Advancing the Role of Entrepreneurship
Healthcare in developing countries

Healthcare is probably the most important social entrepreneurship sector that can benefit from the innovation and zeal of young entrepreneurship and public-private partnership both of which are being actively promoted in healthcare worldwide. China’s Belt and Road Initiative (BRI) can be leveraged in promoting technology entrepreneurship in the social sector in general and in healthcare in particular. This article discusses a new multi-country and multi-disciplinary initiative called mHealth for Belt and Road region (mHBR) led by the University of Michigan-Shanghai Jiao Tong University Joint Institute. The project involves the application of a range of mHealth technologies (e.g., mobile phones, drones, robots etc.) for Healthcare across the BRI region involving China and neighbouring countries.

The United Nations (UN) has recognised the need for a holistic approach of sustainable development where health, environment and social wellbeing are being targeted together through the new global Sustainable Development Goals (SDGs). In the healthcare sector, Universal Health Coverage (UHC) is the platform that seeks to overcome inequality in tackling the gap in the service provision and finance that populations face. The role of ICT (Information and Communication Technologies) to build the essential building blocks of UHC has been widely accepted. The proliferation of mobile phones in developing countries, in particular, has raised the expectation for better access to quality healthcare in a cost-effective manner. Widely referred to as ‘mHealth’, mobile communication devices, in conjunction with internet and social media, present opportunities to enhance disease prevention and management by extending health interventions beyond the reach of traditional care and the World Health Organization (WHO) has announced that m-health has the “potential to transform the face of health service delivery across the globe”. However, achieving UHC through mHealth presents some challenges, particularly from the perspective of sustainability and management. Entrepreneurship in mHealth services provide some mechanisms to overcome these challenges.

On the other hand, China has undertaken a major initiative called the Belt and Road Initiative (BRI) for the development of the region from the western and southern regions of China through the adjacent countries towards Europe and Africa. This initiative involves developing regions (e.g., Yunnan and Guanxi provinces) of China and other neighbouring countries (Pakistan, Bangladesh, Myanmar, Kazakhstan, Uzbekistan etc.). The BRI scheme mainly funds the infrastructure development of the Belt and Road region and countries through public collaboration; however, once the infrastructure projects are done, it is important to build comprehensive social development utilising increased connectivity through people-to-people collaboration along the BRI countries and region. For this latter part, entrepreneurship has important roles to play in channeling the benefits of infrastructure and technology to the currently under-developed regions. In view of similarities in the problems for populations in this region, it may be possible to share some cost-effective solutions as well, making such collaboration all the more significant. In addition, although under-represented in the discussions on health-care so far, entrepreneurship has much potential in increasing its significance in relation to healthcare in general and mHealth in particular.

The University of Michigan (UM)-Shanghai Jiao Tong University (SJTU) Joint Institute (UMJI) Centre For Entrepreneurship (CFE) is focusing on social entrepreneurship through its initiative on Technology Entrepreneurship for Sustainable Development (TESD) by leading a new multi-disciplinary, multi-country (ten countries) project called mHealth for Belt and Road region (mHBR), as discussed in
In the healthcare sector, Universal Health Coverage (UHC) is the platform that seeks to overcome inequality in tackling the gap in the service provision and finance that populations face across several institutions in different countries such as Australia (UNSW, University of Sunshine Coast, UTAS and University of Wollongong), Bangladesh (Dhaka University, Jessore University of Science and Technology, Yunus Centre, Grameen Shakti), Denmark (Copenhagen Business School), Norway (NTNU, KU), Japan (Kyushu University, Redcross), Spain (Universidad Politecnica de Madrid), Thailand (Asian Institute of Technology), Shanghai (Shanghai Jiao Tong University) and other BRI Region (Guangxi University). The project encompasses multiple disciplines including Software, healthcare, mobile communications, entrepreneurship, business, and social development. Students, faculty, and researchers, in these different institutions and disciplines, are cooperatively investigating the technical and entrepreneurship aspects of mobile technologies (such as phones, robots, drones etc.) for healthcare development in the specified BRI regions and countries. Bangladesh has been selected as a major partner in this project because of its pioneering status in commercialising mHealth (healthcare using mobile phones) through services, such as Health Hotline 789.  

The OBOR mHBR Initiative is Organised into Six Projects as Follows: 

1. Robots for elderly: 
This project follows on from the EU Victory a home project to help overcome the loneliness of the elderly living independently using telepresence robots operated by family members using the Internet and mobile devices (e.g. laptop computers, tablets, mobile phones etc.) from geographically remote locations. The robot used in Victoryahome project proof of concept was too expensive for people in BRI region. Hence the first objective of this project is to firstly develop a low cost, appropriate robot for Belt and Road countries (mainly China and Bangladesh) involving entrepreneurs in the region. The project will have the benefit of the experience of related projects in the EU, Australia, and China where current partners are located. 

2. Drones for disaster management: 
Drones have been successfully used for rescue missions and disaster relief management in Asia, especially in Japan. This project will develop some of these cases applications to developing countries in the region. For example, resource management in the Sunderban region is of great interest to both Bangladesh and India and project participants are from Bangladesh, China, India, and Japan. 

