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AN ENDEAVOUR TO EMPIRICALLY ANALYSE THE IMPACT OF COMMERCIAL SERVICES EXPORT FROM INDIA UNDER THE 4 DIFFERENT MODES UPON ECONOMIC GROWTH (2005-2022)

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Abstract:

This paper investigates the impact of export of commercial services from India upon economic growth from 2005 to 2022, demonstrating the fact that these exports account for over 55% of GDP and are also essential for foreign exchange, creation of job, and trade surplus. It examines four modes of supply of services: cross-border supply, consumption abroad, commercial presence, and presence of natural persons. The empirical analysis which utilized secondary data from the World Trade Center and World Bank, verifies a significant positive relationship between total service exports from India and GDP per capita across all the 4 different modes. Challenges faced by exporters include regulatory complexities and market dependency on specific sectors, predominantly in IT and BPO services.

Keywords: Endeavour, Empirically, Services Export, Growth

Introduction:

India's economy is dependent heavily on commercial service exports, accounting for more than 55% of GDP and ranked seventh in the world in 2023. By producing a substantial amount of foreign exchange, supporting the balance of payments, generating employment opportunities, and cultivating a strong surplus in trade, especially in IT and business services, they boost up economic growth. Maintaining services exports is important for sustaining India's high growth rate and maintaining stability in the external sector.

4 Modes of Supply of Services:

The 4 modes of supply as defined by World Trade Organisation under the General Agreement On Trade In Services(GATS) have been presented below:

Mode 1: Cross-Border Supply: Services move across the border, but neither the supplier nor the consumer will move. Examples include IT services, telemedicine, BPO services, remote consulting, and software delivery via email or the internet etc.

Mode 2: Consumption Abroad: In order to use the service, the client relocates to the country of the service provider.Examples: Tourism, medical tourism , international students who have been studying abroad.

Mode 3: Commercial Presence:The service supplier builds up a territorial presence (a subsidiary, branch, or representative office) in another country to provide the service.Examples include a bank establishing a branch abroad, IT firms establishing local subsidiaries, and hotel chains constructing properties overseas.

Mode 4: Presence of Natural Persons:A natural person moves temporarily to the territory of the consumer in order to provide the service. Examples may include the doctors or engineers travelling to deliver services, as well as the IT professionals on temporary, short-term, or long-term assignments overseas etc.

Objectives Of The Study: This paper aims to

- 1.Empirically investigate the impact of commercial services export under 4 different modes from India upon economic growth (2005-2022)
- 2.Identify the problems faced by export in services from India.



3.Suggest the remedial measures to boost up export of services.

Datasource And Methodology/Materials and Methods:

In this paper secondary data has been used from World Trade Center for data on commercial services export under 4 modes and World Bank for data on GDP Per Capita.Using data for 2005 to 2022 graphical analysis and pictorial presentation has been made using Scatter Diagram and also an empirical regression Of GDP Per Capita(constant 2015 US\$)upon commercial services export from India under the 4 Modes have been run .In addition to this ,theoretical analysis of the problems faced by services export from India have been discussed and their remedial measures have also been recommended .

Discussion: Results and Analysis:

Testing the service export led growth hypothesis for the export of commercial services from India under the 4 modes:

Regression analysis and scatter diagrams have been used in order to test the "Service Export Led Growth Hypothesis" in India to empirically examine whether or not total service exports from India under the four modes have a positive association with GDP per capita. The analysis have been presented below:

Empirical investigation of the hypothesis:

