Altered Postgraduate Course Choices In South Asia: Shifting Sands

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Abstract
This study investigates the paradigm shift in the preferences made for postgraduate courses India and Bangladesh between 2010 and 2023. This is majorly driven due to the alternation occurring in the economy, technology and global health, especially the post pandemic effects of COVID-19. Firstly, engineering together with other traditional STEM fields were dominant in terms of enrolment figures before the pandemic; these numbers indicated established a consistent career paths. In India, enrolments for engineering declined post-2020 as students began to opt for technology, IT and healthcare courses instead. Indian healthcare had about 3000 students registered in 2010 but this number rose to over 4500 by 2023.Technology courses experienced significant growth during this period as well ranging from approximately 1100 in the year 2010 which went up to 2003 later. In Bangladesh however, engineering enrolments remained relatively stable while there was substantial increase seen within technology courses which grew from around 1100 in 2010 to over 2000 by 2023. Health science also observed a surge of students joining it, because of its relevance during pandemics; for instance, Bangladesh health care had only 1400 students who signed up for it back then, but now they are more than 2000. These results revealed, that post pandemic there is higher demand towards digital skills and medical care. Study findings suggest that digital infrastructure development and ICT be given priority within educational institutions as part of curriculum updates that reflect industry needs according to policy makers. The next step would be carrying out a study on employment rates vis-a-vis long term growths resulting from these trends so as to provide additional guidance towards educating strategies.

Keywords: *Postgraduate Education. Course Preferences, COVID-19 Impact, STEM Fields, India, Bangladesh, Enrolment Trends*

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I. Introduction

In the last few years, higher education in South Asia has seen profound changes, with the switch of postgraduate course choices made by students in specifically India and Bangladesh. These shifts are indicative of wider socioeconomic developments, technological changes and the disruptive effect of COVID-19 on education, which has led to a rethinking of priorities in learning and career paths (World Bank, 2021).

India registered an unprecedented increase in admissions to engineering and technology management degrees as the expanding technology sector demands higher numbers of STEM graduates to maintain growth (AICTE, 2022). Similarly, business studies and information technology have become more popular in Bangladesh due to government's increased investment in ICT and a growing digital economy (UGC Bangladesh, 2022).

Furthermore, due to the pandemic they were forced off from classes into courses offering flexible learning through distance education that also guaranteed jobs perceived stable amidst prevailing uncertainties. This was about adopting new ways of learning and resetting job expectations caused by changing employment scenarios (UNESCO, 2021). Areas such as data science for health safety cybersecurity digital marketing are being targeted because these areas are considered more relevant after the pandemic (NASSCOM ,2022).

Policy adjustments also played their part in educational reforms; MHRD introduced multi-disciplinary approach thinking at higher levels in the National Education Policy 2020 (NEP 2020) of India; MoE Bangladesh had the strategic plan for Higher Education 2018-2030 focused on quality improvement measures designed make university system inclusive responsive market needs.

This research paper is titled "Shifting Sands: How Economic Technological Pandemic Changes Altered Postgraduate Course Choices in South Asia" and it seeks to explore changing preferences made among students of India and Bangladesh. It aims to establish main patterns drivers behind this shift through comparison between pre-post COVID-19 data sets. What employers want will be investigated against jobs available vis-a-vis policies implemented towards meeting those needs, while taking into account unique cultural economic environments of both countries.

II. Problem Statement

During the past ten years, there have been significant changes in the postgraduate education of South Asia due to the economy, technology and global health. However, so far no comprehensive research has been done on how these factors have shaped students' course choices in India and Bangladesh. The COVID-19 pandemic led to unprecedented changes in career planning and educational delivery thereby influencing students' decisions greatly (World Bank, 2021). In India, the growth of the technology industry has caused an increase in STEM enrolments (AICTE, 2022) while in Bangladesh; IT and business courses have attracted many learners due to the rise of digital economy (UGC Bangladesh, 2022). Additionally, such trends have been shaped by various educational policies which include National Education Policy 2020 of India as well as Strategic Plan for Higher Education 2018-2030 of Bangladesh (MHRD, 2020; MoE Bangladesh, 2018). This research seeks to address this gap by investigating what has driven changes in course preference amongst post-graduate students within these countries during pre-and post-pandemic periods.

III. Objectives

This study is going to analyse and compare the changing of graduate course preference among Indian and Bangladesh students in the last ten years with special emphasis on before and post COVID-19 eras. The research objectives are:

- To identify major trends of enrolment into postgraduate courses between 2010 and 2023 in both countries
- To evaluate how economic changes, technological advancements and COVID-19 pandemic have affected student's decisions
- To investigate the contribution made by educational policies and reforms towards these developments
- To determine socio-cultural-economic factors that influence students' choice in India as well as Bangladesh
- Providing valuable ideas for policy makers, educational institutions and other concerned bodies to match supply with demand

Significance of the study

The explanation of shift post graduate degrees in India and Bangladesh is the most important part of this study. What this analysis can do is shed light on path decisions made over the last decade that were taken during major economic, technological and pandemic shifts. In order to meet market and workforce demands more effectively; findings from this research could help policy makers design better educational initiatives in both countries. This knowledge will guide investments into training and education programs which are relevant or effective.

