Moving the Needle

...the journey from policy to implementation...

Dear readers,

In this edition of Moving the Needle, we highlight some of the more important topics that will have an impact on India' growth journey. From strategic global and domestic partnerships and relationships to the railway infrastructure, from investments in startups to India's naval defence ecosystem, from AI in healthcare to the total flow of resources in the country as well as the skilled labour scenarios.

In our Policy Square edition we have Mr Amit B Kalyani, Joint MD Bharat Forge Ltd share his thoughts on new, niche and sustainable technologies. We also have Mr Virendra Singh, Secretary (Textiles) Govt of Maharashtra share his thoughts on the efforts being made towards sustainability in textiles as well. In our expert section, we have Dr Jaya Garg, Director at FOXBase Technologies Pvt Ltd, a company operating in the government and public services vertical with focus on new technologies in the security solutions space while also ensuring enablement of green initiatives.

Like we have always maintained, this decade is very important for India and growth herein will lay a strong foundation for the coming decades as well. We hope you find this edition a valuable read and look forward to your inputs and suggestions.

>>>

01 – Primus Outreach (an initiative to…)

#PolicySquare	…understand the more fundamental questions in policy making
#LeadersSpotlight	…highlight opinions of sector / segment leaders
#PrimusPodcast	…to bring together policymakers and thinkers in areas of critical importance

Policy Square, Leaders Spotlight and Primus Podcast are initiatives by Primus Partners wherein key constituents of the public policy ecosystem as well as the sector experts – senior policy-makers, civil society members, business executives etc. – are interviewed on critical issues and policies of national importance to explore their impact on the country and industry at-large.

The motivation for these initaitives series is driven by Primus Partners' rich policy-sectoral-regulatory knowledge base, as well as experience of delivering projects across multiple domains and geographies, with an aim to leverage this knowledge, and create a platform to table in–depth discourse.

With this initiative, we have attempted to engage with experts at various levels within the country's ecosystem. Each expert has brought in a new perspective – all towards enabling India's growth both in absolute and relative terms.

#PolicySquare

Latest episode features:

Mr Amit B. Kalyani
Joint Managing Director, Bharat Forge Ltd
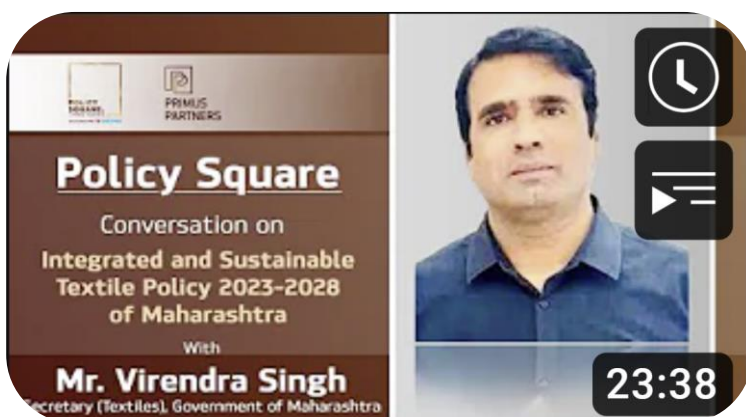
#Policy Square

Latest episode features:

Mr Virendra Singh,
Secretary (Textiles), Government of Maharashtra

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02 – Economy

Steering India's path through strategic partnerships, skilled workforce and start up ecosystem

At present, India is the world's fifth-largest economy with a nominal GDP of $3.4 trillion and is anticipated to position itself as the third-largest economy globally by the year 2027, surpassing Japan and Germany. The growth forecasts for the Indian economy outshine those of any other large economy, with an average real GDP growth of 5.7% over the last decade, promising unparalleled advancement in the decades ahead.

India has positioned itself as a key player in shaping the future of the global economy through a series of unprecedented achievements including holding the G-20 presidency, accomplishments in space missions, scaling of digital infrastructure and various infrastructure projects including Bharatmala highway programme, the Sagarmala project and the recent Mumbai Trans Harbour Link (MTHL). With the government focussing on Governance, Development and Performance to lead the country's path towards Viksit Bharat, it is important to strategies the way forward in terms of sectors and skills.

At present, the median age of 28.4 years, India boasts a youthful demographic profile that not only enhances its competitive edge in the services and manufacturing sectors but also harnesses the spending potential of a vibrant young population. This presents a unique opportunity for India to plan the next 3 years specially on the following-

Firstly, strategic and diverse partnerships, along with signing trade agreements with multiple countries, will help India reach its economic potential. Though expanding in traditional markets continues, our primary emphasis should be on exploring untapped markets through trade accords with other countries especially the G20- Argentina, Brazil, South Africa, etc.

The G20 nations collectively represent approximately 85% of global GDP and 75% of global trade, providing a substantial opportunity for India to enhance its trade and investment engagements with these countries. This initiative will pave the way for the expansion of Indian products into new territories, thereby fuelling the country's growth and fostering its development.

Secondly, it is very important to tap the skilled workforce of the country. With over 65% of the population being under 35 years of age, this dynamic, young workforce can propel India into the new age technologies such as machine learning, AI, blockchain technologies etc. Adoption of technology across industries leads to a prominent skilled gap between 'what is taught and what is needed'.

