Chapter 12
New Business Development Strategy of Telecommunication Operators Based on a Smart Energy System:
Case of KT-MEG (Enhanced)

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ABSTRACT

This research studies the case of KT to see how a mobile operator expanded beyond its existing offerings to new smart energy business based on digital technology. Details were analysed specifically on how the business was developed, why the smart energy service was started, and what the success factors were. KT's smart energy business (KT-MEG: KT Micro Energy Grid) utilizes ICT to resolve energy issues such as global climate change and energy consumption growth. It also provides growth opportunities for KT with its KT-MEG platform. The authors analyze that KT was able to leverage sustainability as a new growth engine by developing new businesses to differentiate customer experience, create effective organization structure, and generate business impact in addition to application of latest ICT technologies such as artificial intelligence, IoT (internet of things), and big data. The results provide a good guideline for business transformation of ICT firms in the era of Industry 4.0.

INTRODUCTION

Telecommunications operators around the world are contemplating and competing intensely to secure new growth engine for future revenue (Y. Kang et al., 2010). As mobile markets become saturated, adding

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subscribers into operators' networks is becoming much more difficult while regulatory pressure from the governments to drive the price down are limiting operators' profitability. Hence, the operators are endeavoring to expand beyond the traditional telecommunications business to new business opportunities via means such as M&A (Mergers and Acquisitions) and investment in new technologies (Jang, 2017). Examples include operators from a diverse range of markets. Verizon, a telecommunications operator in the United States of America, acquired online contents firm AOL (America Online) and internet business, Yahoo. AT&T, another telecommunications operator in the United States of America, acquired Direct TV and Time Warners. Softbank from Japan acquired a semiconductor chipset design company ARM. China is no exception where all three operators (China Mobile, China Unicom and China Telecom), invested in non-telecommunications firms such as Alibaba and in new technologies such as Internet of Things and Artificial intelligence. The industry is rapidly changing, which is especially highlighted in the mentions of a merger between T-Mobile and Sprint in the USA. The merger does not merely grow the scale of the companies but also enables the merged firms to acquire competence to prepare for the future (Deloitte_Consulting, 2018).

Korean operators (SK Telecom, KT, and LG Uplus) are no exception to this trend as they face saturation of revenue after explosive growth in the data traffic due to the adoption of smartphone. For example, the ARPU (Average Revenue per User) of the companies reduced from 2016 to 2020. SKT's ARPU fell from USD 31.33 to USD 26.82, LG Uplus' fell from USD 31.60 to USD 27.40, and KT's fell from USD 31.07 to USD 28.31 (Source: Investment Relations Presentations from respective companies).

Therefore, Korean operators are attempting to expand beyond its conventional mobile communications business to develop a new growth engine. Indeed, Korean operators have already acknowledged the importance of climate change (e.g., [1]risk of blackout in hot summer seasons, [2]Paris Agreement, policy support for renewable energy) and have been pushing the business of smart energy forward among many new business development candidates.

The smart energy business developed by Korean telecommunications operators is distinct from traditional energy demand businesses, where SI (Systems Integrator) firms replace large energy consuming equipment with highly efficient equipment, replace filament lamps with LED (Light Emitting Diode) lights and deploy energy management systems in venues such as offices and factories. This is because Korean telecommunications operators can leverage ICT (Information and Communications Technology) infrastructure, already owned by them, and exploit the full potential of ICT (Jeong et al., 2013). It is therefore remarkably interesting to investigate the cases of Korean operators where sustainability becomes a potential growth opportunity rather than a mandatory obligation to comply.

Therefore, this paper studies the case of KT, which is driving the most innovative energy service based on ICT in Korean market and exhibiting noteworthy performance, called KT-MEG (KT's Micro Energy Grid). We conducted in-depth with staffs in the product owner organization, R&D organization and management support organization that are affiliated with KT-MEG. This is to identify the unique characteristics, the performance, and the key success factors of KT-MEG. The three research questions below will be answered in this case study:

1. What differentiation of customer experience does KT-MEG provide?
2. How did KT operate its organization to develop KT-MEG?
3. Why did KT enter traditional energy demand market with its new ICT-based energy technology among many other possibilities?