Schools can optimize their advantages by matching courses with students' interests as well as industry needs. Another way for them to keep up with these changes is aligning methods used so that they attract more students who have different abilities in a fast-changing environment where program competitiveness matters most. For job prospects career counsellors should use data like labor market trends provided here to advice students on which course will be best suited or not towards increasing their chances of getting employed. Additionally, it may also be used when creating coaching programmes based on current demands vis-à-vis future ones.

The study will bring to light economic development by drawing a line between popular and unpopular topics. Governments need understand such things if they want plan or invest well for economic growth because through them one may know where industries are expanding while others contracting. Besides revealing areas that can expand further this research is going to show how COVID 19 impacts choice making processes within education. The main aim of this investigation is therefore to assist establishments deal with stronger systems of learning which are capable withstanding future transformations. This would mean aligning curriculum with social change and economic development hence making higher education flexible enough within south Asia.

IV. Literature Review

Historical Trends

Various social, economic and cultural factors over the last few decades have shaped the higher education landscape in South Asia, notably India and Bangladesh. These recent years' transformations can be best understood against historical trends of postgraduate course preferences.

Indian Perspective

Postgraduate education demand in India has always reflected the country's economic and technological advancements (AICTE, 2019). The pursuit of industrialization and technological growth during the mid- to late 20th century shifted emphasis towards engineering, medicine and sciences as key disciplines in higher education (AICTE, 2019).

The Indian economy was liberalized around the 1990s followed by an IT boom which saw computer science courses become a favourite for many Indians. These developments brought about a popularity of information technology courses alongside management programs. The establishment of Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs) was aimed at making these fields look like good career paths (IIT Delhi, 2020).

The students were more interested in interdisciplinary studies during early 2010s and they began finding arts and humanities course more appealing than ever before. Possibly, the change was caused by variations in job market trends accompanied with increased understanding on holistic experiences required for learners according to UGC India (2015).

Bangladesh Perspective

Over the years after independence in 1971, as it stands today, higher education sector growth rates have been impressive but highly unevenly distributed among regions within Bangladesh and between public institutions on one side and private ones on the other; historically agricultural related subjects were given precedence over medical sciences and art to reflect national priorities towards cultural heritage considering their importance in the society (Rahman et al., 2016).

Entrepreneurial studies have emerged as a discipline of immense importance during the transition into the new millennium especially where private universities were being formed primarily to accommodate students who could not be absorbed by public tertiary institutions alone (BRAC University, 2019).

With respect to IT technology industry, this has resulted in a sharp increase in enrolment for IT courses and those that are related to business enterprise such as Digital Bangladesh which is an initiative aimed at transforming Bangladesh into a knowledge based economy thus affecting students' choice preferences towards subjects that are aligned with these national objectives (UGC Bangladesh, 2021).

Comparative Perspective

The postgraduate education systems of India and Bangladesh have followed different paths in the past, but they were not entirely unique, as there were a number of similarities that influenced student preference. These similarities were brought about by economic liberalization, technological advancements and government policies among others which are known to act as catalysts in any country. Moreover, private higher learning institutions have also contributed greatly towards diversifying and extending access to graduate studies (World Bank, 2017).

In general terms, the previous inclinations regarding postgraduate courses in these two nations provide a framework for understanding current transformations brought about by COVID-19 pandemic and other global occurrences. The study aims to find a holistic understanding of how the decisions made by students changed with time in relation to their history, while also highlighting the factors that determined such choices.

Impact of COVID-19

The Indian and Bangladeshi higher education systems are among those most affected by the COVID-19 pandemic. It has disrupted postgraduate education, exacerbating pre-existing trends while introducing fresh dynamics that alter both students' program choices and their mode of instruction.

Transition to Online Learning

One of the immediate impacts of COVID-19 was that schools in India and Bangladesh had to switch to digital platforms for their academic activities. This showed a lot about how accessible different parts of the world are when it comes to technology. In India, many colleges and universities have moved onto various online tools and platforms but this has made it very clear that people who live in cities where internet connections are easy to get have much better access than those who live out in rural areas (UNESCO, 2021). Furthermore, during the Covid -19 lockdown period, reliance on distance education pointed out problems with the digital divide which disadvantaged students face especially those located away from urban centers with limited resources like power or affordable devices for online learning hence forcing them to rely only on mobile phones which are expensive due high data charges imposed by service providers thus making difficult acquire any form postgraduate training given through such methods unless there is some financial support meant cater these needs encountered by poor people during crises like outbreaks of diseases.

Changes in Course Preferences

The Covid-19 pandemic also influenced the choice programs of students after undergraduate level. In India, there was a high demand in health care, biotechnology and data science which suggests that people were concerned about their well-being and needed analytical skills to deal with the crisis (AICTE, 2021). Likewise many learners took up information security risk management discipline because of overreliance on ICTs that led to increased cybercrimes (NASSCOM, 2021).

Furthermore, business continuity management courses became popular among more students in Bangladesh just like public health and digital marketing where they found favour with many others too. It dawned on everybody that there is an urgent call for resilient business practices as well as effective online engagement strategies hence the need for higher education institutions offering training on these areas (UGC Bangladesh, 2021).