Therefore, skilled universities offering a wide variety of courses and containing a broad multi-disciplinary curriculum is needed. Every State should focus on state-skilled universities that hold immense potential to bridge the prevalent skill gap by offering tailored educational programs that align closely with the evolving needs of employers and market trends. Additionally, these will also encourage research and entrepreneurship among young professionals.

Thirdly, start-ups play a pivotal role in driving innovation by constantly pushing the boundaries of what is possible. The innovative nature of start-ups extends beyond mere product development to new business models, processes, and technologies that challenge traditional approaches toward driving efficiency across industries. As of August 2022, India has emerged as the world's third-largest startup ecosystem, with over 77,000 DPIIT-recognized startups spread throughout 656 districts.

These startups are simultaneously enabling more jobs thereby reducing unemployment, than large companies or enterprises in the same industry. To support the startup ecosystem, states governments should provide a conducive environment through comprehensive startup policies, state helpline numbers etc. Additionally, the creation of an incubation and innovation cell will instill an entrepreneurship spirit.

Therefore, the journey towards India's aspiration to become the world's third-largest economy by 2027 is marked by remarkable achievements and strategic initiatives taken by the country in coming years. As the nation continues its trajectory of growth and development, leveraging strategic partnerships, harnessing the potential of its skilled workforce, and nurturing a vibrant startup ecosystem will be instrumental in realizing this ambitious goal.
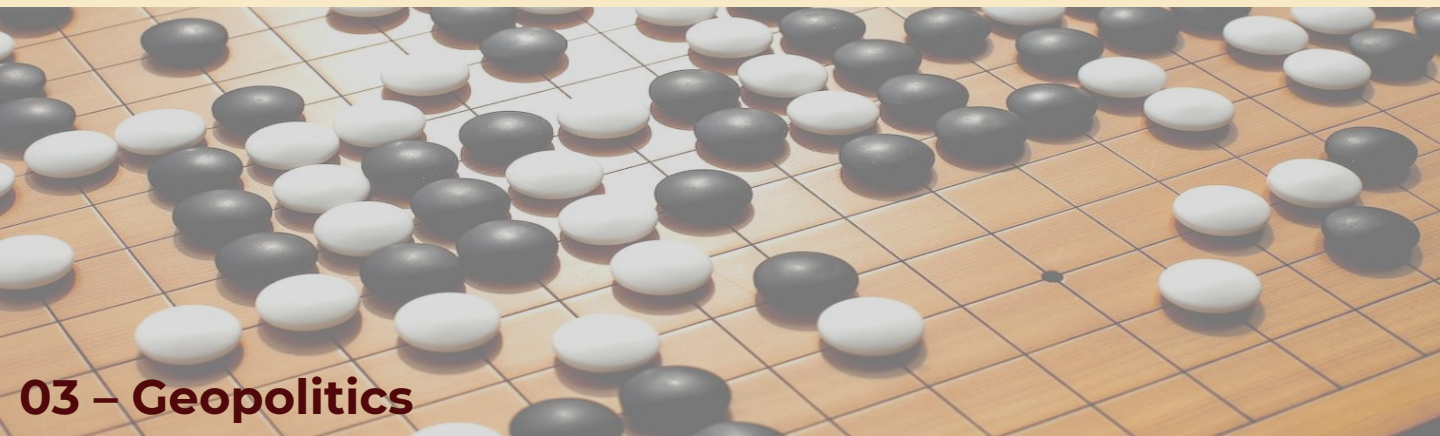
03 – Geopolitics

The curious case of Maldives

The relationship between India and Maldives dates to the time of Independence of the island nation. The multifaceted relationship between the two countries has been one based on sovereignty, mutual respect and cooperation in strategic and non-strategic domains.

India has been one of the first responders through the worst in Maldives right from the drinking water crisis of 2014 to the heart wrenching pandemic of 2020-2021.

India's "Neighbourhood First" policy prioritizes strong ties with its neighbours. The Maldives, strategically located in the Indian Ocean, holds immense importance for India's maritime security.

Both nations share concerns about piracy, terrorism, and the growing influence of China in the region. India's military presence in the Indian Ocean acts as a deterrent against potential threats, ensuring the Maldives' security.

India is a major source of tourists for the Maldives, a critical sector for the Maldivian economy. Bilateral trade has grown steadily, with India emerging as Maldives' second-largest trade partner. India provides critical development assistance, infrastructure projects, and capacity building programs to further strengthen economic ties.

Despite these strong historical and strategic ties, the relationship has faced challenges in recent years. A period of political instability in the Maldives, coupled with China's increasing economic and political engagement in the region, led to a temporary strain in India-Maldives relations. Concerns arose over the Maldives' "India Out" campaign, fueled by anxieties about perceived Indian dominance.

Looking Forward: Navigating a Shifting Landscape

Several key considerations will shape the future of India-Maldives relations:

- Balancing Act: The Maldives will likely continue to navigate a delicate balancing act between India and China, seeking to maximize economic benefits from both nations without jeopardizing its strategic partnership with India.

- India's Continued Support: India's continued commitment to providing economic assistance, development partnerships, and security cooperation will remain crucial in fostering trust and strengthening the relationship.

