



PEAK CONNECTIVITY

Contemplating how the newest technologies might improve the lives of individuals in developing nations is not a theoretical exercise for Nir Kshetri, a professor in UNCG's Bryan School of Business and Economics.

Dr. Kshetri, an authority on how digital technologies might be applied to improve the economic well-being of some of the world's poorest people, grew up in a village in eastern Nepal, near Mount Everest. He knows the challenges of living in a place that lacks much of the governmental and financial infrastructure taken for granted in the industrialized world.

Consider blockchain, for instance. The heady technology, originally developed for cryptocurrency like Bitcoin, is currently a focus of the Bill and Melinda Gates Foundation. Like Kshetri, the Gates Foundation sees this secure, digital mechanism as a means to improve millions of lives.

Blockchain, Kshetri explains, might be used to maintain land ownership records in places where Western-style deeds never existed. The information, stored on Internet-connected computers and accessed via smartphone, would be available to anyone. But the data could only be changed by the property owner or an assignee with access to the digital key for that specific record.

One of the thorniest challenges facing developing countries in the coming decade "is the registration of property," Kshetri says. "It's a big issue."

Blockchain also has applications for identification and personal finance. "In Nepal, people have to show at least four different documents to open a bank account," Kshetri says. "It is almost impossible for them to participate in any type of formal banking activities."

In lieu of birth certificates and ID cards, a blockchain scheme might offer identity verification via a smartphone photo and an audio voiceprint. Such proof of identity would enable person-to-person transfer of funds at minimal expense, Kshetri says.

Some 2.5 billion people do not have access to banking or financial services, he notes, and 1.5 billion people have no form of identification. With no recorded deed, property cannot be used as collateral to secure a loan to start a business. These conditions effectively exclude billions of people from participation in the 21st century economy.

Another aspect to Kshetri's research focuses on the use of blockchain for digital currency like Bitcoin. Cryptocurrency, he posits, could



Cellular technology and inexpensive smartphones will eventually span the planet, propelling nonindustrialized societies into the digital era, says Kshetri. With smartphones come smart solutions.

potentially provide billions with the tools to improve their livelihoods and build wealth.

Cryptocurrencies offer advantages over credit cards and bank-based financial transactions. Transaction costs of 10 percent or more in Pakistan have been reduced to 1.5 percent or less thanks to Bitcoin, he says.

Kshetri has published seven books and around 100 articles on subjects such as cloud computing, cybersecurity, big data, and the Internet of Things, and he is widely quoted as a technology authority. He is currently a consultant to the United Nations Conference on Trade and Development and its biannual series, Information Economy Report. Based in Geneva, UNCTAD seeks to enhance the capability of societies to engage in trade and development.

"I'm just a regular guy interested in technology," Kshetri says. "The advantage I have is that I was poor. I know the problems poor people face."

By Tom Lassiter • Photography and illustration by Mike Dickens
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