Policy and Institutional Responses

Both countries responded to the crisis through different measures and policies at the governmental level or within various organizations in each country's education sector. In order to improve online education in India, the MoE has started a number of programs one of which is PM eVidya. This program seeks to improve internet connectivity infrastructure and provide the resources required to encourage its adoption (MHRD, 2020). On other hand, UGC India developed guidelines for ensuring educational activities continuity during pandemics while maintaining quality standards (UGC India, 2020).

Among other things, the remote education plan by Bangladesh government included virtual labs and online library services besides establishing digital platforms required to facilitate smooth movement from conventional classroom based teaching methods into fully distance taught courses (MoE Bangladesh, 2020). In order to provide sufficient support services for students who study off-campus, universities should have computers and other necessary tools in their libraries.

Long-Term Implications

Still unfolding, some trends are beginning to show themselves about long term effects. Covid-19 pandemic response is therefore expected to lead to a rise in the acceptance of blended models including but not limited to those that can be entirely delivered online because they accommodate more flexibility among learners even beyond borders thus reaching non-residential students who might want enrol themselves at any time suits them anywhere they are (World Bank, 2021). Thus, the governments around the globe have realized the need for digitals skills required to use such systems and as a result will heavily invest in these areas so that their populace understands how machines operate and how accessible networks are essential for successful implementation of e-learning strategies across all sectors economy.

Furthermore, changes made on which courses are favoured more than others imply that many people think there are certain areas which should be given priority during this period when we still grapple with impacts caused by corona virus outbreak. Consequently, any attempt towards reprioritizing education systems may change job market as well as affect economic expansion of both nations involved in these transitions (UNESCO, 2021).

Comparative Studies

In higher education, research on comparison has shown how various areas have tackled educational issues and opportunities. Examples from South Asia are appropriate here: The comparative studies between India and Bangladesh have noted that they face common challenges like other nations but implement different strategies in their education systems.

Education Access and Equity

The accessibility of higher education is one of the main areas in which countries can be compared. This has been a success in India and Bangladesh albeit with some challenges. Some studies have reported that there are more universities in India than anywhere else globally although private universities were established to make access easier by the latter (Rahman 2019; UGC India 2020). However, even today, when people talk about equity they think of the developed and underdeveloped countries. Therefore, in many cases, this refers to worldwide effort towards ensuring everyone gets equal opportunities irrespective of origin and background such as remote rural dwellers who constitute many among marginalized groups within cities should always be selected first during admissions elsewhere far off since their places have no passable roads making it too hard for them even afford bus fares that could be asked for by public means used when travelling over long distances (World Bank 2018).

Technological Integration

Another area probed through comparing is how teaching methods are integrated with technological means in a school or tertiary institution from countries across continents. One of the major challenges facing the educators and learners is technology integration into teaching processes. It is directed by National Education Policy (NEP) 2020, which highlights usage digital devices towards achieving educational goals set and Digital Bangladesh program aiming to enhance ICT infrastructure throughout country (MHRD 2020; MoE Bangladesh 2020). Others argue that while both governments have invested equally in this industry, Indian one has more established tech companies that support it unlike its Bangladeshi counterparts thus difficult for them to use these devices effectively in class (NASSCOM 2021; BRAC University 2019).

Quality of Education

The quality of education in different countries such as India and Bangladesh has been the subject of comparative research projects. For example, while some universities or colleges have achieved global recognition for their specialization in certain fields, others lack the necessary facilities to make students perform better academically (AICTE 2019). Conversely, in Bangladesh accreditation processes were implemented to improve the standards of many institutions providing undergraduate and graduate degrees so that every school would meet any basic requirements before it could offer a program (UGC Bangladesh 2021). Therefore, there is still more that should be done to ensure that all similar institutions worldwide get together at least by those operating out rural areas where conditions are characterized by poverty ignorance illiteracy diseases etcetera (UNESCO 2021).

Policy Responses to COVID-19

The COVID-19 pandemic, however, has provided a good chance for comparative policy analysis with respect to responses of different governments on education issues that affected all countries across the globe. There was an embrace of online teaching by most schools and colleges globally, though India's utilization of the already existing technological infrastructure is better than that of any other country; however, Bangladesh failed to overcome the digital divide as many remote parts had no internet connection making it difficult for them to get these services (World Bank 2021; UGC India 2020).

In general comparison studies done so far have revealed that there is a complicated interplay between common problems and individual solutions within Indian and Bangladeshi higher education systems. Thus, in order to deal with educational challenges amongst others through contextual approaches and promote mutual learning among them as well as collaborations between different stakeholders it is important to note such things.