Testing

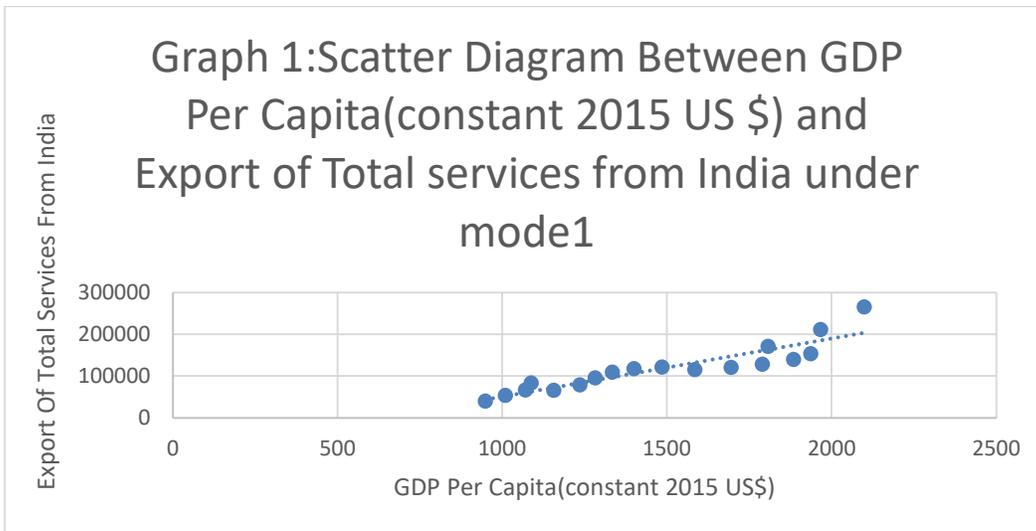
Ho: Total service export from India has no association with GDP per capita against
 H1:Total service export from India has statistically significant association with GDP per capita

The regression below is run:

$$GDPPC_t = a + b \text{ TotalExportService}_t + U_t \quad t=1,2,\dots,18$$

Where, $GDPPC_t$ =GDP Per capita (constant 2015 US\$)in time t

$\text{TotalExportService}_t$ = Total service export from India (millions of US \$)in year t,under mode 1, 2 , 3,4
 Model1:



Graph 1: Scatter Diagram Between GDP Per Capita(constant 2015 US \$) and Export of Total services from India under model1



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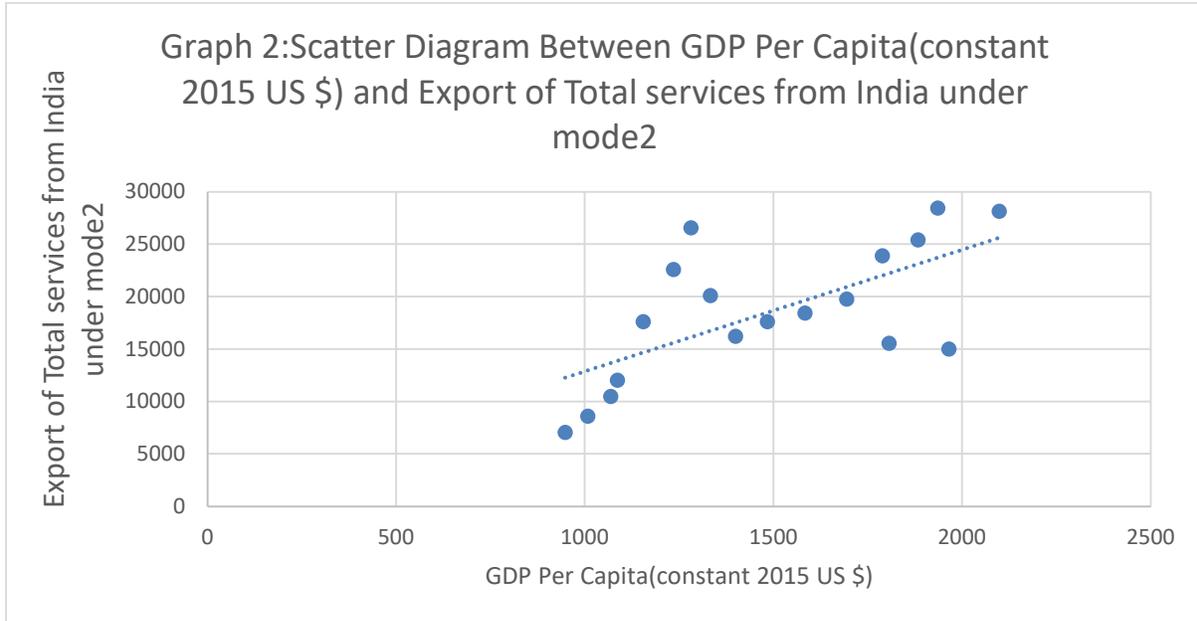
Datasource:WTO and World Development Indicator,World Bank.

