

# Chapter 17

## The Rate of Adoption in Households and Organizations: A Comparative Study

**Henrik Vejlgaard**

*Copenhagen Business Academy, Denmark*

### **ABSTRACT**

*The aim of this study is to investigate if households or organizations are faster in their adoption of an innovation. There does not appear to be existing research on this area of diffusion of innovations research. In this comparative study, the study object is digital terrestrial television (DTT), specifically the implementation of DTT in Denmark. By taking a service theory approach, DTT can be categorized as a service innovation. The rate of adoption is a concept in diffusion of innovations theory, which is used as the study's theoretical framework. For both units of analysis, three surveys were carried out. Based on the data, the rate of adoption for households and for organizations was established. It is clear that organizations adopt an innovation faster than households during the entire adoption process. Based on this research, a predictive model is constructed conceptually.*

### **INTRODUCTION**

Diffusion of innovations research has shown that organizations adopt innovations in a process that is different from individuals (Rogers, 2003, Chapter 10). However, we do not know if organizations are slow or fast in their adoption of innovations.

If we want to know if organizations as a whole are slow or fast in their adoption of innovations, we have to have another type of unit of analysis to which we can compare them. The only option we have if we want to find out if organizations are fast or slow with respect to adoption of innovations is to compare them to individuals or, as this study will do, to households. What has to be investigated is the rate of adoption, that is, the outcome of an adoptive process for both households and organizations for the exact same innovation in the exact same geographical area, at the same time, in the same culture. These requirements can be fulfilled by investigating the rate of adoption of digital terrestrial television (DTT) in Denmark.

DOI: 10.4018/978-1-5225-6367-9.ch017

The adoptive process is part of the diffusion of innovations discipline, which is a cross between sociology and communication research, or rather integrates both these disciplines in research. Diffusion of innovations (DOI) has been studied for more than a hundred years (Rogers, 2003, Chapter 2), resulting in a mainly empirically-driven science (Greenhalgh et al., 2004), based on quantitative research (Rogers, 2003, p. 196), and this study will also follow this empirical, quantitative tradition. Much of the research that took place in the 20th century has been summed up by Everett M. Rogers in his book *Diffusion of Innovations* (2003).

At first glance, DTT is likely to be categorized as a technological innovation. However, technology is not just technology: Technology is typically also part of something else: a product or a service. A clear analysis of the category that an innovation belongs to may give us more nuanced insights. This study will exemplify that—when studying technological innovations—a multidisciplinary approach to understanding the innovation may be meaningful. In this study, a service theory approach is introduced to correctly categorize DTT in an industry.

## **A SERVICE THEORY APPROACH**

Research has made it clear that DTT is not, as some might think, about technology, or rather, not just about technology (Vejlgaard, 2018). At first glance, because of the word digital, DTT could be assumed to be about a technological innovation. This will quite naturally lead to the understanding that the adoptive process of DTT is about technology diffusion. However, this may be a premature conclusion. While there is no doubt that, in technical terms, DTT is transmission of television signals as digital units (bits) through the air (Benoit 2008), this cannot lead to the conclusion that DTT in a diffusion context “automatically” is a technological innovation. Vejlgaard (2018) established that DTT is a service innovation, not a technological innovation.

With fluid and blurred boundaries between technology and service offerings, the perception of an innovation may also be open to interpretation legally. In the beginning of the 2010s many digital innovations were introduced, for instance, as apps. The Uber taxi company and the company’s drivers and customers may have viewed Uber as an app-based tech company but the European Court of Justice has determined that it is a transportation company, that is, a service company (BBC News, 2017). Therefore, it is important to analyze an innovation and put it into the correct industry and product category, and not just assume that an innovation is one or the other. This approach has been applied to research on cloud computing, which was viewed as “a technology and service innovation.” (Hwang, Huang & Yang, 2016). Service innovation is a subject in itself, a subject that is closely related to service theory, for instance, services marketing theory.

Services marketing is one of the disciplines that studies the service sectors and the service industries. Services marketing theory was established in the 1980s (John & Lee-Ross, 1998, p. 21) and in the 21st century has become a fully established field (cf. Grönroos, 2015). In services marketing, a service offering is typically thought of as a service package (see, for instance, Normann, 2007, p. 75; Grönroos, 2015, p. 206). There are several ways to describe service packages (for instance, Grönroos, 2015; Fitzsimmons, Fitzsimmons & Bordoloi, 2014; Lovelock & Wirtz, 2004). The Grönroos basic service package model has five elements: the core service; enabling services and enabling physical goods; enhancing services and enhancing physical goods. Enabling services and/or enabling goods are often required for the core service to be used by customers. Enhancing services and enhancing goods do not facilitate the consump-

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/the-rate-of-adoption-in-households-and-organizations/208806](http://www.igi-global.com/chapter/the-rate-of-adoption-in-households-and-organizations/208806)

## Related Content

---

### Development of Controllers Using Simulink and Contract-Based Design

Pontus Boström, Mikko Huova, Marta (Plaska) Olszewska, Matti Linjama, Mikko Heikkilä, Kaisa Sere and Marina Waldén (2012). *Dependability and Computer Engineering: Concepts for Software-Intensive Systems* (pp. 151-169).

[www.irma-international.org/chapter/development-controllers-using-simulink-contract/55328](http://www.irma-international.org/chapter/development-controllers-using-simulink-contract/55328)

### Establishing Academic-Industry Partnerships: A Transdisciplinary Research Model for Distributed Usability Testing

Amber L. Lancaster and Dave Yeats (2021). *Research Anthology on Recent Trends, Tools, and Implications of Computer Programming* (pp. 1286-1303).

[www.irma-international.org/chapter/establishing-academic-industry-partnerships/261079](http://www.irma-international.org/chapter/establishing-academic-industry-partnerships/261079)

### Quantum-Inspired Automatic Clustering Technique Using Ant Colony Optimization Algorithm

Sandip Dey, Siddhartha Bhattacharyya and Ujjwal Maulik (2018). *Quantum-Inspired Intelligent Systems for Multimedia Data Analysis* (pp. 27-54).

[www.irma-international.org/chapter/quantum-inspired-automatic-clustering-technique-using-ant-colony-optimization-algorithm/202544](http://www.irma-international.org/chapter/quantum-inspired-automatic-clustering-technique-using-ant-colony-optimization-algorithm/202544)

### Conceptualizing the Domain and an Empirical Analysis of Operations Security Management

Winfred Yaokumah (2019). *Handbook of Research on Technology Integration in the Global World* (pp. 304-330).

[www.irma-international.org/chapter/conceptualizing-the-domain-and-an-empirical-analysis-of-operations-security-management/208804](http://www.irma-international.org/chapter/conceptualizing-the-domain-and-an-empirical-analysis-of-operations-security-management/208804)

### Wavelet Energy-Based Adaptive Retinex Algorithm for Low Light Mobile Video Enhancement

Vishalakshi G. R., Gopala Krishna and Hanumantha Raju (2023). *Novel Research and Development Approaches in Heterogeneous Systems and Algorithms* (pp. 16-39).

[www.irma-international.org/chapter/wavelet-energy-based-adaptive-retinex-algorithm-for-low-light-mobile-video-enhancement/320122](http://www.irma-international.org/chapter/wavelet-energy-based-adaptive-retinex-algorithm-for-low-light-mobile-video-enhancement/320122)