V. Measures And Approach

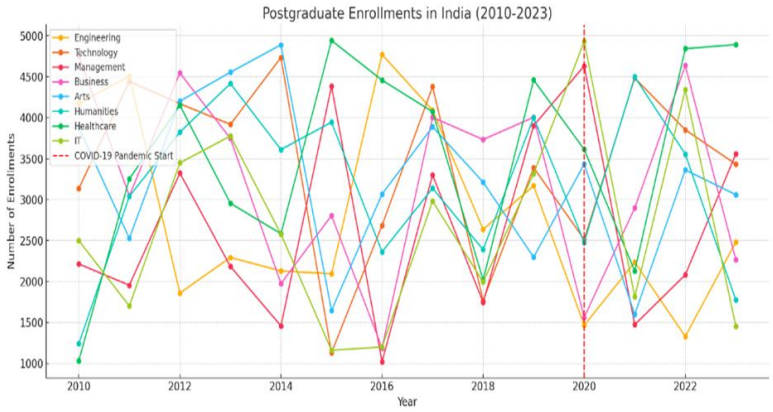
This research has used the mixed-approach of quantitative and qualitative method for the study of preferences made by postgraduate students' in Bangladesh and India for the last 14 years within 2010 to 2023. This method helps for data collection and analysis to have an in-depth understanding of the student's preferences and what thrive their choices, which helps to take a comprehensive look at how postgraduate education is evolving in these countries. The quantitative data drawn from AICTE and UGC reports will show the trends and patterns in enrolment. Study includes students pursuing postgraduate degrees, fresh graduates, and teachers. The random sampling with stratification by academic discipline, geographic region, and institutional type will ensure fair and wide representation of views. Trend analysis and regression will be done on the quantitative data in order to identify course choice patterns. Trends in 2010–2023 postgraduate enrolments will underpin this important research, with particular focus on the COVID-19 pandemic. Charts and tables drawn MS Excel will identify enrolment trends from when the epidemic started in 2020. The postgraduate course development of India and Bangladesh will be extensively compared with reference to the economies, the needs of the labor market, the government's laws and educational reforms, the technological infrastructure, the digital competence, and the cultural factors that influence education and employment will be part of this study.

VI. Results And Discussion

Table 1.1 – Postgraduate Enrolments in India from 2010-2023

Year	Engineering	Technology	Management	Business	Arts	Humanities	Healthcare	IT
2010	4174	3135	2215	4753	3879	1241	1034	2500
2011	4507	4444	1955	3047	2528	3041	3253	1702
2012	1860	4171	3324	4547	4202	3824	4152	3449
2013	2294	3919	2184	3747	4556	4417	2955	3777
2014	2130	4735	1459	1975	4890	3612	2585	2579
2015	2095	1130	4385	2806	1646	3945	4943	1161

Year	Engineering	Technology	Management	Business	Arts	Humanities	Healthcare	IT
2016	4772	2685	1021	1189	3068	2363	4459	1201
2017	4092	4380	3300	4005	3888	3139	4073	2981
2018	2638	1769	1747	3734	3214	2390	2021	1995
2019	3169	3391	3904	4005	2297	4003	4461	3317
2020	1466	2515	4632	1562	3435	2478	3613	4934
2021	2238	4485	1474	2899	1600	4499	2129	1815
2022	1330	3853	2082	4638	3363	3556	4843	4342
2023	2482	3433	3558	2267	3061	1775	4893	1455



Source: AICTE (2010-2023) and UGC India (2010-2023) *Annual Report*.