- Addressing Maldivian Concerns: India can address Maldivian anxieties by ensuring transparency in its military presence and fostering greater people-to-people exchanges to promote cultural understanding.

- Focus on Shared Challenges: Both nations stand to gain by collaborating on issues like climate change, maritime security, and disaster preparedness, areas where their interests converge.

- Multilateral Cooperation: Collaboration on regional platforms can further solidify their partnership and promote regional stability.

The India-Maldives relationship is vital for both nations' security and economic prosperity. By recognizing shared interests, addressing sensitivities, and fostering closer cooperation, India and the Maldives can navigate the evolving geopolitical landscape and build a stronger, more resilient partnership for the future.

Both nations share a long history and a stake in a stable and prosperous Indian Ocean region. By prioritizing mutual respect, transparent communication, and collaborative efforts, they can ensure a future where their strategic partnership continues to flourish.

That being said, the growing bonhomie between China and Maldives is a cause of concern for not just India but the global maritime community at large. Sympathisers in Maldives look at the situation as the adoption of a foreign policy more independent of India. The withdrawal of Indian troops, wooing of Chinese investors, and greater collaboration with Chinese institutional and developmental partners are all being termed to be moves in the interest of the Maldivian public and maintaining strategic autonomy.

However, what remains to be seen is for how long will the after taste of this growing Chinese bonhomie last till Maldives decides to learn from the lessons of its neighbours.

04 – Infrastructure

Amrit Bharat Station Scheme (ABSS)

The Amrit Bharat Station Scheme (ABSS) stands as a hallmark initiative by the Indian government aimed at the comprehensive redevelopment of railway stations throughout the nation.

Launched in February 2023, ABSS is envisioned as the world's largest railway station redevelopment program, emphasizing the enhancement of passenger facilities and amenities. With an ambitious goal to transform 7000 railway stations, ABSS embodies a strategic vision to modernize India's railway infrastructure, ultimately elevating the overall travel experience for millions of commuters.

The primary objective of ABSS is to revitalize railway stations across India, ensuring they align with contemporary standards of functionality, accessibility, and aesthetics. By prioritizing passenger-centric improvements, the scheme aims to enhance convenience, safety, and comfort for travellers of all demographics.

Furthermore, ABSS endeavours to stimulate economic growth by encouraging development opportunities around railway stations, thereby contributing to local and national prosperity.

Some Key Features:

- **Master plan-driven approach:** Develop long-term plans for each station considering future needs and phased execution.
- **Focus on accessibility:** Ensure universal accessibility features for differently abled passengers.
- **Sustainability:** Adopt green building concepts and energy-efficient measures including rainwater harvesting systems and green spaces and ballast less tracks, which reduce noise and vibration
- **Leveraging technology:** Implement digital information systems for real-time train information and passenger convenience.
- **Modern passenger amenities:** This includes providing clean and hygienic waiting areas, restrooms, Special amenities for the disabled, and food and beverage outlets.
- **Improved traffic circulation:** This includes creating separate entry and exit points for passengers and vehicles, widening roads and footpaths, and providing adequate parking facilities.
- **Inter-modal integration:** This includes providing seamless connectivity between railway stations and other modes of transport, such as buses, taxis, and auto-rickshaws.
- **Roof plazas**, where available, to provide additional space for commercial activities and passenger amenities.

Since its inception, ABSS has made significant strides in station redevelopment, with 1321 stations selected for revitalization out of the targeted 7000. Noteworthy milestones include the inauguration of 553 stations by Prime Minister Narendra Modi, symbolizing tangible progress in transforming railway infrastructure.

Moreover, ABSS has catalysed substantial public and private investments, exemplified by the exponential growth in railway Capex and infrastructure expansion.

The planned implementation is to be done phase-wise with the scheme prioritizing 1321 stations, with 553 already under development in the first phase with an investment of ₹25,000 crore. Further, public-private partnerships (PPP) are encouraged to leverage private participation for financing, construction, and maintenance of stations.

Overall, the scheme adopts a systematic approach to station redevelopment, involving station identification, project planning, construction, and post-completion maintenance. The scheme leverages technological innovations and best practices in urban planning to optimize the design and layout of stations, facilitating efficient passenger flow and seamless intermodal connectivity.

Collaborations with private sector partners are encouraged to harness expertise and resources for timely execution and quality assurance.
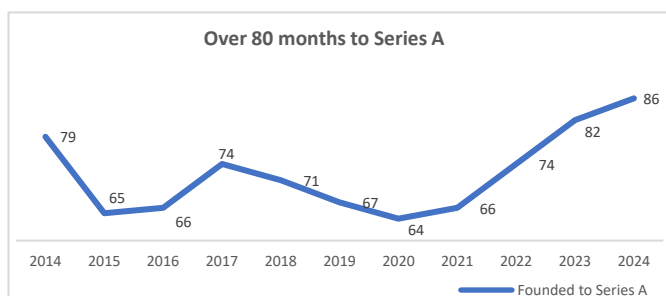
05 – Technology

Indian startup investment outlook for FY25 – Navigating the funding winter

India is known globally for its thriving startup ecosystem and is also the world's third largest. The country, which was ranked 4th in 2021 and 2022 among the highest-funded geographies globally, is currently down to 5th place in 2023.

