Social Entrepreneurship for Regional Development: The case of mHealth for Belt and Road Region (mHBR)

The United Nations 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 service provision gap and financial gap that populations face. The role of ICT (Information and Communication Technologies) to build the essential building blocks of UHC has been accepted, In particular, the proliferation of mobile phones in developing countries, have raised the spectre of better access to quality healthcare in a cost-effective manner.

The use of ubiquitous technology such as mobile electronic devices to support medical or public health practice and health systems has been embraced as the new frontier of ICT that will improve efficiency and effectiveness of health care, especially for the majority of the world's population that live in low and middle income countries, many of them being in the Belt and Road Region. The World Health Organization (WHO) has announced that m-health has the ''potential to transform the face of health service delivery across the globe''. Interestingly, the Govt of China has been actively encouraging universities to impart entrepreneurship education to its engineering and technical students.

This project illustrates the above idea of using mHealth technology for the entrepreneurship and development in the Belt and Road region through collaborations across several institutions in Australia (UNSW, University of Sunshine Coast, UTS and Univ of Wollongong), Bangladesh (Dhaka University, Jessore Univ of Science and Tech, Yunus Centre, Grameen Shakti), Denmark (Copenhagen Business School), Japan (Kyushu University, Redcross), Spain (Universidad Politechnica de Madrid), Norway (Westerdals), Thailand (Asian Institute of Technology), Shanghai (Shanghai Jiao Tong University) and Belt and Region (Guangxi University) across multiple disciplines (Software, healthcare, mobile communications, entrepreneurship and business and social development). Bangladesh has been selected because of its pioneering status in commercializing mHealth (healthcare using mobile phones) through services, such as Health Hotline 789. Guangxi province is a part of the developing Belt and Road Region at the border of China and Asia.

The project team led by Prof Pradeep Ray, a Shanghai 1000-talent Distinguished Professor at University of Michigan-SJTU Joint Institute secured seed funding to initiate this collaborative project that funded the first meeting of all partners in Shanghai in the first week of September 2018 as part of the Entrepreneurship Week 2018 (details at http://umji.sjtu.edu.cn/entrepreneurship/). Here is the list of partners (professors and industry partners) with their interests.:

1. Prof Naoki Nakashima, MD PhD, Director, International Patient Support Center, and Director, Medical Information Centre, Kyushu University Hospital, Japan, Co-Leader of mHBR (Telemedicine and eHealth)
2. Prof Xu Zhao, Dean School of Entrepreneurship and Innovation, SJTU (Entrepreneurship)
3. A/Prof Shahriar Akter, Director of Entrepreneurship Program, Wollongong University, Australia (mHealth and Entrepreneurship)
4. Prof Hairong Wu, Professor and Vice Dean, School of Journalism and Communication, Guangxi University, Nanning, China (mHealth and Health in Belt and Road Region)
5. Dr. Mahfuz Ashraf, Deputy Director, Yunus Social Business Health Hub, School of Public Health and Community Medicine, UNSW-Australia (mHealth and Social Business)
6. Dr. Ashir Ahmed, Associate Professor and Founder of Yunus Social Business Centre, Kyushu University, Japan (mHealth and Social Business)
7. Dr. Faiz Shah, Director of Yunus Centre for Social Business, Asia Institute of Technology,

Thailand (mHealth and Social Business)

8. Dr. Rafiqul Islam Maruf, Associate Professor, Medical Information Center, Kyushu University Hospital, Kyushu University, Japan (Telemedicine and Social Business)
9. Dr. Soong-Chul Ro, Associate Professor, University of Michigan-SJTU Joint Institute, China (Social Entrepreneurship)
10. Dr. Md. Rakibul Haque, Associate Professor and Member of Bangladesh-China Business Advisory Council, Dhaka University, Bangladesh (mHealth)
11. Dr. Raghava Rao Mukkamala, Associate Professor and Deputy Director-Centre for Business Analytics, Copenhagen Business School, Denmark (mHealth and Block Chain)
12. Prof. Tor-Morten Gronli, Professor, Westerdals, Norway (mHealth)
13. A/Prof Don Kerr, School of Business, University of Sunshine Coast, Australia (mHealth for Elderly)
14. Prof Joaquin Ordieres Mere, Professor, Universidad Politechnica de Madrid, Spain (Blockchain)
15. Prof Sean He, School of Elec Engineering and Software, University of Technology, Sydney, Australia (Software and mHealth)
16. Prof Jing Fan, Dean of School of Electrical Engineering and Information Technology, Yunnan Minzu University
17. Mr. Ping Zhou, Managing Director, SIDI, Shanghai, China (Social Entrepreneurship)
18. Mr. Sohel Ahmed, Managing Director, Grameen Shakti, Bangladesh (Social Business)
19. Dr. Jahangir Alam, Asst Professor of South China University of Technology and Visiting Professor Jessore University of Science and Technology, Bangladesh (mHealth)
20. Mr. Sankar Halder, Founder and Chairman, Mukti (Social Business Organization), India (Social Business and Blockchain)
21. Mr. Yasuhiro Soshini, Redcross Kumamoto Hospital-Japan (mHealth)

The mHBR project is organized into six sub-projects (Project leader in the bracket), each involving multiple country partners as follows:

1. - Robots for Elderly (Pradeep Ray-UM-SJTU JI, China): This project follows on from the EU Victroryahome (www.victoryahome.eu). The objective is to first develop a low cost, appropriate robot for Belt and Road countries (mainly China and Bangladesh) involving entrepreneurs in the region. Partner are from Australia, Bangladesh, China and Norway.

2. - Drones for Disaster Management (Yasuhiro Soshino-Redcross Hospital Japan): Drones have been successfully used for rescue missions and disaster relief management. This section will discuss some of these cases and possible applications in developing countries in the region. Partners are from Bangladesh, China and Japan.

3. - Portable Health Clinic (Ashir Ahmed-Kyushu University-Japan): This is a well-known project with strong involvement from several countries. It evolved from Grameen Communications and Yunus Centre work called "Doctor in a Box". Prof Hairong Wu from Guangxi University-China would join this project and investigate the potential for PHC use in animal health in China. This section will discuss how entrepreneurship is promoted amongst village health workers in developing countries (like Bangladesh) for healthcare applications using mHealth. Project partners are from Bangladesh, China, Japan, Pakistan and Thailand

4. - Blockchain for Social Business (Raghava Rao Mukkamala –Copenhagen Business School, Denmark): This section discusses various aspects of the blockchain technology to help the social services sector (including NGOs) to gain 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 (Naoki Nakashima- Founder of Telemedicine Asia): While most of the sections of the book discuss non-clinical health issues, this is the only section focused on the application of mobile and wearable technologies for a major global disease (Parkinsons Disease-PD) that is of great importance to China as almost 50% pf global PD patients are from China. This section will discuss some big data analytics on the prevalence and spread of PD, followed by the use of wearable mobile technologies to detect and treat PD patients in very early stages, reducing the cost and improving the quality of life of PD patients. The partners are from Australia, China, Japan, and Norway.

6. - Global Challenge (Sam Ro-UM-SJTU JI, China): While all the above sections relate to the application and deployment of a type of mobile technology, this section will discuss the development of entrepreneurship for the social development integrating above technologies in a developing country. This project will act as an umbrella for mHBR initiative with technology specific developments to be handled in each of the sub-projects #1-5. Partners of this umbrella project are from Australia, Bangladesh, China and Thailand.