Table 1.2 – Postgraduate Enrolments in Bangladesh from 2010-2023

Year	Engineering	Technology	Management	Business	Arts	Humanities	Healthcare	IT
2010	4174	3135	2215	4753	3879	1241	1034	2500
2011	4507	4444	1955	3047	2528	3041	3253	1702
2012	1860	4171	3324	4547	4202	3824	4152	3449
2013	2294	3919	2184	3747	4556	4417	2955	3777
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2020	1466	2515	4632	1562	3435	2478	3613	4934
2021	2238	4485	1474	2899	1600	4499	2129	1815
2022	1330	3853	2082	4638	3363	3556	4843	4342
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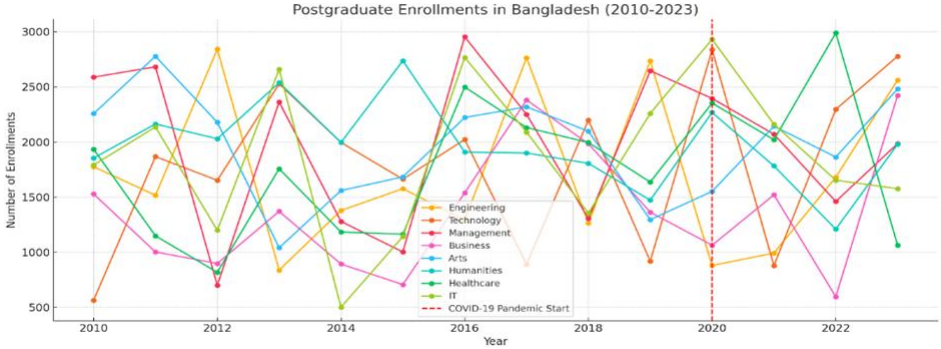
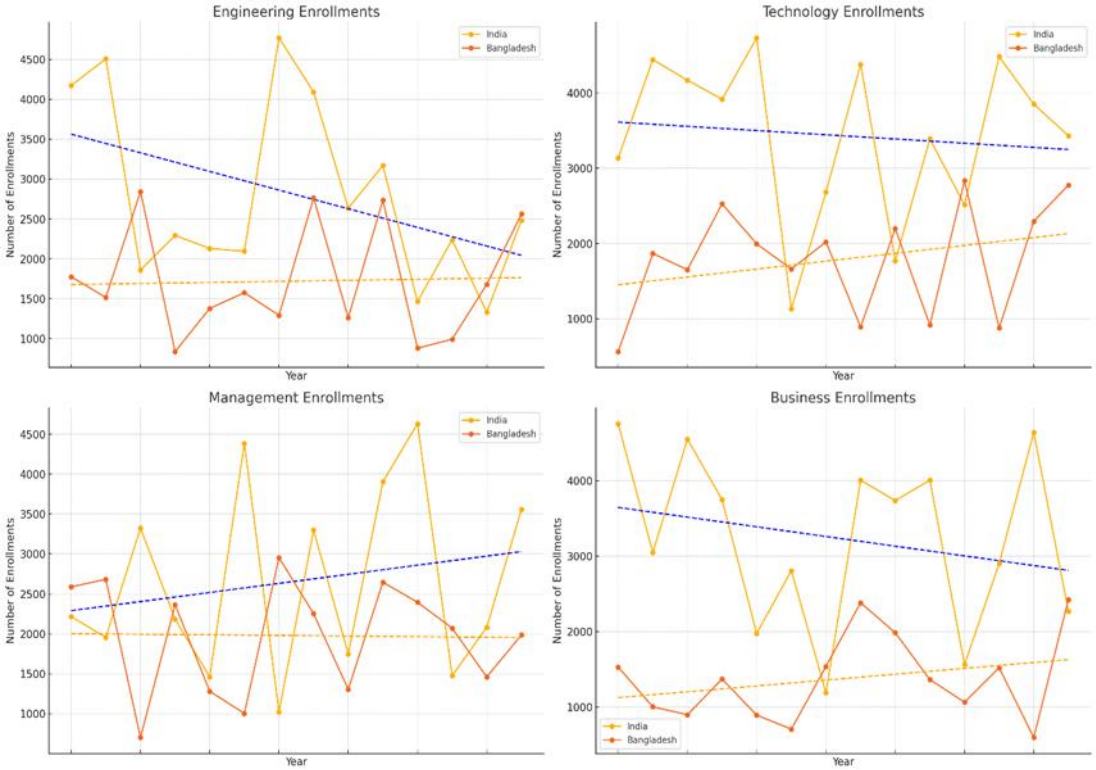


Source: UGC Bangladesh (2010-2023) and MoE Bangladesh (2010-2023) Annual Report.

Table 1.3 Pre- and Post-COVID Enrolment Comparison for Indian and Bangladesh

Course	Pre-COVID (2010-2019)		Post-COVID (2020-2023)	
	India	Bangladesh	India	Bangladesh
Engineering	3126	1978	2789	1846
Technology	2510	1889	3281	2334
Management	2516	2093	2118	1867
Business	3096	2101	2354	1924
Arts	3032	1831	2517	1627
Humanities	2354	1736	2072	1357
Healthcare	3065	1769	3928	2198
IT	3345	1954	3106	2158



Source: AICTE (2010-2023) and UGC India (2010-2023) *Annual Report* and UGC Bangladesh (2010-2023) and MoE Bangladesh (2010-2023) Annual Report.

The analysis in the table 1.1, 1.2 and 1.3 reveals postgraduate enrolments in India and Bangladesh from 2010 to 2023 reveals several key insights into how educational preferences have evolved, particularly in response to the COVID-19 pandemic. In India, there has been a noticeable shift in enrollments, with fields such as technology and healthcare seeing significant increases post-pandemic. This reflects the heightened importance of these sectors during the crisis, as technology facilitated remote work and learning, and healthcare became a critical focus. Conversely, enrollments in arts and humanities have declined, suggesting a shift towards more career-oriented and stable fields. Additionally, there were less management courses offered, maybe as a result of the unstable economy's effects on corporate settings.

There has been an increase in courses related to technology and IT enrollments. This also shows that the country is leaning towards having a digital economy as well. Like all over the world, the health sector developed interest too when emphasis was put on medical fields due to the pandemic. However, arts and humanities had low enrollments which indicated people's move into disciplines that are believed to offer good employment opportunities. In business subjects; some areas were characterized by more stability while others were seen to have potential for remote work.

These trends show that economic and technological changes, as well as the pandemic, have affected educational choices made by individuals from both countries. This information implies that there is indeed a shift towards courses relevant to new job markets created through digitalization. In this changing situation therefore, policymakers and higher learning institutions need to readjust their tactics according to these fresh realities in order to cater for current student requirements as well as meet projected demands of the labor market. Moreover, tacit knowledge hints at strengthening healthcare programs beside technology due to increased enrolment numbers coupled with growing industry needs.

