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DIGITAL TECHNOLOGIES FUELLING THE INDIA STARTUP STORY

By Ramya K. Murthy

INDIA IS POISED TO FUEL the next phase of its startup story on digital entrepreneurship. A 2022 NASSCOM survey estimated over 25,000 tech startups in the country. At the core of such tech startups are often digital technologies that support novel business models. Digital technologies such as 3D printing, cloud computing, and data analytics have transformed the nature of entrepreneurial opportunities, processes of venture creation, and business outcomes.

Modular Architecture

Products built using digital technologies adopt a 'modular' architecture where the products can be easily extended and reconfigured to create add-ons without impacting the original core product. This capability offers several advantages: first, modular architecture supports novel processes of venture creation. A venture with digital products having modular architecture need not envision all product features at the outset. Additional features and product updates can be easily offered with minimal or no impact on the existing functionalities. For instance, digital platforms such as Microsoft Windows and Google Android initially supported a set of core features, which then expanded with a host of add-on apps in the App Store. As a result of the modular architecture of digital technologies, the entrepreneurial opportunity may be less defined at the outset.

Digital entrepreneurship is conducive to leveraging the lean startup method of creating new ventures. The lean startup method involves constant experimentation to achieve problem-solution fit and product-market fit. Here, entrepreneurs can launch their venture with a minimum viable product (MVP) and tweak the products and business models through a series of pivots in response to customer feedback. Pivoting digital products is easier as the venture can modify its products and experiment with multiple options and MVPs simultaneously. For example, the uptick in A/B testing with digital technologies (CAGR of 11 per cent) has enabled the roll-out of more desirable product features.

New Opportunities

Second, digital technologies offer new opportunities for entrepreneurs. With digital offerings, the users benefit from the core product and add-ons built over them. The entrepreneurs can now build their ventures around products that function as add-ons to other established digital products and platforms. For example, ventures with products as apps on the app store of existing smartphone operating systems.

Such ventures are an attractive proposition for several reasons. Entrepreneurs can leverage established platforms' resources to minimise their investment in developing products. They can reach a wider base of users for their products through established platforms. However, they risk being 'locked in' if their product is exclusive to the established platform. Despite the risk, the entrepreneurial opportunity of building ventures around add-ons is lucrative, a testimony of the $3.1 billion in revenue earned by app developers in India in 2022.

Platform Business Models

Third, digital technologies support the increasingly ubiquitous platform business models. Here, the digital platform connects and enables transactions between multiple sides of the platform. In such transaction platforms, digital technologies serve as core infrastructure and, more importantly, offer analytics that plays an important role in deriving consumer insights and offering the right recommendations to enhance the success of concerting transactions.

Popular examples include e-commerce platforms like Amazon and Flipkart and food delivery players like Swiggy and Zomato. In 2022, the e-commerce market earned revenues

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exceeding $60 billion, while the food-delivery market earned revenues exceeding $27 billion in India.

Digital Public Goods

Digital technologies underlie several successful ventures across sectors globally. Digital platforms account for 8 of the top 10 firms by market cap, an increase from 3 in the top 10 in 2008. Clearly, the potential for new venture creation and growth is unquestionable.

The future is exciting for digital entrepreneurship, particularly in India. The India Stack, a collection of digital public goods (DPGs) such as Aadhaar, UPI, and Account Aggregator, has expanded the potential market size that can be reached through digital products. The entrepreneurs now have access to a much wider base of users who use standard tools from the collection of DPGs. For example, UPI transactions accounted for over 50 per cent of all transactions in the country. Such standardisation enables entrepreneurs to design their products

more easily despite the wide heterogeneity of the user base in terms of demographics, location, and preferred transaction modes in India. Moreover, with a collection of interconnected DPGs, entrepreneurs can separate their core products from peripheral services needed to complete transactions. For instance, a product built using Open Credit Enablement Network (OCEN) could leverage Aadhaar for identification, Account Aggregator for document verification, and UPI to make payments. Here, the venture focuses on building a platform to connect lenders and borrowers, whereas other services are provided through the collection of DPGs.

Challenges

Despite the remarkable capabilities of digital technologies and the business models' phenomenal success, challenges need to be addressed to ensure fair and equitable growth, privacy, and consumer welfare. The platform business models, if unregulated, may lead to market dominance by a few players, thereby hindering entrepreneurial entry and competition.

The open protocols initiative involving OCEN and Open Network for Digital Commerce (ONDC) aims to address these issues and enable entrepreneurial entry. However, the governance and efficacy of these models are yet to be examined. Further, strong data privacy laws and strict enforcement are required to ensure that individuals' digital footprints are not misused or compromised. Digital entrepreneurship has the potential to fuel the next phase of India's startup story and should be supported by the right policy environment. **BW**

The author is an Assistant Professor at IIM Bangalore