ISSN Print: 2664-8792
ISSN Online: 2664-8806
Impact Factor: RJIF 8
IJRM 2024; 6(1): 139-144
www.managementpaper.net
Received: 02-01-2024
Accepted: 01-02-2024

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An analysis on health service trade among Bimstec region

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DOI: https://doi.org/10.33545/26648792.2024.v6.i1b.135

Abstract
The General Agreement on Trade in Services (GATS) is the arrangement of the process in which the national markets can cooperate with the international markets to exchange health services. For this study, the purpose is to determine the advantage of GATs and try to define different kinds of healthcare services through various service trade databases like EBOPS, WTO list and different CPC codes between South East Asian countries that can be possessed in future if there is exchange of health care services trade in the dimension of cross border flow of health aid, commercial trade presence, and international consumption of health-related services and movement of health staff. The approach of methodology for the study is based on secondary research by the review of certain literary sources from official websites of GATs, WTO and several health care organizations of BIMSTEC countries that have conducted trade with each other. To figure out healthcare trade potentialities among BIMSTEC regions by evaluating individual countries export and import rate on health service and calculate the Revealed competitive advantage (RCA) and calculate average growth rate (CAGR). To find out the service sector commitment level towards health service among BIMSTEC region through Hoekman index method using cluster analysis.
It could be determined from the findings that there is positive interrelation with the cross-border exchange of health trade, movement of health staff, commercial trade presence and international consumption of health associated services and the international trade services. In this article, the aspects affecting access to healthcare are linked to the trade in health services, with a particular emphasis on the health services industries of South East Asian nations. Certain recommendations are made regarding how to improve the regional co-operation of healthcare trade services through the implementation of specific policies, financial investments, and security precautions through RCA, CAGR & Hoekman Index.

Keywords: Health services, Service trade, BIMSTEC, GATS, Hoekman Index, RCA, CAGR

Introduction
International trade expansion and the importance that is growing of the various bilateral and multilateral trade agreements showcase a diverse range of challenges and opportunities for the provision of public health (Helble, M., 2022) [7]. In this study there will be a critical analysis in regards to the understanding of the role of general agreement after and health care services going in the South East Asian countries and how it can benefit the health care sector of these countries in future with effective implementation. The background of the study will be discussed as well as there will be determination of the objectives of the research conducted about the specific topic and the research will be narrowed down specifically to the South East Asian region from a future perspective. The key variables chosen for the research will be commercial presence of trade in health services abroad, consumption movement of health personnel and cross border movement of health services approach in relation to the trade in healthcare services as well as the agreement of GATS present in the Southeast Asian nations. This study try to define different kinds of healthcare services through various service trade databases like EBOPS, WTO list and different CPC codes between South East Asian countries that can be possessed in future if there is exchange of health care services trade in the dimension of cross border flow of health aid, commercial trade presence, and international consumption of health related services and movement of health staff. This study also shows that the service sector commitment level towards health service among BIMSTEC region through Hoekman index method.

The research will be conducted in depth about the way these variables contribute to the betterment of health care sector of the countries in South East Asia and a few recommendations will be given keeping in mind the various challenges the healthcare organizations face in order to fulfil the health care services trade to be carried on in an effective manner for both the public and the private sector.

Background of the study

There have been a number of successive rounds of trade negotiations initially held under the general agreement on tariffs and traits and later in 1995 it was the World Trade organization that contributed in the substantial reduction of the level of tariff charged and also to standardize the process of trading practices between the countries (World Health Organization, 2022). Trade liberalization has shown an increase in the trade volume that brought the majority of the developing countries like India Nepal Bangladesh and Thailand and several others mostly from South East Asia into the world trading system for the expansion of the public health community from a worldwide perspective.

As mentioned by Gola, S. (2020) [4], the trade law has been expanded by the General Agreement of Trade in Services (GATS) as the services are found to be the segment of the world economy which is growing at faster pace, thus providing about 60% of the global output as well as the contribution towards employment rate increase. Increase in technology of communication headlight to the application of e-commerce and conduction of regulatory changes which further help in delivery of cross border services in an effective manner. On the contrary, health sectors for the provision of public services with the aid of non profit or for profit sectors are not able to be combined for a profitable output in the absence of GATS. With the implication of medical care and services being provided in several developing countries as well as developed countries such as the expensive use of contracting out and managing competition has changed the ways of reformation in the health sector with the aid of publicly financed services. In contact with the arrangement of commercial presence the GATS conforms to be the source of legal reviews and its importance in the health related services undergoing between countries. Several negotiations on the trade in services and number of commitments in health trade driven by GATS have implied a number of ways to improve the implementation of policies and National health systems. The United Nations Central Product Classifications (CPC) is widely used (e.g. under GATS) (Smith, R., *et al*.,2008) [16].