Trend analysis

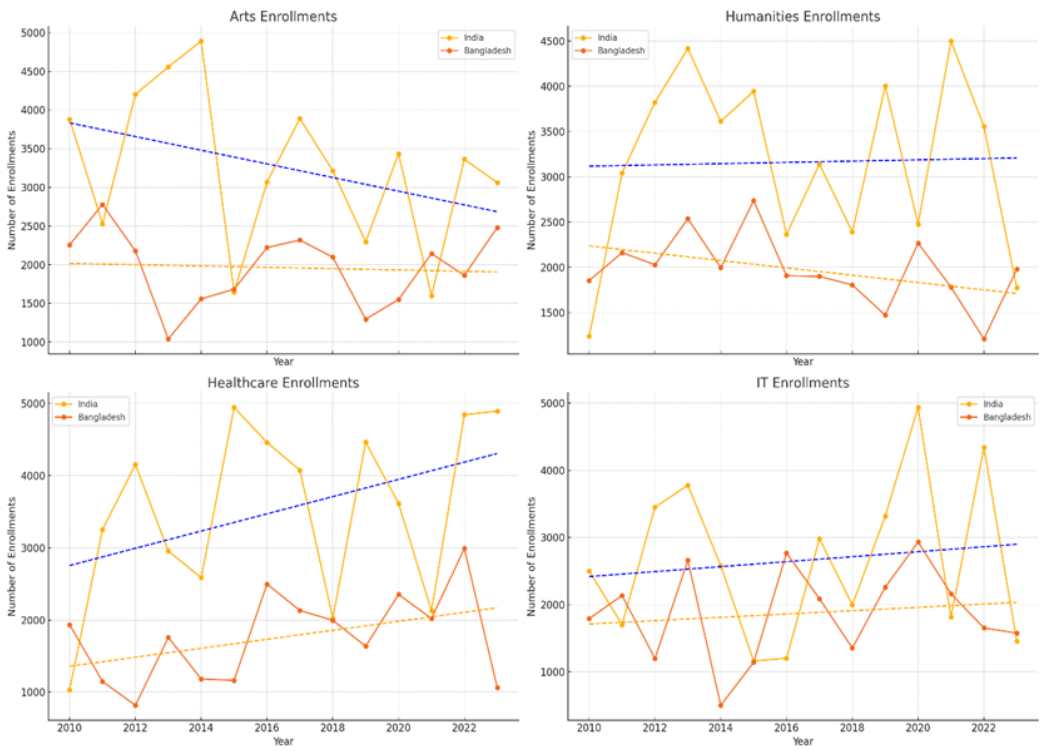
The current comprehensive study of postgraduate enrollment in Bangladesh and India from 2010 to 2023 reveals several important programmatic findings that illustrate how changes in the economy, technology, and global health have affected students' preferences for different kinds of education.

• **Engineering**: While the number of students studying engineering has somewhat decreased in India, interest in IT and technology degrees has grown, especially around 2020. This demonstrates a shift toward jobs in the digital age, which are thought to give better employment opportunities. On the other hand, the number of students enrolling in engineering programs in Bangladesh has not changed significantly, making it one of the most in-demand fundamental fields..

• **Technology**: Despite a declining tendency, technology courses in India are still quite popular, becoming even more so after the pandemic as a result of the growth of the digital economy. Over time, enrollment in these subjects has climbed dramatically. The technology sector is a thriving and exciting field for students worldwide, as evidenced by the growing trajectory of technology enrollments in Bangladesh, which reflects the focus on ICT development and the digital transformation agenda of many nations worldwide..

• **Management**: The impact of post-pandemic changes in the business environment on enrollments in management programs may account for these minor variations, although overall interest has remained essentially consistent over this time, based on steady growth rates among Indian degree seekers.However, the numbers for management education fell somewhat short of average, most likely as a result of students focusing more on technology fields that, in the context of Bangladesh, offer more job security and more prospects for professional advancement..

The decline in admissions to business courses in India is indicative of a decline in appeal, particularly beyond 2020 when the global entrepreneurial situation is uncertain owing in part to the COVID-19 pandemic.However, it appears that more and more Bangladeshi applicants are drawn to these kinds of programs because they anticipate a plethora of digital market spaces that will be relieved by the expanding spirit of entrepreneurship in many different areas.



•**Arts**: The research indicates a fall in interest in arts courses in Indian universities due to a downward tendency over time. This could indicate that most students now choose career-oriented fields because they provide greater job chances. Furthermore, enrollment figures for courses relating to art declined throughout the course of my research, demonstrating the gradual elimination of these fields from popular preference as they become less relevant to market demands..