According to research platform Tracxn data, startup funding declined to a five-year low of $7 billion in 2023, as compared to $25 billion received in 2022, recording a decline of over 72% funding recorded in the previous year. From a sectoral lens, the Fintech industry gathered majority of the funding, followed by Retail, Enterprise Applications, Environment Technology and SpaceTech.

Late-stage funding has seen the biggest among the lot, dropping to $4.2 billion in 2023 from $15.6 billion in 2022, closely followed by early-stage funding with a drop of 70% in 2023, amid worsening global macroeconomic conditions, recession concerns and geopolitical tensions.

Moreover, it is taking startups longer to get initial funding. According to Tracxn data, the time taken to get Series A funding extended to 86 months in 2024, which is the longest waiting time since 2014.

Over 80 months to Series A

Year	Months
2014	79
2015	65
2016	66
2017	74
2018	71
2019	67
2020	64
2021	66
2022	74
2023	82
2024	86

Founded to Series A

The dip in investment activity is particularly critical for companies navigating their growth stage. Closure of once promising companies like ZestMoney and Frontrow serve as recent examples of the hurdles faced by business models which are highly reliant on capital injections.

In the past few years, Private Equity and Venture Capitalists have now prioritized unit economics and operational cash flows over misleading growth metrics. The significant drop from 23 unicorns in 2022 to only two in 2023 highlights the necessity for startups to pivot and emphasize on developing operational efficiency amidst the prevailing uncertainties that impact investor confidence.

Companies must adapt to leaner business models catering to market demands and generate multiple sources of income that require an in-depth evaluation of expenses while striving towards profitability and sustainability.

An effective strategy for managing costs includes strategically hiring resources at competitive salaries, and utilizing employee stock ownership plans (ESOPs) to attract and retain top talent without adding excessive burden to the payroll. Improving team efficiency through streamlined processes and empowering employees can also optimize resources.

Our Take

Industry experts are predicting funding inflows between $8bn-$12bn in 2024, marking a potential resurgence of Indian tech startups and growing investor confidence. 2024 has started on a promising note with the addition of 2 companies to the unicorn list in Q1 – Perfios and Ola Krutrim.

Shadowfax and Credit Saison have also received funding of over $100 million, followed by smaller rounds for Capillary, Rentomojo, and Captain Fresh. 8 tech companies have also gone public in Q1, reaffirming the growth and ecosystem maturity of tech startups in India.

Investors would still be extremely cautious funding startups with high burn rates. They will assess aspects like the plan towards profitability, the core management team, risks and the corporate governance of the business. Rather than the sector, investors will look at the company's medium to long-term aspirations and possibilities for a potential IPO/ exit route.

06 – Aerospace and Defence

Submarines – Anchoring India's maritime security in self reliance

India's vast coastline and strategic location necessitate a robust maritime security apparatus. However, traditional methods struggle against evolving threats like piracy, terrorism, and illegal activities at sea. Modernization, encompassing advanced technology, a well-equipped navy, and enhanced regional cooperation, is crucial to protect India's maritime interests, secure vital trade routes, and ensure national security. Only through a modernized maritime security posture can India navigate the challenges of the 21st century and safeguard its blue frontiers.

Driven by a desire for maritime security and regional influence, India is undergoing a significant naval modernization program. This ambitious plan focuses on building indigenous warships, including submarines and aircraft carriers, to reduce reliance on foreign imports. Additionally, India seeks to acquire advanced weaponry and bolster its underwater and aerial capabilities. This transformation aims to propel the Indian Navy into a powerful force, safeguarding its vast coastline and strategic interests in the Indo-Pacific region.

India's maritime security is intricately linked to its naval prowess, particularly the strength of its submarine fleet. To fortify India's naval capabilities and ensure maritime dominance, it is imperative to rejuvenate submarine construction capacity.

Key focus points for faster growth

- **Accelerated Infrastructure Modernization:** Efforts should be made to expedite the modernization of existing shipyards dedicated to submarine construction. This entails upgrading facilities, dry docks, fabrication workshops, and assembly areas to accommodate the construction of larger and more sophisticated submarine classes. Additionally, consideration should be given to enhancing logistical support and establishing dedicated submarine construction facilities in strategic coastal locations to enhance operational efficiency.

- **Strategic Technology Acquisition and Transfer:** India should prioritize strategic partnerships with technologically advanced nations possessing expertise in submarine design, construction, and propulsion systems. Negotiating technology transfer agreements is essential to acquire

critical submarine technologies, including hull design, propulsion systems, and stealth features. Collaborating with foreign Original Equipment Manufacturers (OEMs) should be aimed at leveraging their expertise while fostering indigenous capabilities.

- **Prioritization of Skill Development and Human Capital Management:** Significant investment in specialized skill development programs encompassing hull fabrication, advanced welding techniques, integration of complex systems is imperative to cultivate a highly skilled workforce capable of meeting the specialized demands of submarine construction. Strengthening collaborations with vocational training institutes, maritime academies, and defence research organizations will facilitate the imparting of technical skills and comprehensive knowledge of submarine systems. Moreover, measures to attract and retain talent within the sector, including incentives, career advancement opportunities are indispensable for sustained growth and innovation.