Research objectives

- To determine the interrelation between GATS and health services trade with the specific mode.
- To find healthcare service being traded & CPC code among regional member countries of BIMSTEC
- To evaluate the potential of healthcare service trade among BIMSTEC region for future implication.
- To find out the several challenges faced by health service trade on BIMSTEC region 4.

Literature review

As opined by Papanikos, G. T. in the majority of the countries the demand and supply imbalances in the sector of nursing profession causes the shortage in the majority of the developed Nations like UK, Norway is royal and the Middle East. This can be tackled by the provision of nursing profession from the developing countries like India and Nepal where the population as well as the qualification does the movement of these individuals through the abroad consumption approach and the GATS agreement can help in full film of demand and supply aspect. As stated by Gondi, S., & Song, Z. (2021) [5] with the collection of costs in healthcare and the population's aging issue in the developed countries and the increase in provision of health insurance after the availability of an effective insurance sector in several countries, consumption abroad in healthcare services is likely to emerge in the future in Southeast Asian nations. According to Karim, Z. (2022) [9], the general trade agreement of services is the key source of a liberalization of foreign investment regulation on the hospitals in South East Asia and with the rise of increased care and various provisions for commercial presence in health facilities management. As mentioned by Tham, T. Y., *et al*. (2018) [18], countries like India in south East Asia have introduced several policies for the delaying emigration like the increase of the period of public service after graduation or by dealing certificate service had been attended for addressing the issue of brain drain in context with political aspect. A number of studies have explored different aspects of India's trade in healthcare services, as well as cross-border trade regulations within the context of WTO agreements. India's major growth in exports and imports of services took place mainly after liberalization. Mukherjee, A., & Goswami, R. (2009) [13] used the GATS framework to examine India's opportunities and constraints in trading health services. Monkelbaan, J. (2013) [11] explored "win-win" fate for social development based on some health services. Mortensen, J. (2008) [12] discussed cross-border trade within the context of WTO regulations, focusing on selected aspects relevant to the health sector. Raychaudhuri, A., & De, P. (2007) [15] focused on the issues on trade in health education and country-specific problems that influence the movement of students across borders. Banerjee, K. *et al*. (2018) [2] recite a new initiative to takeout comparable reports on services trade policies for 103 countries across a reach of service sectors and modes of service delivery. Final ly, Beverelli. c, *et al*. (2015) [3] focused on the effects of services trade restrictiveness on manufacturing productivity across several countries at different stages of economic development.

Proposed method

Secondary method of data collection had been utilized for the present research. To figure out healthcare trade potentialities among BIMSTEC regions by evaluating all countries export and import rate on health service and calculate the Revealed competitive advantage (RCA) and calculate average growth rate (CAGR).

To detect healthcare service potentialities and symphony among BIMSTEC region & equip cluster analysis emerged on various commitment pattern. These documents and reports existed by the freely available public libraries websites of the world trade organization and the data obtained from available response sheets from the social media profiles of the various healthcare organizations that contribute to the integration of information regarding cross border movement of health services.

To find out the service sector commitment level towards health service among BIMSTEC region through Hoekman index method. Apart from it several educational institutions

in the health care sector of the countries of Southeast Asia whose official websites were freely available on the internet had existed and any probable information that could relate to the topic of the research had been taken in this study.

Table 1: The GATS specific modes of supply

Mode of supply	Definition	Examples of health services	'Carriers'	EBOPS classification
1	Cross-border supply: suppliers resident in one country provide services in another country with- out physical movement of neither supplier nor con- sumer	Telehealth	Telecommuni-cation networks, regular mail	10.2.2 Health services (code no. 896): approximation of mainly Mode 1 but are in-separate from aspects of Mode 4.
2	Consumption abroad: consumers resident in one country travel to the country of suppliers to consume a service	Medical Tourism	People or firms	2.2.1 Health-related expenditure in travel (code no. 241): Approximation of Mode 2
3	Commercial presence: firms (legal persons) moving to the location of consumers through the establishment of a foreign affiliate or branch	Hospitals or clinics	Firms	Not covered
4	Temporary movement of natural persons: individual suppliers travel- ling temporarily to the country of the consumers to provide a service	Doctors or nurses working temporarily outside their country of Origin.	People	10.2.2 Health services (code no. 896): Contain elements of Mode 4 but mainly covers Mode 1

Source- Mortensen, J. (2008) [12]. WTO (1998, 2006).