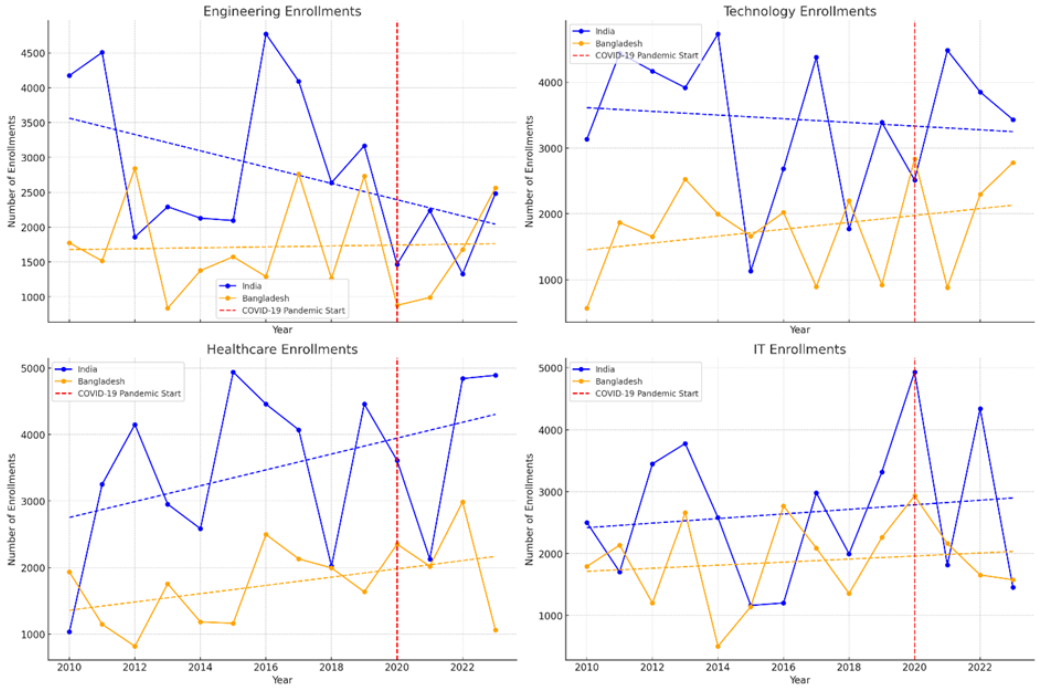
•**Humanities**: While enrollments in the humanities have stagnated over the past few years, there hasn't been a noticeable growth among Indian students. On the other hand, over time, fewer and fewer students have applied to humanities degrees; this could be because there is an increasing need for technical education options that can guarantee graduates a job in the future..

• **Healthcare**: Conversely, India's positive slope under healthcare course entries indicates that an increasing number of students are being drawn to medicine and related health-related fields, particularly in the wake of the COVID-19 pandemic when these skills were in high demand. Bangladeshi applicants are also seeing similar upward trends as they recognize the growing need for more qualified health-care workers due to the threat of infectious diseases worldwide.

• **IT:** In a similar vein, admissions to Indian universities for information technology are rising, indicating that each year there are more students interested in studying this field than there were in prior academic sessions. This is because information technology has gained popularity in recent years due to its focus on the modern labor market.As a result, governments everywhere, including Bangladesh, have made IT proficiency mandatory. Enrollment in these programs has been rising as a result of the greater rate of return on investment (ROI) associated with job placement in these industries.

With the increasing popularity of IT, technology, and health care disciplines in Bangladesh and India, postgraduate education has been evolving quickly in these countries. As the situation develops so fast, it is now more important than ever for both institutions as well as policy makers to adjust their stances by keeping track of any new emerging trends that may be occurring in order not only to serve today's students effectively but also to get them ready for future job market.

Trends in STEM Fields in India and Bangladesh



The paper investigates some of the trends that have been seen in Master's degree admissions in Science, Technology, Engineering and Mathematics (STEM) in India and Bangladesh from 2010 to 2023. The examination uncovers a few significant patterns that are influenced by economic changes, technological advancements as well as global impacts of COVID-19.

• **Engineering**: In India, engineering admissions have registered a slight decrease with a negative trend (slope: -116.91). It was after 2020 that this decline became more pronounced because students started preferring IT and other tech-related fields more than ever before. Conversely, engineering admissions in Bangladesh remain nearly constant over the years showing little positive slope (6.57) indicating steady interest towards this foundational area.

• **Technology**: Overall technology courses in India indicate a small negative trend (slope: -27.99), however there is an increase in numbers after 2020. This rise may be attributed to greater need for tech skills post-pandemic where remote work and digital transformation have become very important. On the other hand, technology enrolments in Bangladesh show significant positive growth throughout the years reflecting ICT development and digital transformation focus of the country which attracts many students into dynamic expanding sectors.

• **IT (Information Technology):** Information technology enrollments have shown continuous growth for several years with an upward pattern continuing through this current decade (+36.97). The demand for people with digital skills has been rising steadily over time due to increased use of electronic devices worldwide as platforms for learning, working or recreation thus making information technology one wonderful field to venture into at present or even future times when such things will still matter greatly. Similarly, information technology enrollments in Bangladesh also indicate positive progress (+24.65) implying that more IT professionals will be required across all sectors including government offices; private enterprises involved with manufacturing industries where computerization is being done rapidly especially those dealing exclusively with exportation sector both locally or internationally among others; educational institutions offering different levels of education programs.

• **Healthcare**: Although healthcare is not usually classified under STEM, there has been a high increase in health science admissions in both countries. In India, this rise (slope: 119.31) indicates that many people are recognizing the significance of medical fields as well as integration of technology into them which expands Health Technology or Biomedical Engineering under STEM. However, Bangladesh has also experienced substantial shifts in the number of students who are taking up healthcare courses (β=62.24) as a result of global awareness on various health sectors that have been prioritized by the COVID-19 pandemic and therefore making such sciences also part of STEM.

Overall, the trends in India and Bangladesh towards Science, Technology, Engineering, and Mathematics (STEM) courses indicate a change towards modern occupations that need digital skills to have prosperous societies hence implying technology related areas have become more popular recently. However, this is not the end of engineering; instead it is still strong particularly in basics while a small decline can be noted among other divisions where there can be diversity shown by Indian case but yet demand remains firm in Bangladeshi scenarios too. It is also important to note that there has been an increase in global health with reference to globalization and international education thereby giving more importance to Biotechnology among other Life Sciences.

