GROWTH OF mOS PLATFORMS: A SYSTEMS PERSPECTIVE

The advent of 3G has transformed the mobile services industry structure. Greater data rates, computationally more powerful handsets lead to creating a wider scope for data services with rich media content. Newer players have emerged in the value network of mobile service delivery. From a linear structure, the industry evolved in to a much more complex mesh like structure (Agar, 2010). Broadly, mobile service delivery could be classified into four models – Telco centric model, Aggregator centric model, Service centric model and OS maker centric model (Baldwin & Woodard, 2009).

With the proliferation of smartphones, OS maker centric model has become a more common mode of mobile service delivery. Android and iOS are two very popular proponents of this model. Android is a Linux based mobile operating system (mOS), acquired by Google in 2005 and is now being maintained by Open handset alliance that includes 34 companies comprising handset manufacturers, chip suppliers, network operators and content providers. It is a fully free, open source platform. By the end of 2013, it accounts for 69.7% all the mOS activations (Gartner, 2013). Google Play, marketplace for Android applications, has more than a million Android compatible applications (Gartner, 2013). iOS is an mOS built by Apple, originally unveiled in January 2007 and was referred to as iPhoneOS, until April 2010. Unlike Android, iOS is limited to only devices made by Apple. iOS is the second most commonly used mOS platform and accounts for 20.4% of mOS activations. Since its inception, iOS has gone through many major events that could have had an impact on its diffusion path. But arguably, the biggest milestone is

introduction of Appstore, a marketplace for iOS compatible mobile applications. As of Dec 2013, it has over 1 million applications and has accounted for more $6.4 billion in revenues (AppBrain, 2013). Despite the fact that both Android and iOS represent the same mobile service delivery model, both differ in many aspects (Bell, 2014). Over their evolutions, both have chosen different paths, were influenced by growth drivers and are moving towards different directions.

This provides a setting for this study in which, we attempt to understand the emergence of mOS platforms from a systems thinking perspective. Specifically, the mechanisms that are driving the growth and the actual patterns of growth are of primary interest to this study. Also a distinctive characteristic of our study is that it characterizes mOS diffusion by both a continuous stream of incremental improvements as well as major discrete events. The impact of these major discrete events on the evolution is an objective of this study. Once a thorough understanding of the emergence of mOS platforms is obtained, the study builds upon those findings to predict possible patterns of future evolution under certain policies. This section of the study has a scenario analysis to deduce the impact of quality gatekeeping on the growth and complementary innovation of mOS platforms. We end the dissertation with a study on the complementary side of mOS platform. A model that outlines and maps the factors behind motivation of developers to contribute to a specific platform has been proposed. The relative influences of these variables on the platform choice are arrived at by analyzing the results of a large-scale developer survey. Furthermore, the impact of variable set, which signifies openness of platforms, on developers' platform choices has been studied.