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HIGH-TECH SERVICES AS A NEW EXPORT ENGINE FOR DEVELOPING ECONOMIES

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Abstract: The rapid digital transformation of the global economy has significantly increased the role of high-tech services in international trade. This study examines the growing role of high-tech services — including information technology, software development, fintech, telecommunications, cloud computing, and business process outsourcing — as a modern export engine in developing economies.

The study highlights that high-tech services contribute to export diversification, job creation, and technological upgrading, offering developing countries an alternative pathway to integrate into the global economy. The paper concludes that strengthening human capital, improving institutional quality, and investing in digital ecosystems are essential for developing countries to fully benefit from the growth of high-tech services exports in the digital era.

Keywords: high-tech services, export development, developing economies, digital trade, leapfrogging, institutional factors.

Аннотация: Быстрая цифровая трансформация мировой экономики значительно усилила роль высокотехнологичных услуг в международной торговле. Данное исследование рассматривает растущую роль высокотехнологичных услуг — включая информационные технологии, разработку программного обеспечения, финтех, телекоммуникации, облачные вычисления и аутсорсинг бизнес-процессов — как современного двигателя экспорта в развивающихся экономиках.

В исследовании подчеркивается, что высокотехнологичные услуги способствуют диверсификации экспорта, созданию рабочих мест и технологической модернизации, предоставляя развивающимся странам альтернативный путь интеграции в мировую экономику. В работе делается вывод о том, что укрепление человеческого капитала, повышение качества институтов и инвестиции в цифровые экосистемы являются ключевыми условиями для того, чтобы развивающиеся страны могли в полной мере воспользоваться ростом экспорта высокотехнологичных услуг в цифровую эпоху.

Ключевые слова: высокотехнологичные услуги, развитие экспорта, развивающиеся экономики, цифровая торговля, технологический скачок, институциональные факторы.

Annotatsiya: Jahon iqtisodiyotining tezkor raqamli transformatsiyasi xalqaro savdoda yuqori texnologik xizmatlarning rolini sezilarli darajada oshirdi. Ushbu tadqiqot axborot texnologiyalari, dasturiy ta’minot ishlab chiqish, fintech, telekommunikatsiya, bulutli hisoblash va biznes jarayonlari autsorsingi kabi yuqori texnologik xizmatlarning rivojlanayotgan iqtisodiyotlarda zamonaviy eksport drayveri sifatidagi ortib borayotgan rolini tahlil qiladi.

Tadqiqotda yuqori texnologik xizmatlar eksport diversifikatsiyasi, yangi ish o‘rinlari yaratish va texnologik modernizatsiyani rag‘batlantirishi, shu orqali rivojlanayotgan mamlakatlarga global iqtisodiyotga integratsiyalashuvning muqobil yo‘lini taqdim etishi ta’kidlanadi. Tadqiqot xulosasiga

ko‘ra, inson kapitalini rivojlantirish, institutsional sifatni yaxshilash hamda raqamli ekotizimlarga investitsiyalarni oshirish rivojlanayotgan mamlakatlarning raqamli davrda yuqori texnologik xizmatlar eksportidan to‘liq foyda olishi uchun muhim omillar hisoblanadi.

Kalit so‘zlar: yuqori texnologik xizmatlar, eksport rivojlanishi, rivojlanayotgan iqtisodiyotlar, raqamli savdo, texnologik sakrash (leapfrogging), institutsional omillar.

Introduction

Over the past two decades, services have become the fastest-growing component of international trade, accounting for over 25% of global exports by value and an even larger share when measured in value-added terms (UNCTAD, 2023). Within this broader trend, high-tech services — encompassing information and communication technology (ICT), software development, business process outsourcing (BPO), financial technology, and research and development services — have demonstrated particularly remarkable growth trajectories in developing economies.