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.909422062
R Square	0.827048487
Adjusted R Square	0.816239018
Standard Error	157.9740845
Observations	18

ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	1909406	1909406	76.51148	1.71E-07			
Residual	16	399293	24955.81					
Total	17	2308699						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	780.41667	88.89615	8.77897	1.63E-07	591.9652	968.8681	591.9652	968.8681
Total service export from India under model	0.005952953	0.000681	8.747084	1.71E-07	0.00451	0.007396	0.00451	0.007396

Table1:Regression results

As t calculated > t tabulated at 5 % level of significance, We reject H0, conclude that Total service export from India under model has a significant role in improving GDP per capita(t statistic 8.74 very high).Regression results verify that 1 million dollar increase in total service export from India would increase GDP Per capita by 0.000000005953 million dollar.The association is positive and highly statistically significant at 5 percent level.



Mode2:

Graph 2: Scatter Diagram Between GDP Per Capita(constant 2015 US \$) and Export of Total services from India under mode2

Datasource:WTO and World Development Indicator,World Bank.

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.657896
R Square	0.432827
Adjusted R Square	0.397379
Standard Error	286.0759
Observations	18

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	999268.4	999268.4	12.21011	0.003			
Residual	16	1309431	81839.41					
Total	17	2308699						



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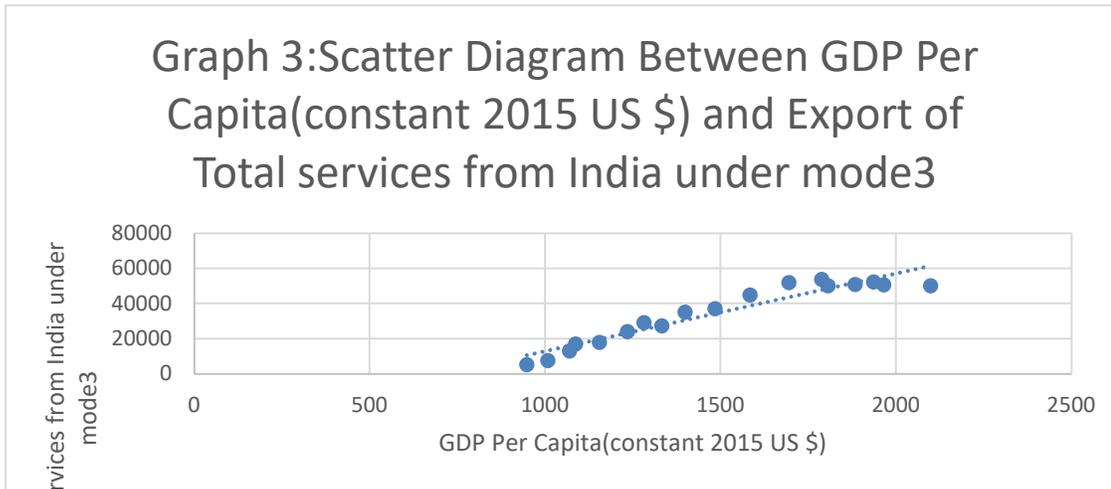


	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	795.3146	208.9813	3.805674	0.001554	352.3	1238.3	352.2941	1238.335
Total service export from India under mode2	0.037314	0.010679	3.494297	0.002999	0.015	0.06	0.014677	0.059952

Table 2:Regression Results

As $t_{calculated} > t_{tabulated}$ at 5 % level of significance, We reject H_0 , conclude that Total service export from India under mode2 has a significant role in improving GDP per capita(t statistic 3.494 high).Regression results verify that 1 million dollar increase in total service export from India would increase GDP Per capita by 0.00000003731 million dollar.The association is positive and highly statistically significant at 5 percent level.

Mode3:



Graph 3: Scatter Diagram Between GDP Per Capita(constant 2015 US \$) and Export of Total services from India under mode3



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Datasource:WTO and World Development Indicator,World Bank.