- **Streamlined Regulatory Frameworks and Policy Support:** India must streamline regulatory frameworks governing submarine construction to eliminate bureaucratic hurdles and expedite project approvals. Introducing fiscal incentives, tax concessions, and financial assistance schemes will incentivize private sector participation and stimulate indigenous defence manufacturing. Establishing a dedicated regulatory body or taskforce to oversee the policies, monitor progress, and address bottlenecks will facilitate technology absorption and indigenization.

Enhancement of India's submarine construction capacity is pivotal for fortifying naval strength, safeguarding maritime interests, and achieving self-reliance in defence manufacturing. By meticulously implementing these strategic imperatives, India can surmount existing challenges and emerge as a preeminent hub for indigenous submarine construction.

A concerted effort from both public and private stakeholders in this segment is imperative to realize this strategic objective and bolster India's naval dominance in the Indo-Pacific region.

07 – Healthcare

AI in healthcare – a solution for addressing global health challenges

AI has emerged as a transformative force in healthcare, leveraging vast troves of healthcare data to propel advancements in drug development and clinical practice. AI techniques span the spectrum, from machine learning for structured data analysis to natural language processing for extracting insights from unstructured data such as medical notes.

While the 2030 Sustainable Development Goals emphasize the commitment to "leaving no one behind," addressing significant health disparities in emerging markets and the Global South poses a formidable challenge. India for instance faces a significant healthcare workforce shortage, with only 64 doctors available per 100,000 people, in stark contrast with the global average of around 150 doctors per 100,000 individuals. This scarcity of medical professionals is particularly acute in rural areas, where primary health centres and sub-centres are frequently understaffed and inadequately equipped to address patient needs. Leveraging AI for early detection through predictive analytics can serve as a potent tool for targeted public health interventions, particularly in areas with constrained healthcare capacity and delayed disease detection capabilities.

India's investment in AI surged significantly, witnessing a remarkable growth of over 109% in 2018, totalling $665mn. Projections indicate a continued upward trajectory, with AI expenditure expected to soar to $11.78bn by 2025. This substantial investment underscores the nation's commitment to leveraging AI technologies to drive innovation and economic growth.

The Union cabinet's recent approval of the INR 10,372 cr India AI Mission marks a significant milestone in India's journey towards fostering innovation and technological advancement. This substantial investment is poised to catalyse the growth of deep-tech AI startups by providing crucial funding support. Moreover, the mission aims to develop an open-source database, laying the foundation for training artificial intelligence models and facilitating the creation of diverse applications.

Speaking at a briefing following the cabinet approval on March 7, 2024, Union Minister of Commerce Piyush Goyal emphasized the multi-faceted nature of the initiative, highlighting its role in bolstering the AI-based solutions ecosystem in India. This comprehensive framework underscores the government's commitment to nurturing a thriving AI sector, driving economic growth, and fostering innovation across various industries.

Despite the transformative potential of AI in healthcare, several challenges impede its widespread adoption. Issues such as data access, privacy concerns, and regulatory ambiguity need to be addressed proactively. However, initiatives like the India AI Mission and increasing investments in AI-based healthcare technologies signal a promising trajectory for the country's healthcare landscape.

Key Points:

- The healthcare sector ranks among the largest in terms of both employment and revenue, underscoring its significance within the Indian economy.

- Despite its impressive growth, the sector faces numerous challenges, including issues related to cost, quality, and accessibility of healthcare services.

- The COVID-19 pandemic has underscored the urgent need to adopt the latest technologies, including AI, to enhance healthcare delivery and response mechanisms.

- Data and AI have the potential to significantly contribute to India's GDP, with estimates suggesting a potential addition of USD 25-30 billion by 2025

- Key areas for AI implementation in the healthcare sector include patient care, operational efficiencies, and research and development, highlighting diverse avenues for innovation and improvement.

- Creating robust partnerships between healthcare organizations and service providers is crucial to unlocking the full potential of AI in healthcare, emphasizing the importance of collaborative efforts to drive meaningful change and innovation.

08 – Financial Services

Investments and total flow of resources continue to drive the economy in India

The projected GDP growth for FY25 as per the Central Government of India was recently revised from 7.3% to 7.6% while projections as per the RBI were more conservative relatively at 7%. These projections, combined with anti-inflationary measures to bring inflation down to 4%, translate into a possibly brighter future for the country.

Historical data also further solidifies the veracity of these claims as the country has exceeded growth projections on several occasions over the previous financial year. Projections for growth for FY24 initially stood at 6.4% and were later revised to 6.5%.

However, the actual growth of the economy has consistently hovered over or around the 7% mark. Most recently, in Q3 FY24, production shattered expectations as the economy grew by 8.4%, outpacing growth for the same period in the previous year by 11%. While official numbers for Q4 will be released in May 2024, growth is expected at a similar rate of around 8%, also significantly above initial projections.

This growth has been underlined by macroeconomic stability, improved inflation management, remarkable growth in the manufacturing and services sector as well as increasing interest and activity in investments, particularly for the middle-income class.

Fixed investment by the government, continued upturn of the private capex cycle, rising capacity utilization and strengthening business optimism have defined the velocity with which investments grew in the country in FY24. India's GST collection on March 24 stood at 1.78 lakh crores, growing by 11.5% year-on-year to become the second-highest collection figure ever for the country for a given month.

