A Non-Economic Model of the Social Value of Network Policy

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ABSTRACT

To understand market dynamics relating to net neutrality better, in particular from the end-user perspective, this study examines consumer perception of neutrality and the public value under debate within the neutrality discussions. Focusing on the user perspective, it analyzes the policy effectiveness of current net neutrality by analyzing user perception and opinion. A value model is proposed to empirically test the policy effectiveness by incorporating factors representing net neutrality. The factors are drawn from people’s perceived concepts of net neutrality. The findings show that while competition and regulation are the two main factors constituting net neutrality, each of them influences the formation of attitude toward policy effectiveness differently. This study contributes to policymakers by increasing an understanding of market dynamics relating to net neutrality, in particular from the end-user perspective.

KEYWORDS

A Mixed Logit Model, Hierarchical Bayesian Model, Network Neutrality, Public Value Mapping, Q-method, Qualitative Policy Analysis, User-centered Policy Analysis

1. INTRODUCTION

KT, Korea’s leading fixed-line operator, decided to restrict the usage of smart TVs, as they consume 5 to 15 times more data and, in the case of real-time streaming, hundreds of times more data. KT argued that blocking smart TV traffic is inevitable in order to protect Internet users and maintain market order. Samsung, a smart TV manufacturer, countered that KT’s blocking violates the network neutrality principle, which says that Internet service providers (ISPs) should not discriminate between Internet traffic, and that there needs to be an objective verification into its allegations that smart TVs cause excessive data traffic. A similar incident occurred when Kakao, a mobile messenger provider, began a free mobile VoIP service using a wireless network. This move sparked vehement opposition from mobile carriers who fear the increase in data traffic and loss of profits that would likely occur from the widespread adoption of this service by Kakao Talk’s existing 46 million users. These worries are manifesting into a regulatory dispute between mobile service providers such as SK, KT, and LG U+ on one side, and providers of mobile VoIP services like Daum’s, MyPeople, and Kakao VoiceTalk on the other.

These series of incidents concern net neutrality, which is a hotly debated issue subject to regulatory and judicial contention among network users and access providers (Kim, 2011; Shin, 2016). In fact, the net neutrality debate has emerged over the last several years, but the intensity of the debate has
elevated discussion to the political level, where competing conflicts of interests are difficult to resolve. Korea is struggling with the rising debate over net neutrality, as a consistent framework is yet to be established. For example, in response to the Kakao incident, the Korea Communications Commission (KCC) made a rule that authorities have to come up with a basic guideline for reasonable network management. However, this new rule would allow Korean telcos to discriminate not only against mobile VoIP such as Voice Talk, but also against peer-to-peer technology that is being widely used in Korea for online broadcasting and downloading software patches. Until now, the government has not properly addressed the issue, foreshadowing more hurdles with the emergence of net neutrality. This anomaly has rendered chaos and confusion among stakeholders, in a situation in which there is an ongoing debate but the gap among them has deepened. Considering the ongoing struggles, it is imperative for Korea to clarify the issues and resolve possible conflicts before net neutrality is fully applied.

In light of the turmoil and uncertainty, this study proposes a conceptual model of net neutrality, drawing data from different stakeholder groups. Unlike previous studies that have mainly focused on macro issues, in this study, net neutrality issues are closely investigated from the perspective and perception of the citizens. Despite its intensifying growth and importance, net neutrality has not yet captured public participation and understanding. This is likely reflective of the lack of public awareness, as well as of the way in which both the concept and policy are posited and discussed (Krämer & Wiewiorra, 2015; Quail & Larabie, 2010). The degree to which and the nature of the way in which net neutrality theory and policy are addressed, and the way the public understands the issue, are significantly under-examined in current scholarly research, as well as in real-life social discussions (Shin, 2016; Strover, 2010). Realizing this gap exists, the present study focuses on user perception and attitude towards net neutrality to conceptualize a user-based policy approach. Focusing on consumers’ understanding and conceptualization of net neutrality, it explores how consumers’ perceptions of neutrality influence the debate of net neutrality.

The variety and multi-faceted nature of policy analysis makes it clear that there is no single, let alone best, way of conducting policy design and analysis. The results of the study would confirm the validity of the approach, as well as shed further light on the possibility of a value-centered approach in policy analysis. This goal is well aligned with recent approaches in policy research. As Nam et al. (2011) argue, policies formulated by governments should be based on the customer’s perspective, that is, on how consumers feel about net neutrality policy, what current stakeholders believe about the issue in specific contexts, and what the impact of net neutrality will be. This argument is consistent with user-centered policy design and evaluation (Jaeger, 2008; Sidak, 2006; Wellstead, Stedman, & Howlett, 2011). Jaeger (2008) argues that the user-centered approach offers a vital way to discover insights where conflicting interests are tangled. As technologies advance, complexity soars, and understanding the intricacies of how different stakeholders interact is a key concern. As Cheng et al (2012) and Shin (2016) equally argue, it is important to investigate how different stakeholders perceive value, how their beliefs are formed and developed, what cognitive perceptions are embedded in the issue, and what factors determine consumers’ attitudes toward net neutrality.

To analyze the role of public values in shaping the net neutrality debate, this study attempts to investigate how do consumers value net neutrality, how different stakeholders perceive value, how their beliefs are formed and developed, what cognitive perceptions are embedded in the issue, and what factors determine consumers’ attitudes toward net neutrality.

Through multiple analytic methods, this study uses diverse sources to collect useful data points that help to expose the public values of various people in the net neutrality discussion. This study approaches the topic from various perspectives, using both qualitative and quantitative research methods, in order to provide deeper analysis. Through the public value model, it can draw implications for managerial and policy issues based on the identified factors and model. This model has the ability to reveal underlying factors critical to net neutrality acceptance, which will, in turn, be instrumental to managerial and policy issues. The dissected factors of net neutrality reveal not only how the factors
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