

# **Disruptive innovation in public sector**

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## **Abstract**

This is a concept paper that aims to review innovation and disruptive innovation in public sector, while there is very limited study on disruptive innovation in public sector. Generally, disruptive innovation deals with information and communication technology (ICT) and online service, in addition to create 'disruptor' and 'disruptee'. We chose UTMSPACE as a case study and found two major disruptive innovations being implemented. First, apply online services in learning and administration process. Second, develop private wing or partial privatization in order to support financial sustainability of Universiti Teknologi Malaysia (UTM). Public sector is encouraged to develop innovation culture as well as to participate actively in competitions on innovations, for instance the ones organized by the International Convention on Quality Control Circles (ICQCC).

Keywords: Disruptive innovation, public sector, online services, partial privatization, innovation competition.

Many literatures on innovation in private sectors were written globally, as compared to the public sector (Demircioglu and Audretsch, 2016; Brown and Osborne, 2012). Due to the fact that innovation in private sector ‘fulfils’ all the characteristics of innovation; that relates to producing of new things, being able to make changes, and dominate the market by promoting new products, as listed by Kotsemir et al. (2013) based on numerous literatures on concept of innovation. Ernst and Young LLP (2017) however justify the important of innovation in public sectors as to optimising resource allocation, becoming competitive advantage especially in attracting Foreign Direct Investment (FDI), develop credibility of the government that keep pace with knowledge and technology progress, attract and retain best talent, and enable the private sector to innovate and meet their goals.

Comprehensive reviews on innovation in public services by Gallouj and Djellal (2010) and Fagerberg (2004) found that studies on innovation in the context of public service can be perceived in two contexts; technology and non-technology. At the same time, technology innovation do occurs in public services as well. The technology context usually refers to the communication and information technology as reviewed by Miles (2005) and Scupola and Zanfei (2016). Research from a non-technology perspective is quite limited to architectural-based services by Djellal and Gallouj (2008), and healthcare by Omachonu and Einspruch (2010). Besides that, there were also researches on conditions and strategies that enhance the likelihood of organizational innovation in the context of the public sector (Demircioglu and Audretsch, 2016; Sahni et al., 2013).

When the term ‘innovation’ was created around the 1930s, innovation was divided into radical (‘big innovation’) and incremental innovation (‘small innovation’). It was later divided into four categories; incremental innovation, modular innovation, architectural innovation and radical innovation (Abd Hamid, Khair and Muhamad, 2010; Narayanan, 2001). On the other hand, the concept of disruptive innovation has been proposed in 1995 (Bower and Christensen, 1995), among others are supported by Christensen, Raynor and McDonald (2015). There is a very limited body of literature available that covers on disruptive innovation in public service, other than a conceptual paper on general model for public sector services by Eggers et al. (2012), on healthcare and rehabilitation by Brooks (2014) and on university and higher education by Christensen and Eyring (2011).

As explained by Christensen (2017), if the cell phone is a ‘disruptor’, the fixed line phone is ‘disruptee’, and disruptor is not necessarily something radical. Another example, if community colleges are disruptors, four-year colleges became disruptees. Hence, disruptor disrupts disruptee that has been used or implemented previously. Internet is the best example of disruptive innovation. This is supported by Christensen and Raynor (2003). Isenberg (1999) even described internet as ‘mother of all disruption’. Many do not realize that the internet and the World Wide Web (WWW) as disruptive innovation was started in the public sector, namely the Defense Advanced Research Projects Agency (DARPA) based in Virginia, USA and the European Organization for Nuclear Research (CERN) based in Geneva, Switzerland (Mulgan, 2014).

Hence, disruptive innovation could be easily represented by online system and application, as the disruptive nature of internet stood up with ‘technological core’ that have transformed the world’s history in various fields. In other word, it similarly could be represented by ‘paperless’ concept instead of manual orientation for the sake of efficiency and resources saving. Without doubt, it is affected by the rapid growth of information and communication technology (ICT). In conclusion, disruptive innovation should be having a core value of disruption in disrupting the previous practice and element in the organization, and generally it has a ‘technological core’ that related to ICT, and Industrial Revolution 4.0 (IR 4.0) for the following years.

As a case study, UTMSPACE, a business branch of Universiti Teknologi Malaysia (UTM) could be an example of disruptive innovation in public services, particularly in public university. UTMSPACE promotes online learning or particularly blended, began as non-IT organization and nowadays as IT organization. UTMSPACE also promotes lifelong learning practice, as early days as an office that administered lifelong learning programmes, and nowadays as a school of lifelong learning through Public University Private Wing (PUPW) model and partial privatization of UTM. This is in line with Malaysia education policy in Malaysia Education Blueprint (Higher Education) 2015-2025, so that Malaysia could become nation of lifelong learners and main education hub in Southeast Asia.

UTMSPACE began in 1993 as a school for professional and continuing education of UTM and was given the responsibility to manage UTM franchised degrees at different private colleges all over the country starting 1996/1997 academic session. After a decade, UTMSPACE was awarded ASEAN Technology Business Review Award (Excellence in Education Sector) (in 2007) and became Champion (Management category), 6th Innovative and Creative Group Convention for Malaysia Public Universities (in 2010). In June 2016, UTM reintroduced full time diploma programmes through the Public University Private Wing (PUPW) model, becoming the first public university in Malaysia to offer full time diploma programmes in such implementation.

The UTMSPACE contributions to UTM are, a) supporting UTM in widening higher education access to the masses, to increase knowledge and enhance skills, at once to upgrade the education level, b) promoting the lifelong learning agenda, as some of the students are retirees and senior citizens, c) developing financial sustainability of UTM, and within 25 years, UTMSPACE has contributed over MYR105 million to UTM, through both direct and indirect contributions.

First major disruptive innovation in UTMSPACE is applying online system in its orientation; online application, online fee payment, blended learning, online students lesson record and online submission assignment. This is supported by Christensen and Eyring (2011) that online institution and learning tool are challenging the future of traditional universities. Second major disruptive innovation is the development of private wing or partial privatization in

order to support financial sustainability of UTM. The existence of ‘business branch’ has disrupted the role of ‘conventional office’ in administering lifelong learning programmes. This is probably influenced by market-driven dimension of global competition (de Haaan, 2015). Moreover, in the long run of partial privatization, the performance of state-owned bank improved profitability and efficiency (Rindyawati, 2013).

Innovation in civil service should pay attention to efforts in achieving outcomes influenced by government political factors (Daglio et al., 2015). This include to having financial sustainability like implementing partial privatization concept as coping strategy to the continued global economic uncertainties. For that, innovation competition among agencies could be organized in enhancing innovative thinking skills among staffs. A creative innovative group could be developed in each agency or office and then compete each other to represent the country for international level. Few innovation competitions that closed to public sector are organized by International Convention on Quality Control Circles (ICQCC) and Commonwealth Association for Public Administration and Management (CAPAM). Besides that, public servants also have chance to participate in International Invention Fair of the Middle East (Kuwait), International Exhibition of Inventions, New Techniques and Products (Geneva), and Seoul International Invention Fair (Korea).

Brilliant disruptive innovation cannot be achieved in just a day workshop. Therefore, innovation culture is a must to be developed in public sector in generating innovative ideas and strategies comprising disruptive innovation. Meanwhile, leaders with innovative thinking are significant enabler for that. Without doubt, disruptive innovation could give high impact to the public sector because of its essence of technology principally ICT besides IR 4.0 for the next phase. In addition to that, disruptive innovation is able to disrupt any inefficient conventional practice and governance. All of these changes are back to original public sector’s responsibility, which is to serve the nation better.

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