Historically, developing countries have relied on natural resource exports or low-cost manufacturing as their primary pathways to export-led growth. However, the digital revolution has fundamentally altered the competitive landscape, creating new opportunities for knowledge-intensive service exports that are no longer constrained by geographical proximity or physical infrastructure in the traditional sense. Countries such as India, Vietnam, and Kenya have successfully leveraged high-tech services to diversify their export bases and accelerate economic development.

The central argument of this paper is that high-tech services constitute a genuinely new export engine for developing economies — one that offers higher value-added potential, greater resilience to commodity price shocks, and stronger linkages to broader economic transformation than traditional export sectors.

Theoretical Background

High-tech services are generally defined as knowledge-intensive and technology-driven services that rely heavily on information and communication technologies (ICT), innovation, and highly skilled labor. These services include software development, artificial intelligence (AI), fintech services, telecommunications, cloud computing, digital platforms, and IT outsourcing. Unlike traditional services, high-tech services generate high added value and contribute significantly to technological advancement and economic competitiveness. Several theoretical frameworks illuminate the mechanisms through which high-tech services can drive export-led development.

Leapfrogging Theory suggests that developing countries can bypass intermediate stages of technological development by adopting advanced technologies directly. In the context of services trade, this implies that countries need not follow the sequential path of agricultural → industrial → services development, but can instead leverage digital technologies to enter high-value service markets directly.

Endogenous Growth Theory, as articulated by Romer (1990), emphasizes the role of knowledge, innovation, and human capital in sustaining long-run growth. High-tech services are inherently knowledge-intensive, creating positive externalities and spillover effects that reinforce broader economic development.

New Trade Theory highlights the importance of economies of scale and network effects in determining trade patterns. High-tech services — particularly digital platforms and software —

exhibit strong increasing returns to scale, allowing developing country firms to compete globally once initial capabilities are established.

Global Trends and Developing Country Performance

High-tech services have become an important source of economic growth and export expansion in many developing countries. The increasing global demand for digital services has created new opportunities for countries to integrate into the international economy through knowledge-intensive activities rather than relying solely on industrial manufacturing. According to World Bank data, the share of ICT and digitally-delivered services in total developing country exports has grown significantly over the past decade, with particularly strong performance in South Asia, Southeast Asia, and Sub-Saharan Africa. Notable examples include:

• **India** has emerged as the world's leading exporter of IT and BPO services, with technology services exports exceeding $200 billion annually, driven by strong STEM education systems and English language proficiency.

• **Vietnam** has rapidly expanded its software development and electronics-related services exports, attracting significant foreign direct investment into high-tech service sectors.

• **Kenya** has established itself as a regional hub for fintech innovation, with mobile money services generating significant export earnings and catalyzing broader financial sector development.

Determinants of High-Tech Services Development

One of the key determinants of successful high-tech services development is human capital. Since digital industries rely heavily on knowledge and innovation, countries require skilled labor, advanced education systems, digital literacy, and strong STEM competencies to compete effectively in global markets.

Institutional quality also plays a critical role in supporting the development of high-tech services. Effective regulatory systems, protection of intellectual property rights, cybersecurity policies, and transparent business environments are essential for attracting investment and encouraging technological innovation.

Another important determinant is digital infrastructure. Reliable internet connectivity, modern ICT infrastructure, digital payment systems, and cloud technologies are necessary for participating in global digital trade.

Conclusion

High-tech services represent a genuinely transformative export opportunity for developing economies in the 21st century. Unlike traditional commodity or low-skill manufacturing exports, high-tech services offer higher value-added potential, greater resilience, and stronger linkages to knowledge economy development. The evidence from successful developing country exporters demonstrates that this opportunity is accessible across diverse geographic and income contexts, provided that appropriate investments in human capital, institutional quality, and digital infrastructure are made. For developing countries seeking to harness this opportunity, the policy implications are clear: export promotion strategies must be complemented by institutional reform, educational investment, and deliberate digital infrastructure development. High-tech services are not merely a new export product — they are a new pathway to sustainable economic development.

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