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Consumer Acceptance of eHealth among Rural Inhabitants in Developing Countries

(A Study on Portable Health Clinic in Bangladesh)

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Abstract

This paper explores and analyzes the current level of, reasons behind and factors affecting consumer acceptance of Portable Health Clinic (PHC), an e-Health initiative in Bangladesh. Our findings revealed that, 40% of the respondents have idea of using ICT in healthcare while 21% have their own experience of using any of the existing mHealth or eHealth systems. On the other hand, PHC's acceptance rate among our respondents is 32% i.e. they have received healthcare services from PHC at least once. This research also analyzed consumer's demographic and socio-economic factors that affect their acceptance of eHealth. Our finding says, consumer's age, occupation and purchasing power have very strong influence on their acceptance of eHealth services while their gender, level of education, access to cell phone and previous eHealth knowledge have very insignificant or weaker impact.

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1. Introduction

Healthcare, being one of the basic human needs, has become a universal demand. However, due to the lack of necessary infrastructure, insufficient qualified healthcare workforce and expensive access to quality healthcare rural inhabitants specially in developing and under-developed countries are deprived of quality healthcare services. In this circumstance, the concept of eHealth has been emerged and gained a good momentum. eHealth is an umbrella that includes a spectrum of technologies including computers, telephony and wireless communications to provide access to health care providers, care management and education (DeLuca and Enmark, 2000)[1]. Globally, eHealth is steadily becoming a popular platform for healthcare delivery and Bangladesh is no exception. A number of initiatives have already been implemented since the late 90's. These have mainly focused on mobile phones, especially important amongst the rural and underserved communities for their potential to overcome geographical boundaries. In 2011, WHO reported Bangladesh as one of the 15 countries using eHealth to raise health awareness (Kay, Santos, and Takane, 2011)[2].

1.1. eHealth in Bangladesh

The year 1998 is a milestone for e-Health in Bangladesh as the first e-Health project was launched by Swinfen Charitable, a not-for-profit institute. It involved a collaboration between the Centre for the Rehabilitation of the Paralyzed (CRP) in Bangladesh and the Royal Navy Hospital Haslar, in UK. During the same year, the Ministry of Health and Family Welfare (MoHFW) initiated their first e-Health initiative (Boutilier, 2008)[3]. Just a year later the Telemedicine Reference Center Limited (TRCL), a private company, initiated the use of mobile phones for healthcare delivery. In 2001, a professional coalition called Bangladesh Telemedicine Association (BTA) was established with a view to providing a platform for the ongoing and sporadic eHealth initiatives in the country. A similar platform called the Sustainable Development Network Program (SDNP) was formed in 2003, with the objective of establishing better collaboration and understanding among providers (Nessa et al., 2010)[4]. Later in 2006, TRCL paired with GrameenPhone, country's largest telecom service provider to initiate a mobile phone based call center for subscribers called Health Line: 789. A number of NGOs including BRAC, Sajida Foundation and DNet subsequently developed an interest in eHealth. Later many private entities involved in telemedicine and/or patient record systems in their clinics and hospitals. According to a study conducted by the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDRB), till March 2012, a total of 26 initiatives (either pilot or full scale programs) with direct or indirect associations with e-Health and/or m-Health have been taken in Bangladesh, among which four were public, eighteen private and four NGO (Ahmed et al., 2014)[5].

1.2. About Portable Health Clinic (PHC)

PHC is jointly developed by Kyushu University, Japan and Grameen Communications, Bangladesh to provide affordable eHealth services to low-income, low literate people living in remote and under-served communities by using a shared mobility service project funded by Toyota Motor Corporation, Japan (Ahmed, Inoue, Kai, Nakashima and Nohara, 2013)[6].

The PHC back-end comprises GramHealth software applications, database, and medical call center. GramHealth software applications process patients' Electronic Health Records (EHR) and doctor's e-Prescriptions, and store them in a database. Doctors at the medical call center access GramHealth data cloud through the Internet or have a copy of the database in the call center server. Upon receiving a video call from a patient, the doctor can find patient's previous EHR, can create, and send an e-Prescription (Kato, 2012)[7]. This saves doctor's time as the doctor does not need to ask questions about patient's history but can focus on the immediate health inquiry.