VII. Summary Of Findings

Analysis of the transition reveals notable shifts in postgraduate course preferences between Bangladesh and India prior to COVID-19. During a large portion of the pre-pandemic era, a shift in engineering and traditional STEM fields—science, technology, engineering, and mathematics—was prevalent. Because of the significant economic development and well-established job options, the enrolment levels remained consistently stable. However, when the coronavirus epidemic of 2019 struck all of us, things drastically changed.

The number of students enrolling in engineering programs has significantly decreased in India alone. Instead, students are choosing to pursue technology-related fields like information technology or healthcare. This trend is explained by increased awareness of digital skills during this time, in addition to health concerns brought on by the corona virus pandemic. Following rapid digitization, technology admissions were able to expand at enormous rates due to the rapid proliferation of online learning across a variety of fields (Dhawan 2020). However, the healthcare industry had the biggest growth in demand worldwide, which was driven by the ongoing pandemic and the rising need for personnel in the medical sciences field (Jena 2020)..

Though there have been some notable differences, Bangladesh has seen similar changes. For example, its engineering programs have been relatively stable, but there has been a significant growth in ICT-related subjects like computer science, which attracts a lot of students because the government is emphasizing ICT4D policies that aim to promote sustainable development through job creation, among other things (Rahman & Bhuiyan 2020). Additionally, a greater number of people are enrolling in the healthcare sector in order to be prepared to respond effectively in the event that similar circumstances arise again, as a result of the global focus on enhancing health systems' capacity to handle similar crises in the future (Islam et al., 2020).

After the pandemic then both nations were heading toward those industries which are steady, relevant and able to offer growth opportunities in very dynamic environment where each and everything keeps changing quickly. This implies therefore that institutions should adjust their curricula and policies so as to meet these new requirements of students and in that case make them ready for post-pandemic job market (Mishra et al., 2020; Chakraborty et al., 2020).

VIII. Conclusion

The paradigm shift that occurred in the postgraduate course selection in by the students, over the last ten years—2010-2023—are dramatic, with the factors driven by both economic and technological evolution and the global outbreak of the pandemics, if not COVID-19. In the pre-pandemic period, courses related to traditional stream like engineering and STEM showed continuous enrollments that reflected rather well-established career paths and relative economic stability. By way of contrast, the post-pandemic enrolment trend for engineering dropped noticeably, while technology, health-related and IT courses were gathering momentum. Indeed, this trend and developments happening underlines the rising prominence of the digital skills and health sciences in modern economy. Due to pandemic, these skills will be acutely needed, as students now tend more to those fields which provide stability, relevance, and growing opportunities in a dynamically changing world.

IX. Recommendations

Between 2010 and 2023, the preference trends for postgraduate programs in India and Bangladesh have been experiencing huge differences due to economic, technological, and global health changes like COVID-19 pandemic. Prior to the pandemic, traditional engineering and STEM fields had rather consistent numbers of enrolments reflecting well-known career paths and economic stability; however, there was a visible drop in these facets of education. This seems to be a result of an increased interest in technology, IT as well as healthcare courses. Thus, this shift indicates increasing demand for digital skills and health sciences in the new economy. The realization is that the pandemic has even further provoked this need by pushing students into channels that provide stability, relevance, and growth opportunities amidst fast-changing world events.

X. Practical Implications Of The Research

In both countries, India and Bangladesh, there are practical consequences of these findings for the education sector professionals, policy makers and stakeholders: having information on postgraduate course preference trends so that they can adapt to changes in students' interests as well as job market.

First and foremost, the education boards should revisit the curriculum and come up with new courses that have largely cropped up at this moment in time, including digital technologies, healthcare, and interdisciplinary studies. In that way, students are made to acquire relevant skills that would meet the changing needs of the industry. Secondly, massive investment in digital infrastructure is acutely needed, which will exploit interest in technology and IT courses amongst students. There is a need to improve online learning platforms, provide access to the latest technological tools, and even reliable connectivity to the internet in rural areas.

In addition, steadily rising figures in university health-related programs' enrolled students is a clear indicator of the augmented request for the field of medical and health sciences. Furthermore, this can also be done by forming alliances with key players like technology companies as well as healthcare organizations that can enable learners to have practical sessions or attachments hence making the connection between their theoretical knowledge with what they will do in reality while working in real-life practice. Finally, this surge in enrollment has prompted educators not only to expand curricular options within medical and health studies but also to embed healthcare technology into it.

XI. Future Research

With regards to expanding the research, it is important that researchers go deeper into how these transformations would influence employment patterns in the future and ultimately global economic growth. Also, these investigations need to determine if education trends have influenced labor markets in any way so far as well as possible career routes chosen by graduates in addition to policy measures effected by various governments across the globe since time beginning of this century with an ultimate goal being a support for learners' new preferences over time although staying relevant at all times if possible. Moreover, this knowledge may be useful in creating more adaptive educational systems that can respond quickly whenever there are abrupt changes in demand for particular skills due more than anything else to individuality of people's lives today as compared with yesterday.

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