



University of
Pittsburgh

School of Computing
and Information

Dissertation Defense
Doctor of Philosophy in Telecommunications

“Telecommunications Policy, Regulation, and Enforcement – A Retrospective of FCC Adjudication”
by **J. Stephanie Rose**

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RSVP: [Complete this form](#)



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Abstract:

Often when telecommunications are discussed, the focus is on policies, management, and challenges on how to adapt the existing regulatory framework to meet the needs of emerging innovative technologies. More often than not, specific areas of telecommunications are more widely debated than others (i.e., radio spectrum). However, the FCC’s regulatory authority covers various facets of equipment, authorizations, services, and infrastructure. This research elucidates the FCC’s processes for resolving numerous telecommunications matters that fall under their purview. The proceedings collected can range from antenna outages which affect Federal Aviation Administration (FAA) operations, spectrum interference which can compromise radio operations, obscenities/indecency over broadcasts that offend our society, defrauding the E-RATE program limiting technologies and services in underserved communities, nonpayment into the Universal Service Fund which hinders the affordability of phone services in rural areas, and robocalls – an over burdensome nuisance to everyone- are just a few of the violations that fall under the FCC’s purview. Much of the literature concerning the perspectives on how the FCC should regulate or de-regulate delves into the aspects of how the policy affects industry but does not specifically identify how enforcement occurs or what telecommunications adjudication entails. It has also been purported that the FCC’s regulation may be outdated and inefficient as telecommunications have advanced since the agency’s inception in 1934. In a nation that relies heavily on telecommunications services and infrastructure that provide everyday resources, it is imperative to better understand what the enforcement of telecommunications means. In addition to collecting observations from the FCC EB website, the subsequent creation of a dataset was accomplished, as well as quantitative, qualitative and GIS analyses were performed. In summation, predictive modeling is leveraged as a forecasting mechanism to investigate what violations may be prevalent in the near future. This is a first-of-its-kind approach to better understanding the telecommunications landscape as it pertains to violations that have occurred in the U.S. from 1999 to 2019. Results indicate that there are more harmful actions than pirate radio occurring within the telecommunications landscape, and output from the predictive model indicates that some of the lesser discussed challenges are expected to intensify further as we welcome a new amalgamation of technologies and services in what has been forecast as the fourth industrial revolution.