The total flow of resources to the businesses from banks and other sources stood at Rs 31.2 lakh crore during 2023-24, growing by ~18% year-on-year.

All these factors have translated into momentum for economic growth in the country which is expected to carry over to the year ahead. Moreover, the agriculture sector, for which growth projections were at a 7-year low in FY24, is expected to return to form due to improved prospects in of good wheat, rabi, and kharif crops.

Strengthening of rural demand while keeping urban demand buoyant, improving employment conditions and informal sector activity, and moderating inflationary pressures were among the other key factors identified by Shaktikanta Das for the expected sustained economic surge and increased private consumption.

International bodies, which tend to have more conservative projections, have also been increasing expectations from the Indian economy in the coming year.

World Bank raised India's FY25 growth projection to 6.6% , Morgan Stanley lifted India's GDP growth forecast for FY25 to 6.8% while expecting a favourable inflation trajectory, and according to the CRISIL, the Indian economy is set to witness significant growth, with projections indicating a GDP expansion of 6.8 per cent in the next fiscal year which would position India to attain upper middle-income status by 2031.

The growth must be controlled however and measures for development need to take into account several external factors.

Factors like the Trade deficit, which widened in February as imports accelerated and trade disruptions pose risks to the overall outlook. Improved trade prospects and increased domestic integration with global supply chains must remain priorities.

Overall, despite the sceptical elements and their unknown effects over the next year, the economic picture painted for the next year seems optimistic and growth seems inevitable if coupled with responsible and dynamic measures of control and business promotions.

09 – Impact

Ever growing global skilled labor shortage – a boon to Indian human resource

Human mobility plays a pivotal role in the process of globalization, encompassing movement within countries and across borders in pursuit of enhanced employment opportunities and lifestyles. Simultaneously countries have always been dependent on skilled labor for their economic growth and to ensure the growth is sustainable. The vision of growth which is led by manufacturing and service sector get affected when there is a lack of skilled manpower who are the driving force.

The development of a country gets affected due to locally unavailability of skilled manpower and then they seek to fulfill this requirement with immigrant labor force. In recent times, countries like Germany, Canada, Australia, New Zealand, Singapore, UK, USA, Israel, South Korea, and many more are facing major gap between demand and supply of skilled human resource. This list is ever growing, and new countries are getting added to this. To fill the gap these countries have made a shift towards more flexible and accommodating work permit policies which illustrate the value of attracting skilled talent and fill the demand of the sectors.

Due to burgeoning demand, experts anticipate a surge of approximately 30% in the skilled Indian workforce over the next five years. The allure of IT professionals is particularly high in the UAE, Saudi Arabia, Qatar, GCC, and Eastern Europe. Additionally, sectors such as construction, healthcare, data analytics, electrical engineering, plumbing, mechanics, hospitality, sales, and marketing are witnessing a sustained uptick in demand. This surging demand of skilled professional is a huge opportunity for the country like India. The top 15 countries where Indians are the first choice or preferred are UAE, Saudi Arabia, Quatar, Germany, Netherlands, UK, Sweden, Switzerland, Singapore, Australia, New Zealand, Canada, USA, Japan, Malasia. India's substantial IT workforce positions it favorably to meet the high demand in this sector. Notably, Saudi Arabia has already tapped into the maximum potential of Indian skilled labor.

In response to these developments, the government has formulated an extensive skilling enhancement strategy. This strategy entails collaborating with nations experiencing a shortage of skilled labor, with a targeted approach towards addressing sector-specific demands. As part of this comprehensive strategy to train and deploy skilled Indian workers worldwide, the government is orchestrating skilling programs, facilitating international certification, conducting pre-departure orientation training, imparting soft skills, providing multicultural training, and extending other forms of support.

This initiative will be executed through the establishment of approximately 30 Skill India International Centers (SIICs) spread across the nation. These centers will serve as pivotal hubs for coordinating and implementing the aforementioned training and support programs, thereby facilitating the seamless mobility of skilled Indian workers to international job markets.

The Ministry of Skill Development is collaborating closely with the Ministry of External Affairs to integrate skill development initiatives into bilateral agreements concerning migration and mobility. These agreements encompass a wide range of provisions, including the facilitation of young professional mobility, apprenticeship programs, educational opportunities for students, as well as considerations for accompanying family members.

Also, to facilitate easier and quicker mobility, candidates registering at SIICs will also be issued a Skill India Passport which will have digitally verified credentials and will serve as a source of trusted information to make migrants' skills more portable and transparent to employers. Apart from this, the ministry is providing support to candidates in financing their skills training for overseas markets through innovative financing modules such as the skill impact bond, skill loans and high-end fee-based courses.

The National Skill Development Corporation International, under the aegis of skills development ministry, has already signed 23 business-to-business memorandums of understanding to facilitate training, assessment, and recruitment services with 11 countries – Australia, Canada, Finland, Germany, Ireland, Japan, Jordon, Malaysia, Maldives, Morocco, and Sweden.

Having said that, considering the increasing demand for industrial development and requirement for skilled workers, there is a need to further enhance and implement government policies more effectively at grassroot level to meet these demands. Institutions like ITIs, Polytechnique colleges and skill centers need to redefine the course curriculum, including new courses based on upcoming requirements and should focus on improving communication skills are crucial.