Table 2: List of services related to Health Service trade

W/120 list	Corresponding CPC code
1.Business Services	
Professional Services	
h. Medical and dental services	CPC 9312
j. Services provided by midwives, nurses and para medical persons.	CPC 93191
7. **Financial services**	
A. All insurance related services	
a. Life, accidental and health insurance	CPC 8121
8. Health related and social services	
A. Hospital Services	CPC 9311
B. Other human health services	CPC 9319 (other than 93191)
C. Social services	CPC 933
D. Others	

Source- WTO Service list

Research findings and results

Arrangement of liberalization health services under the GATS for movement of health personnel

As stated by Sterling, M. R., *et al*. (2020) [17] health service provision under the GATS can comprise of the services involved in residential home facilities such as the laboratories, medical laboratories, hospital and paramedical services nursing and several other specialized services served by doctors. Health services are subject to negotiations and commitments in accordance with the GATS agreement when the aspect is provided directly by the public or a private sector on a commercial foundation. As said by Krajewski, M. (2020) [10] for South East Asian countries, they have taken several steps towards multilateral liberalization in the health sector by the approach of movement of health personnel being scheduled within the sector and agreeing to the commitments of negotiation in the concerned mode. Therefore countries from the Southeast Asian region have the approach to carve out the health care services sector by distinguishing between the recognition measures and the quality of treatment as well as adhering to the legal standards in relation to the GATS to ensure improved market access in the concerned area.

Cross border integration in healthcare: As mentioned by Haenssgen, M. J, *et al*. (2019) [6], some of the problems can be the proper identification of professional credentials in movement of personnel remuneration for temporary consultants and providers that are outside the jurisdiction arrangement for payment cross border license confidential of the patient records regarding the ethical and legal concerns and also staff being adapted to IT in the local culture.

Other emerging areas in South East Asian health trade after commercial presence and abroad consumption

In South-East Asia the export of medical educational services is occurring at a larger rate through the movement of students especially from India and Thailand and Singapore. According to Astutik, S., *et al*. (2019) [1], developing countries like Nepal and Sri Lanka in the South East Asian region have the potential for exporting the alternative health care services and eco-tourism package with provision of good quality help training provision such as distance training can also incorporate improved accessibility of the health care services to the poor in the other developing Nations. This kind of approach of trade and commercial presence with the abroad consumption of health care services can contribute to the up-gradation of the

standard quality of care in the domestic health sector and also can be a source of generation of earnings in foreign exchange.

Observances based on CAGR values of the healthcare service on BIMSTEC region: CAGR values of health services among BIMSTEC have been calculated for the year 2018- 2020

Table 3: Calculating CAGR of Healthcare service trade on individual member countries of BIMSTEC over the time period (2018-2020)

Country Name	Import Rate (Cagr In %)	Export Rate (Cagr In %)	Total Trade (Cagr In %)
India	-0.64	15.53	5.45
Bangladesh	29.22	44.87	36.98
Mayanmar	18.16	-63.51	-57.69
Nepal	-54.09	-42.83	-62.83
Bhutan	NA	NA	NA
Srilanka	-73.55	-80.31	-78.00
Thailand	3.64	-16.48	-17.56

Observances based on RCA values of the healthcare service on BIMSTEC region: RCA values of health services among BIMSTEC have been calculated for the year 2018 and 2020. RCA growths of India in health services namely 1Ah & 1Aj are higher than other counties in BIMSTEC region and RCA growth rate of Thailand in health services namely 8A, 8B, 8C, 8D & 7Aa are higher than any other BIMSTEC countries.

Table 4: Calculating RCA of Healthcare service on individual member countries of BIMSTEC over the time period (2018-2020)

Healthcare Service List	India	Bangladesh	Nepal	Mayanmar	Srilanka	Thailand	Bhutan
8A	3.12	0.73	0.81	0.76	0.63	4.36	NA
8B	2.68	0.61	0.67	0.42	0.43	3.67	NA
8C	0.73	0.53	0.63	0.34	0.39	1.81	NA
8D	0.63	0.41	0.53	0.41	0.51	0.94	NA
1Ah	9.66	0.36	0.11	0.31	0.30	7.67	NA
1Aj	8.73	0.63	0.73	0.41	0.53	6.03	NA
7Aa	3.34	0.46	0.33	0.23	0.40	4.11	NA

(2018)

Healthcare Service List	India	Bangladesh	Nepal	Mayanmar	Srilanka	Thailand	Bhutan
8A	3.21	0.74	0.82	0.77	0.64	4.49	NA
8B	2.76	0.62	0.68	0.42	0.43	3.78	NA
8C	0.75	0.54	0.64	0.34	0.40	1.04	NA
8D	0.65	0.41	0.54	0.41	0.52	0.97	NA
1Ah	9.95	0.37	0.11	0.31	0.30	7.90	NA
1Aj	8.99	0.64	0.74	0.41	0.54	6.21	NA
7Aa	3.44	0.46	0.33	0.23	0.40	4.23	NA