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0.956434
R Square	0.914766
Adjusted R Square	0.909439
Standard Error	110.8993
Observations	18

ANOVA

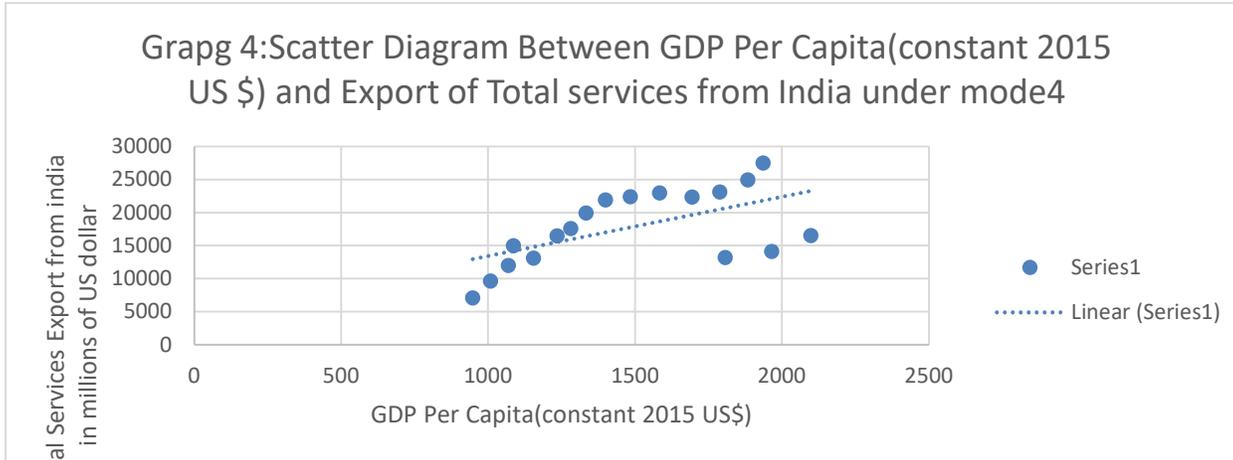
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	2111920.476	2111920	171.7196	6E-10			
Residual	16	196778.5097	12298.66					
Total	17	2308698.986						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	774.3602	60.30416561	12.84091	7.67E-10	646.52	902.2	646.52	902.1993
Total service export from India under mode3	0.020689	0.001578818	13.10418	5.69E-10	0.0173	0.024	0.0173	0.024036

Table 3:Regression Results

As t calculated > t tabulated at 5 % level of significance, We reject H0, conclude that Total service export from India under mode3 has a significant role in improving GDP per capita(t statistic 13.104 very high).Regression results verify that 1 million dollar increase in total service export from India would increase GDP Per capita by 0.000000020689 million dollar.The association is positive and highly statistically significant at 5 percent level.



Mode4:



Graph 4: Scatter Diagram Between GDP Per Capita(constant 2015 US \$) and Export of Total services from India under mode4

Datasource:WTO and World Development Indicator,World Bank.

Regression Statistics	
Multiple R	0.5822932
R Square	0.3390654
Adjusted R Square	0.297757
Standard Error	308.81822
Observations	18

ANOVA

	df	SS	MS	F	Significance F
Regression	1	782799.9144	782799.9144	8.208143555	0.0112272
Residual	16	1525899.072	95368.69198		
Total	17	2308698.986			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%



Intercept	813.44187	245.944077 1	3.30742616	0.00444	292.06372	1334.82	292.063 7	1334. 8
Total service export from India under mode4	0.0378058	0.01319580 5	2.86498578 6	0.01122	0.0098319	0.065779 6	0.00983 2	0.065 8

Table 4:Regression Results

As t calculated $>$ t tabulated at 5 % level of significance, We reject H_0 , conclude that Total service export from India under mode 4 has a significant role in improving GDP per capita. Regression results verify that 1 million dollar increase in total service export from India would increase GDP Per capita by 0.0000000378 million dollar. The association is positive and statistically significant at 5 percent level.

