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Innovation, Entrepreneurship & Investment: The Microscopic Perspective (1)

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MOBILE APPLICATION FOR BUSINESS TRAVELLERS USING SATELLITE IMAGES AND
GROUND DATA TO ADDRESS AEDES MOSQUITO RISK AREAS: A BUSINESS CASE

Abstract

In recent years there has been an increase in the burden of communicable diseases transmitted by the mosquitos of the species *Aedes aegypti* and *Aedes albopictus*. Several factors such as international trade, weak health systems, population growth, development of large urban cities and global warming contribute to this situation. Currently there are three main diseases with important incidence in several countries of tropical and subtropical regions; these are Dengue, Chikungunya and Zika virus. There are approximately 390 million dengue infections and 500.000 cases of dengue hemorrhagic fever per year around the world, there are 1.7 million suspected cases of Chikungunya virus reported to the Pan American Health Organization and with a wide distribution of the Zika virus in the Americas region. In this regard, multinational companies and international organizations have a serious business need. They need to protect the people they send to countries affected by diseases transmitted by *Aedes* mosquitos. If business traveller or expatriate or international volunteer is infected, that means up to 4 weeks out of action, or worse. Thus time, money and lives are huge values for this customer segment. The startup Dipteron which the authors are members have developed an App for detecting the *Aedes* mosquito risk areas. It has developed a clever algorithm composited by data from biological factors, namely data from the Ministry of Health, filed statistics and data from climate factors, namely by geo-processed satellite images of temperature, precipitation, humidity and landscape. Dipteron App can tell to the business travellers whether they are in a high, medium or low risk area for the presence of *Aedes* mosquitoes through a Heat Map where an early warning system (EWS) methodology risk map is used in order to build a dynamic map. The App shows in its map information of hotels in low risk areas and hospitals. In its menu, it is given instructions in how travellers can stay safe before, during and after their trips, information regarding symptoms for Dengue, Chikungunya and Zika and among others. This paper examines the problem of *Aedes* mosquito presence and distribution, the solution in the form of the aforementioned App, business opportunities, and the business concept for the App.