

# The Impact of Smartphone on the Telecommunication Industry in Brunei Darussalam

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## ABSTRACT

This article addresses the challenges faced by the telecommunication industry in Brunei Darussalam posed by the evolution of smartphones and the rapid growth of the Internet over the years, particularly, the changes in general user usage pattern, as well as examining the measures undertaken by these companies to address these challenges. Online questionnaires were distributed to the general public for the purpose of collecting the pattern of phone usage both presently and a decade ago. The findings indicated that there was a shift in the overall user preference of communicating via mobile phones, where, in this day and age, most prefer to communicate through the internet as opposed to a decade ago where consumers were more partial to communicating via traditional SMS and calls. This shift resulted in high demand for mobile internet data by the consumers, hence, creating a huge hindrance towards the revenue streams of the telecommunication companies. This pressure called for a restructuring in the telecommunication companies to accommodate this growing trend of high Internet usage.

## KEYWORDS

Brunei Darussalam, Disruptive Innovation, Internet, Mobile Telecommunication Companies, Smartphones

## 1. INTRODUCTION

The rapid growth of the Internet, coupled with the advancements of smartphones has compelled the telecommunication industry to undergo vast changes to accommodate the transformations on how people and organizations communicate (Rao et al., 2006). This is most evident with the emergence of the Apple iPhone, coined by some as “a smartphone innovator” (Joshi et al., 2015; Pisano, 2015). Its sleek design and user-friendly interface along with the myriad of available applications (apps) through iTunes Store can be considered as one of the most innovative creations in the smartphone

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industry, displacing the established developers such as Blackberry, Nokia and Sony who are left behind in the fast-moving market (West & Mace, 2013).

The introduction of the iPhone was soon followed by the introduction of Android smartphones which is a mobile operating system developed by a consortium led by Google. It makes use of an open source system which allows both the hardware and software to be customized according developers' preferences (Hsiao, 2013). This also allows immense flexibility to obtain apps through any source as Google does not possess strict requirements as opposed to Apple (Gandhewar et al., 2010) which has enabled Android to capitalize on its mobile operating systems as well as smartphone market shares which accounts for 85% of the worldwide smartphone volume as of 2017, according to the International Data Corporation (2017). In addition to this, Android's kernel OS architectural model is from Linux, thus, allowing Android to leverage on the knowledge and features Linux offers (Gandhewar et al., 2010). Thus, smartphones are able to create new dimensions for the telecommunication industry especially in this digital society which is now highly dependent on the internet. The combination of both the advancements of smartphones and the rapid growth of the internet has posed some challenges in today's telecommunication industry in coping with these new changes.

Albeit having a small market, Brunei Darussalam had been reaping benefits from telecommunication penetration since the digitization of the phone network in 1995 (Oxford Business Group, 2016; Borneo Bulletin Yearbook, 2018). Since 2006, there has been an increasing trend of mobile phone subscribers with over 520,000 subscribers as of the first quarter of 2017 (AITI, 2017). The mobile penetration also surpassed the 100% mark in 2008 (AITI, 2016; Oxford Business Group, 2016), which is more than the population of 417,200 in 2015 (JPKE, 2015). With the growth of mobile phone users and subscribers in Brunei, it was also evident that there was also a tremendous increase in mobile broadband penetration with the penetration via handset, increasing from 89.9% in 2012 to 118.7% during the first quarter of 2017 (AITI, 2017). Additionally, AITI (2016) also reported that mobile phones or, smartphones, had given people the convenience of having internet access, as well as social media applications that allow people to do a range of activities whilst being on-the-go. This shows that smartphones equipped with a constant connection to the Internet has become an integral part of the society's life and has undoubtedly made their lives more convenient.

The telecommunication market in Brunei is small: there are only two mobile telecommunications companies currently established, namely, Datastream Technology Sendirian Berhad (DST) and, Progresif Cellular Sendirian Berhad (PCSB). DST has been in the market for over two decades since its establishment in 1995 and PCSB, previously named B-Mobile, was initially a subsidiary of Telekom Brunei Berhad (TelBru) that was later acquired by Darussalam Assets in late 2014 (Oxford Business Group, 2016; Borneo Bulletin Yearbook, 2018). DST and PCSB are constant contenders in the mobile telecommunications sector, though, DST still continue to prevail as the most dominant mobile service provider (Oxford Business Group, 2016; Borneo Bulletin Yearbook, 2018).

It is needless to say that with the continued improvements in smartphones along with the rapid growth of the Internet, there has been a decline in the usage of both phone calls and short message service (SMS) by the consumers of these telecommunication companies. The two aforesaid innovations have brought about a significant impact on user usage pattern. There are approximately 4 billion internet users and more than 2 billion active social mobile users globally (We Are Social, 2018) while in 2015, there were only about 1.8 billion smartphone users (Statista, 2016). It is suggested that the changes in user usage pattern were largely contributed by the increasing popularity of instant messaging applications (IM) that appear to replace the use of SMS (Church et al. 2013).

The advancements of smartphones highly supported the use of various instant messaging applications such as WhatsApp, LINE, Telegram, Facebook Messenger, Viber, to name a few. These instant messaging applications offer a multi-function feature that is more favourable to users than the traditional SMS and phone calls; indirectly changing the user preference over time. More importantly, these IM applications are free and convenient to use where it only requires an internet connection (Anderson, 2016). As of December 2017, WhatsApp is the most used IM application globally (We

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