Summary of the findings:

An empirical analysis was conducted to test the "Service Export Led Growth Hypothesis" in India, for examining the relationship between total service exports and GDP per capita. Regression results have indicated a statistically significant positive association for all modes of service export (Modes 1, 2, 3, and 4). Specifically, for each 1 million dollar increase in total service exports, the increase in GDP per capita was approximately 0.00000005953 (for mode 1), 0.0000003731 (for mode 2), 0.00000020689 (for mode 3), and 0.000000378 (for mode 4) million dollars, with all results being statistically significant at the 5% level.

Important Issues/Challenges Faced By Indian Service Exporters :

- 1.Regulatory Obstacles & Stringent Complicated Compliance: Exporters face with extensive paperworks and intricate, frequently changing government rules and regulations. Many services lack a clear classification, which makes tax filing and compliance difficult.
- 2.Dependency on Specific Sectors & Markets: The industry confronts with challenges like shifts in demand due to its over-reliance on IT and BPO services. In addition to this, there is an over-reliance on the United States and Europe, making exports susceptible to downturns in those economies.
3. Tough Global Competition: Countries like the Philippines, Vietnam, and China are emerging economies an are strong competitors, eroding India's market share in BPO and IT outsourcing.
- 4.Geopolitical Problems & Trade Protectionism: The free flow of services is obstructed by growing geopolitical tensions and protectionist practices in other countries, such as new non-tariff barriers and data residency rules.
- 5.Technical and Financial Issues: MSMEs face trouble obtaining funds, and payment risks are brought on by shifting exchange rates. Additionally, certain industries struggle to adapt new technologies and they do have low labour productivity.
- 6.Infrastructure and Skill Gaps: Inspite of advancements, gaps in digital infrastructure can impact remote service delivery, and worker skill upgrades are always essential to be competitive.

Measures to improve export of services from India:

Strategic initiatives like the Remission of Duties and Taxes on Exported Products (RoDTEP) program, the identification of 12 champion services sectors, and developing the Global Capability Centres (GCCs), can encourage service exports from India . Enhancing digital infrastructure, growing Free Trade Agreements (FTAs), positioning districts as export hubs, and lowering regulations to make conducting business easier are all important measures.



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Important steps to boost up export of commercial services from India include:

- i. Financial ,fiscal incentives to increase competitiveness: The RoDTEP program is being implemented, providing benefits to a number of industries. The Services Export Promotion Council (SEPC) emphasizes on how essential it is to make financing more accessible.
 - ii. Focus on specific sectors: 12 champion service sectors were selected for focused action plans.
 - iii. Development of infrastructure: To assist IT and consultancy, Special Economic Zones (SEZs) and Software Technology Parks of India (STPI) are stimulated.
 - iv. Digital transformation , support: Investment of money into digital infrastructure have been done to support distant distribution and lower transaction costs.
 - v. Trade agreements & policy: In order to open up new markets, active negotiation of free trade agreements (FTAs), including those with the countries like EU and the UK.
 - vi. Ease of doing business: Reduction of administrative overhead by restructuring and simplifying trade documents and procedures.
 - vii. Promotion of global capability centres(GCCs): Using Global Capability Centres (GCCs) in order to take benefit of high-caliber talent and cost arbitrage.
 - viii. Districts as export hubs: To encourage local employment and exports, each of the districts should identify potential items.
- These programs seek to develop the export ecosystem as a whole while expanding service offerings beyond IT to include tourism, healthcare, and education.

Conclusion:

Enhancing the four modes of service supply (cross-border, consumption abroad, commercial presence, and professional movement) is vital for India's 2030 Sustainable Development Goals (SDGs). It promotes digital skills (SDG 4), innovation (SDG 9), economic growth (SDG 8), and knowledge-based, environmentally responsible jobs, and also is crucial for India to become one of the topmost developed economies by maximizing a sector that contributes over 55% to GDP. By expanding IT-BPM, tourism, healthcare, and financial services, India can generate enormous employment opportunities, increase foreign exchange earnings, and improve labour productivity to drive high-speed economic growth, and ,hence, realise the dream of a “Viksit Bharat”.

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