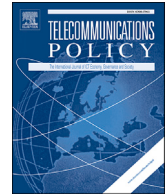


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# Telecommunications Policy

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## Dimensions of broadband policies and developments

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### ABSTRACT

There is a continuous discussion on the development and comparison of broadband infrastructures and broadband strategies of different countries and regions around the world. Is the US ahead of Europe, or is it the other way round, and how about East Asian countries? And, are there any policy reasons for it? The paper discusses three of the fundamental dimensions in broadband policies: Infrastructure vs. Service competition, regulatory vs. Developmental policies, and networks vs. Content prioritization. It examines the diverse combinations of these policy dimensions with respect to 7 countries in Europe, Asia and North America. The paper concludes that all three dimensions are found in the broadband policies of all the countries but that there are differences in the prominence of the dimensions in the individual countries.

### 1. Introduction

There is a continuous discussion on the development and comparison of broadband infrastructures and broadband strategies of different countries and regions around the world (e.g. Lemstra and Melody (eds.), 2014; Yoo, 2014). Is the US ahead of Europe, or is it the other way round, and how about East Asian countries? And, are there any policy reasons for it? Not only can various statistics be used and presented in different manners. There is also an on-going debate on the primary factors affecting broadband development. In this paper, three of the most important policy dimensions affecting broadband developments are presented and country examples are discussed. The policy dimensions are concerned with competition, state aid, and the relationships between content and networks. Other policy areas could have been included, for instance universal service policies (Falch & Henten, 2009). However, the policy dimensions included are deemed to be the most fundamental. The purpose is not to attempt to determine which policies or combinations of policies are the most successful. This will depend on the specific circumstances in the different countries. But there can be inspiration across borders.

The hitherto most debated issue regarding broadband development has been infrastructure (or facility-based) vs. Service competition (e.g. Bourreau & Doğan, 2004; Briglauer, Ecker, & Gugler, 2013). Is it best to prioritize infrastructure competition assuming that such prioritization will contribute to expanding and upgrading telecommunication infrastructures, as infrastructure competition in the end is the most sustainable form of competition? Or is it better to give emphasis to service competition aiming at bringing new operators into the field and counting on these operators to eventually invest in their own infrastructure? European countries have until a few years ago generally seen service competition as a way to promote take-up and a manner to build infrastructure competition in the long run, while the US relatively early in the development of broadband policies gave priority to infrastructure competition.

A second important factor is the emphasis on respectively regulatory vs. Developmental measures (Lemstra & Melody (eds.), 2014; Falch & Henten, 2015). Some countries have prioritized building a regulatory framework for the development of the telecommunication area without much direct public economic support for building infrastructures, while other countries have followed a developmental track with a higher degree of direct economic support for infrastructure expansion. Though the US actually has public programs for supporting infrastructure improvement and expansion, the US is often seen as an example of a country following a regulatory model,

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while countries in East Asia, for instance South Korea, to a larger extent have provided public economic support for infrastructure build-out and have followed a developmental track.

A third dimension is concerned with the priority given to network development vs. The use and application of network resources. In some countries, the implicit assumption has been that if networks are built, content, services and applications will follow. In other countries, public content, services and applications and public support for private content, services and applications have been given more emphasis. Japan could be seen as an example of a country that has focused most of its attention on expanding networks and increasing capacity and less attention on public content, services and applications (Igari, 2013). Some European countries, for instance Denmark, have to a larger extent given emphasis to developing public services.

In the paper, we will denote these three dimensions:

- Infrastructure vs. Service competition
- Regulatory vs. Developmental policies
- Networks vs. Content prioritization

All three dimensions are important for the development of broadband infrastructures and can be found in numerous varying versions and combinations in different countries. The US is generally considered as an example of a country combining infrastructure competition with a regulatory emphasis, and Japan is an example of a country following a strategy with a focus on infrastructure competition and a developmental policy. There is not a simple relationship between the three different dimensions.

In fact, all combinations based on the three dimensions are realistic. Some combinations may be more common than others, but they are all possible and can be found in actual combinations of national broadband policies and strategies. Furthermore, countries will combine, for instance, infrastructure and service competition in their actual policies – just as they may combine regulatory and developmental policies and network and content prioritization. It's not an either-or, but often a both-and. However, the weights assigned to policy choices along the axes of the three dimensions and to the dimensions as such will differ. Fig. 1 illustrates the three dimensions of broadband policies, and the policy combinations of the various countries will be situated in this three-dimensional 'space'.

The paper examines the strategic priorities regarding the three dimensions and discusses country examples and the combinations of policy dimensions of their broadband strategies. The aim of the paper is to build a conceptual framework for analysing and developing broadband policies in different countries. Emphasis is on policies and regulation. It is acknowledged that many other factors influence broadband developments, first and foremost the economic wealth of the countries in question and factors which broadband policies have none or very little influence on such as geography or educational level and distribution. The paper focuses on dimensions, which are influenced by broadband policies and regulation and which, therefore, are subject to some degree of change - taking policy inertia into consideration.

First, there is an overview of the basic trends in broadband policy discussions followed by an overview of literature on broadband developments with a policy focus. Thereafter, there is a section situating broadband policies in the general discussions on markets and policies with a focus on business development. Following this, the three dimensions applied in this paper are presented and discussed – with infrastructure vs. Service competition first, regulatory vs. Developmental policies second, and networks vs. Content prioritization last. Furthermore, there is a section, where combinations of policies relating to the three dimensions are analysed using country examples. Last, there is a conclusion summarizing country examples.

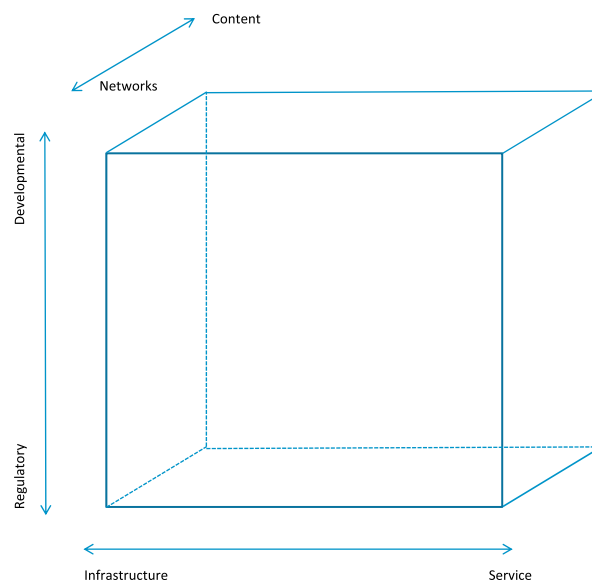


Fig. 1. Dimensions of broadband policies.

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