3. Portable Health Clinic (PHC): 
The idea is to use mobile phones for primary healthcare in remote areas in developing countries where the doctor remotely assesses a patient remotely using a mobile phone. Such systems have undergone pilot trials in several countries including Bangladesh, China and Australia. This is a well-known project with strong involvement from several countries. The project name PHC evolved from Grameen Communications and Yunus Centre work called ‘Doctor in a Box’. This project will leverage entrepreneurship amongst village health workers across the OBOR region (China and Bangladesh) for healthcare applications using mHealth. Project partners are from Bangladesh, China, Japan, Pakistan, and Thailand.

4. Blockchain for social business: 
This project deals with various aspects of the blockchain technology to help the social services sector (including NGOs) to gain the trust of the donors at minimal cost thanks to blockchain technology in mobile services. Partners include organisations from Australia, China, Denmark, Korea, and Norway.

5. mHealth for parkinsons disease: 
This project focuses on the application of mobile and wearable technologies for major global chronic diseases.
Each project will involve academics and entrepreneurs from China and at least one Belt and Road country (e.g., Bangladesh) to collaborate and learn various aspects of the deployment of mobile technologies in healthcare.

The whole project came to a concrete footing in September 2018 through the Entrepreneurship Week event organised by UMJI. As a first such event, it was attended by about 120 participants from 14 countries, and discussed the way forward for the mHBR projects. This event led to the initial plan of mHBR project into six projects mentioned above, led by experts and members from ten countries including Australia, Bangladesh, China, Japan, Korea and several European countries. This mHBR group will meet again in Sept. 2019 in Asian Institute of Technology to discuss the progress of all projects and their future strategies.

6. Global challenge:
While all the above projects relate to the application and deployment of a type of mobile technology, this project will deal with the development of entrepreneurship for the social development integrating above technologies in a developing country. This project acts as an umbrella for the development, deployment and evaluation of the mHealth technologies involved in the above projects. The project will carry out relevant case studies across the borders of OBOR region (e.g., China and Bangladesh) to share information (e.g., success stories and know-how) related to the deployment of these technologies for healthcare from the perspectives of government policies, regulatory environment, entrepreneurial / business support, cross-cultural collaboration and related funding mechanisms. Partners are from Bangladesh, China, Pakistan and Thailand.

These technology entrepreneurship projects study the feasibility and deployment of various mobile technologies for the sustainable development of healthcare in developing regions, such as Belt and Road provinces of China and neighbouring countries.

References are available at www.asianhhm.com

AUTHOR BIO

Pradeep Kumar Ray is a 1000-talent Distinguished Professor in the University of Michigan-Shanghai Jiao Tong University Joint Institute and is currently leading a major collaborative project called mHealth for Belt and Road Region involving seven countries. He is the founder of the WHO Collaborating Centre on eHealth in the University of New South Wales (UNSW)-Australia.

Dr. Soong-chul (Sam) Ro has been teaching political economy, and sustainable development at the University of Michigan–Shanghai Jiao Tong University Joint Institute. He also works for the Center for Entrepreneurship of the Joint Institute, taking an active part in the mobile Health for Belt and Road Region project.

Willy Jin Huang is currently an active member of the UM-SJTU Joint Institute Center for Entrepreneurship (CFE), assisting the various activities listed at the web site of CFE http://umji.sjtu.edu.cn/entrepreneurship/. He is also an aspiring entrepreneur who possesses previous experience of working for multinational companies on various projects.

Pradeep Kumar Ray is a 1000-talent Distinguished Professor in the University of Michigan-Shanghai Jiao Tong University Joint Institute and is currently leading a major collaborative project called mHealth for Belt and Road Region involving seven countries. He is the founder of the WHO Collaborating Centre on eHealth in the University of New South Wales (UNSW)-Australia.

VISIT THE LARGEST INTERNATIONAL MEDICAL AND HEALTHCARE EXHIBITION

9th International Exhibition on Hospital, Diagnostic, Pharmaceutical, Medical & Rehabilitation Equipment & Supplies

BITEC, BANGKOK, THAILAND
11 – 13 SEPTEMBER 2019

Member of MEDICAIIion

FREE Admission! Pre-register by 31 August at www.medicalfair-thailand.com to receive a gift when you visit. T&Cs apply.

Supporting organizations:
- Association of Indian Medical Device Industry
- Association of Private Hospitals of Malaysia
- Indian Confederation of Healthcare Accreditation
- National Centre for Genetic Engineering and Biotechnology
- Philippine Medical and Laboratory Equipment and Supply Group Inc.
- Radiological Society of Thailand
- Thai Association for Medical Instrumentation
- Thai Gynecologic Cancer Society
- Thai Medical Informatics Association
- The Nurses Association of Thailand
- The Private Hospital Association
- Thai Rehabilitation Medicine Association
- Vietnam Medical Equipment Association

Officially supported by:

For enquiries: Messe Düsseldorf Asia Pte Ltd
3 Harbourfront Ave #05-02
Harbourfront Tower Two
Singapore 099654
Tel: (65) 6332 9620
Fax: (65) 6332 4613
medicaIIiaIIiaII.com.sg