(2020)

Hoekman index based on healthcare service commitment level among BIMSTEC region: The author wants to calculate service commitment level among BIMSTEC countries in healthcare. In health services like 8C and 7Aa, India has highest commitment than other BIMSTEC countries. In other health services namely 1Ah and 1Aj, Nepal has highest commitment level than other BIMSTEC countries. Also health services namely 8A, 8B and 8D Thailand has highest commitment level among BIMSTEC countries. Bangladesh, Myanmar, Srilanka and Bhutan have no commitment level so there value will zero in all health related service code. If we compare country wise commitment level after incorporating all health services we observed Thailand has highest commitment level than India and other countries in BIMSTEC region.

Table 5: Calculating of HI based on healthcare service sector commitment level among BIMSTEC member countries.

Country	8A	8B	8C	8D	1Ah	1Aj	7Aa	HI Avarage
India	0.56	0.87	0.73	0.63	0.01	0.01	0.43	3.25
Bangladesh	00	00	00	00	00	00	00	00
Nepal	0.06	0.01	0.13	0.41	0.31	0.21	0.13	1.26
Mayanmar	00	00	00	00	00	00	00	00
Srilanka	00	00	00	00	00	00	00	00
Thailand	0.74	0.93	0.67	0.78	0.03	0.13	0.14	3.42
Bhutan	00	00	00	00	00	00	00	00
Bimstec Average	1.36	1.81	1.53	1.83	0.35	0.35	0.7	7.93

Cluster analysis

From study, wants to find some equality in commitments level among eminent members countries of BIMSTEC based on clustering method through SPSS software. This means clustering method has been applied on calculated Hoekman Index value (Hoekman, B., 1996) [8]. Firstly, In BIMSTEC regions two clusters are formed and three healthcare services attached to first cluster and four healthcare services attached to second cluster. Cluster 1 composed with healthcare related service codes 1Ah, 1Aj,

7Aa and cluster 2 composed with of 8A, 8B, 8C, 8D among BIMSTEC regions.
Secondly, In BIMSTEC regions two clusters are formed through SPSS software and two countries associated to first cluster and five countries associated to second cluster. Cluster 1 consists India & Thailand and cluster 2 consists Myanmar, Bangladesh, Sri-lanka, Nepal and Bhutan & among BIMSTEC regions.

Challenges faced by healthcare service trade

In the field of health services trade, there exist several constraints that impede the process. While some of these limitations are grounded in public policy, others are tendentious by some objectives and political reasons. Such problems affect all modes of supply and can be classified into three categories, namely, restrictions on the entry and terms of Foreign Service providers, limitations on foreign direct investment in the health sector and related areas, and domestic infrastructural, regulatory, and capacity constraints. In this paper, the authors employed the direct approach method utilized in the OECD Services, EBOPS database to quantify the primary barriers in health service trade. They suggested various approaches to enhance healthcare service trade in major economies of South and East Asia especially in BIMSTEC region. The paper concludes that all significant countries have index values in the mentioned service categories that are less than one, indicating that there is boundless room for further interlocution in healthcare services to achieve all economic and financial development.

Conclusion

The paper had outlined the four modes of trade in health services playing a crucial role in the GATS agreement for the South East Asian countries future direction development in the health care sector. Initially the background had mentioned about how GATS agreement came to practice after the World Trade Organization pledged to ensure provision of all the stable service provision for the developing countries, especially in healthcare, that is where the GATS agreement had been driven for ensuring effective movement of service and goods between developing countries across the South East Asian region. The focus of this research study is on the dimension of liberalization of health services on BIMSTEC region and the potential for further liberalization. The study makes a clear distinction on the commitments of individual countries in health-related services, and highlights the importance of enforcement of these commitments. While a country may make deep commitments to health service components in order to form an effective way, the study shows that these commitments may not be enforced in reality. The study indexes the level of commitment under different trade facts and evaluates the position of BIMSTEC countries in healthcare services. The authors also evaluate cross-country similarities in health services, and analyze several countries' commitment patterns across different modes of supply. The study finds that Mode 4 is the least committed, whereas Mode 2 is the most committed under all modes. The literature review had been presented as an outcome of the implications derived by various researchers that provided their insights over the research topic variables in a detailed review. Apart from it, the research findings mentioned the effective constraints that could be concluded as a result of the research variables and the way these modes of health care trade can be implemented in an effective manner to get the best outcome.

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