Dr Jaya Garg
- Director – FOXBase Technologies Pvt Ltd

Dr. Jaya Garg is Director and Co-Founder of FOXBase Technologies Private Limited (an Information Technology company). She is an award-winning alumnus of IISWBM, Calcutta University and holds a Ph D, MBA and other relevant professional qualifications.
Under her directorship FOXBase has been awarded best India 5000 Best MSME in the year 2020 for its outstanding contribution in quality & excellence, in realm of customer satisfaction, impact on society through service and management

From the real experts

10 – Expert Speak

Security solutions are becoming increasingly complex, often involving a mix of technologies. What are the top 3 things that should be done to ensure integration and interoperability with existing infrastructure and other security systems?

Security & Surveillance solutions are very customised in my opinion/ priorities may differ from case to case and application to application. Still Interoperability & integration can be achieved by practicing **a standard, scalable & amalgamated mix** of technologies and management.

Practicing Standardization and Compatibility: We may opt for widely accepted standards and protocols which will ensure interoperability between different security systems. Global standards such as OpenID, OAuth, SAML, and various APIs (Application Programming Interfaces) facilitates smooth communication and data exchange between diverse technologies. Compatibility with common operating systems, databases, and network protocols also enhances integration capabilities of a secure system.

Making a Modular and Scalable Architecture: Implementing a modular and scalable architecture allows for easy integration with existing infrastructure and future expansions. An efficient way is to break down the security solution into modular components which enables organizations to integrate specific functionalities without disrupting the entire system or collapse or temporary stand-still. Upward Scalability ensures that the solution can accommodate growth and upcoming security needs and seamlessly integrate with additional or newer technologies in future.

Amalgamated Management Platform: Deploying a unified management platform with central control and monitoring of the diverse security systems and is pivotal for seamless integration. Here we must offer visibility and management capabilities across all integrated components, regardless of their OEM or technologies. Features like single sign-on (SSO), centralized policy management and unified reporting streamline operations and enhance interoperability by providing a common interface for administration and monitoring.

What in your opinion are some of the most important challenges in this industry and what would be your suggestions towards solutions for the same?

Security, Safety & Surveillance industry is an industry which has been around for long time although continuously advancing & reinventing itself. Thus such industry is susceptible to obvious challenges in this digitally ever evolving world;

Compliances to meet data privacy: With the increasing volume of data collected and processed by security systems, ensuring data privacy and compliance with regulations such as GDPR, CCPA, and HIPAA becomes crucial. Failure to comply with result in severe penalties and reputational damage. *WORKABLE SOLUTION: Implement robust data protection measures, including encryption, access controls, and anonymization techniques, to safeguard sensitive information. Regular audits and assessments should be conducted to ensure compliance with relevant regulations, and privacy-by-design principles should be incorporated into the development of security solutions.*

Integration and Interoperability: As deliberated earlier, the complexity of security solutions and the diversity of technologies often result in integration and interoperability challenges. Incompatibilities between different systems can hinder the effectiveness of security operations and increase the risk of gaps in defence.
WORKABLE SOLUTION: Prioritize standardization and compatibility by adopting widely accepted protocols and APIs. Implement modular and scalable architectures that facilitate seamless integration with existing infrastructure and other security systems. Deploy unified management platforms to provide centralized control and monitoring across diverse components.

Cybersecurity Threat : The rapidly evolving cyber threats poses a significant challenge to security. Cyber attackers continuously develop sophisticated techniques to bypass defences and exploit system vulnerabilities.
WORKABLE SOLUTION: Continuous education and training are essential to keep security professionals updated on the latest threats and defence mechanisms. Implementing advanced threat detection technologies, such as AI-powered analytics and machine learning algorithms, can help detect and respond to emerging threats in real-time.

Available expertise vs Requirement gap: There is a growing shortage of skilled cybersecurity professionals, making it challenging for organizations to recruit and retain qualified personnel.
WORKABLE SOLUTION: Invest in cybersecurity education and training programs to develop a pipeline of skilled professionals. Encourage diversity and inclusivity within the cybersecurity workforce to tap into a broader talent pool. Additionally, leverage automation and AI-driven tools to augment the capabilities of existing security teams and alleviate some of the workload pressures.

Addressing these challenges requires a holistic approach that combines technology, education and collaboration across industry stakeholders. By staying vigilant, embracing innovation and fostering a culture of cybersecurity awareness, organizations can effectively navigate the evolving landscape of security threats and safeguard their digital presence.

This industry requires a skilled workforce that is also constantly evolving with innovation in cutting edge solutions. What are the steps that are being taken or should be taken in India to ensure the skill base is there to absorb and implement the technologies?

I firmly believe Our country is the biggest reservoir of talented human resource and resources those can be trained for any industry. India has been focusing on integrating cybersecurity education at intermediate school, college & university level. Quiz/ competition like National Cyber Olympiad and Cyber Security Awareness Week helps in building cybersecurity awareness and arise interest in students. Customised courses and certifications in cybersecurity and surveillance are being offered by various educational institutions and training centres to achieve the same.

Collaboration between the GoI, institutions/ educational boards and industry is essential to bridge the cybersecurity skills gap. Public-private partnerships can facilitate the development of training programs, internships, and apprenticeships that provide hands-on experience and practical skills to aspiring candidates. Industry participation in curriculum development and providing mentorship would be much needed & mutually beneficial.

