**Thesis Proposal**

Analysis of Niche Communities in ZDF Mediathek

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**Introduction**

ZDF is one of the biggest publicly funded German broadcasters, each German citizen must pay a monthly fee. While the ZDF needs to stay profitable, it has the obligation to provide the user with a good content. In the ever more competitive market ZDF has to provide the best fitted content to each group of users. These similar taste groups can be defined as taste clusters. The taste clusters solve a functional problem for the ZDF, how to manage an ever-increasing audience made up of “niche” audience groups. By analyzing user behavior and generating insights using algorithms each user will be provided by the most appropriate content. What features defines these “niche” communities? The goal of this thesis is to identify niche communities if any, in the ZDF dataset.

**Research Question**

Are there any niche taste communities within ZDF?

This question can have follow up sub-questions:

* What is a niche taste community?
* Can we identify them in the ZDF dataset?
* What features do niche taste communities in ZDF have?

**Theory**

The first use of the word niche was to refer to an animal's ecological position in the world was in a short paper by Joseph Grinnell. Grinnell referred to the "ecological or environmental niche" as the ultimate distributional unit of one "species or subspecies”. (Vandermeer, 1972)

The wide adoption of streaming services in some countries has escalated the scale of audience fragmentation. Fragmentation has been a strong trend since the 1990s and arguably warranted adjustments to television’s presumed status as a mass medium for some time. (Lotz A. , 2021) The ability of niche media to reproduce cultural power in the manner of mass media has not been significantly contemplated ( (Lotz, The Television Will Be Revolutionized, 2014); (JG, 2014) 2014), thus making it difficult to assess contemporary television in a manner consistent with the earlier scholarship. Described elsewhere as a ‘conglomerated niche’ strategy ( (Lotz, Portals: A Treatise on Internet-distributed Television, 2017)), Netflix uses the affordances of Internet distribution that allow its millions of subscribers nonlinear access to different programs at self-appointed times so that it can be different things to different subscribers. Colwell and Futuyma (1971) estimated niche breadth by measuring the uniformity of individual distribution among a set of resource states. (Dolédec, 2000)

This is why it is important in to create niche communities for the users to aid them finding the correct content through the massive information that ZDF has.

**Methods**

The approach and methods are dependent on what information is going to be available.

To identify the niche communities and their features different methods will be used.

To cluster the users unsupervised learning methods will be used, which means there will be no prior labels for the clusters and the algorithms will create topics with some similarities of personal reference. A Method that might be used is k-means clustering, first identify some similarities in the dataset and set the number of clusters which each observation belongs to. Closest users will be included together, with this technique we identify niche communities based on some features. Another method is Hierarchical Clustering to create the clusters for the users, the main advantage is that the number of clusters does not need to be specified prior, but during the process. Additionally, dendrograms provide an intuitive way of visualization. Methods like Principal Component Analysis, PCA, is a multivariate statistical technique that uses orthogonal transformation to convert a set of correlated variables into a set of orthogonal, uncorrelated axes called principal components (James & McCulloch 1990; Robertson et al., 2001; Legendre & Legendre 1998; Gotelli & Ellison 2004). (Liu, 2007) It is used to articulate the major dimensions of variation in the data and might show similarity/dissimilarity relationships among top interest features.

**Discussion**

The biggest question that needs to be answered is finding niche communities and the features they hold if any. This will help ZDF provide better material to those communities and users will have pleasant experience using ZDF. Additionally diversity is a value that needs to be considered, especially while creating niche communities allowing user to access broaden content. Another idea when the dataset is available is to use text analysis techniques, to cluster the users.

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