I strongly believe in 'work to learn method'. Industry & educational bodies collaboration by way of ongoing & vacation internship programs can bring in much needed practical approach to the education & work-ready talent for the industry.

Indian Government-led initiatives such as Skill India and Digital India are focusing on enhancing the skills of our youth thru wide range of courses, including cybersecurity. These programs offer training in various aspects of cybersecurity, including ethical hacking, incident response and secure coding. Cybersecurity education can become more accessible thru Online educational portals and e-learning resources.

Focussed Research & development & setting up Cybersecurity centres of excellence (CoEs) can bring in the much needed momentum in cyber education & ever demanded technological upgradation.

In today's evolving security landscape, what is your vision for the future of FOXBase Technologies? Where do you see the company in the next 3-5 years?

We are looking at expansion of our Product Portfolio: FOXBase Technologies Pvt Ltd will continue to innovate and expand its product portfolio to address emerging security challenges. This includes developing advanced threat detection and prevention technologies, enhancing data protection capabilities and offering integrated solutions that provide end-to-end security coverage.

We are also focused on AI usage to bring in Automation at various level. Leveraging the power of artificial intelligence (AI) and automation will be a key focus for FOXBase. By integrating AI-driven analytics and machine learning algorithms into its products, we can provide predictive insights, automate routine security tasks and enhance threat detection and response capabilities.

We already have cloud servers for our Biometrics & RFid solutions. We would like to extend our cloud computing solutions along with Internet of Things (IoT), to include cloud security and IoT security solutions. This involves developing robust security measures to protect data and devices in cloud environments and IoT ecosystems, ensuring comprehensive coverage across all digital assets.

At FOXBase Technologies Pvt Ltd, we seek to expand its presence globally by forging strategic partnerships with global industry leaders, technology providers and channel partners. By establishing a strong network of alliances, we can do our bit in filling in the gap in this industry for trust-worthy solution & service providers.

Customer experience and satisfaction will always remain a top priority for FOXBase Technologies. We will continue to invest in customer support, training and advisory services to ensure that clients receive the highest level of service and value from their security investments. Clients always do not seek the best tech available but what is best suited to them, same has been always our endeavour. 'Optimum Solution @honest price'.

Overall, I envision FOXBase Technologies Pvt Ltd as one among market leaders in providing cutting-edge security solutions that enable organizations to protect their digital assets, biometrics, mitigate risks and achieve their business objectives in an increasingly interconnected and dynamic threat landscape. By staying agile, customer-centric, and innovative, FOXBase Technologies Pvt Ltd will continue to thrive and make a significant impact nationally & globally.

Cyberattacks are constantly growing in sophistication. How is FOXBase Technologies innovating its security solutions to stay ahead of these evolving threats? What are some specific examples of recent advancements?

R&D is must to remain relevant in this space. WE will continue to learn & work on AI, ML & various upcoming behavioral analysis tech, continuous authentication to enhance its threat detection capabilities.
By analysing large volumes of data in real-time, these technologies can identify patterns, anomalies, and indicators of compromise that may indicate sophisticated cyber threats, including zero-day attacks and advanced persistent threats (APTs).
FOXBase Technologies is incorporating behavioural analysis techniques into its security solutions to detect abnormal user behaviours and suspicious activities. By monitoring user actions, network traffic and system interactions these solutions can identify deviations from normal behaviour and proactively mitigate potential threats and security breaches.

I feel access to threat Intelligence feeds from various sources, including industry groups, government agencies, and cybersecurity vendors would be much needed to handle unknown vulnerabilities, and attack trends.

Continuous Monitoring and Incident Response is at the core of the entire security spectrum.

FOXBase Technologies is emphasizing on above to quickly detect, contain, and minimize security impacts.

Recent advancements by FOXBase Technologies may include the development of AI-driven threat detection algorithms, the integration of behavioural analytics into its security solutions, enhancements to its Zero Trust architecture, the incorporation of cloud-native security features, and improvements to its incident response capabilities.

These innovations enable FOXBase Technologies to stay ahead of evolving threats and empower organizations to defend against breaches & other unknown safety & surveillance threats.

About Primus Partners

Primus Partners has been set up to partner with clients in 'navigating' India, by experts with decades of experience in doing so for large global firms. Set up on the principle of 'Idea Realization', it brings to bear 'experience in action'. 'Idea Realization'— a unique approach to examine futuristic ideas required for the growth of an organization or a sector or geography, from the perspective of assured on ground implementability.

Our core strength comes from our founding partners, who are goal-oriented, with extensive hands-on experience and subject-matter expertise, which is well recognized in the industry. Our core founders form a diverse cohort of leaders from both genders with experience across industries (Public Sector, Healthcare, Transport, Education, etc.), and with varied specialization (engineers, lawyers, tax professionals, management, etc.).

PASSION
for providing solutions to help clients achieve their goals

RESPECT
For all and alternate viewpoints

INTEGRITY
of thoughts and actions

MASTERY
of our chosen subject to drive innovative and insightful solutions

US
Representing the Primus collective, where each individual matters

STEWARDSHIP
for building a better tomorrow

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