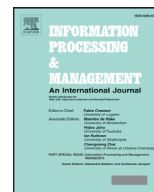


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An investigation of the levels of abstraction of tags across three resource genres

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ABSTRACT

This study investigates how resource genres affect the specificity or level of abstraction of user-generated tags. This study found significant variations in frequency of assignment of superordinate, subordinate and basic level terms representing news, blog and ecommerce resource genres. Study observed users' preferences to represent news and blog resources with basic or subordinate level tags and ecommerce resources with superordinate and basic level of tags. Study also observed multifaceted representation of resource genres, suggesting that use of genre tags is "situated" and grounded in language. This study suggests that representation of knowledge based on resource genres and levels of abstraction of user-generated tags may improve representation, organization, and findability of the resources in the distributed knowledge environments.

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1. Introduction

Despite the challenges inherent in the rapid increase in the number of online resources with regard to navigation and findability of the resources, social applications, and in particular social tagging systems, have empowered users to actively engage in knowledge representation, organization and creation in the digital environment. Social tagging systems, such as Delicious and Flickr, provide opportunities for billions of users to contribute to metadata creation that would be impossible using traditional systems of knowledge organization and representation. In this regard, [Sen, Harper, LaPitz, and Riedl \(2007\)](#) have pointed out that "in 200 years of existence, the Library of Congress has applied their expert-maintained taxonomy to 20 million books ...[, whereas] in just four years, Flickr users have applied their ad hoc tagging vocabulary to over 25 million photographs" (p. 361). However, while the scale of users' contribution is quite impressive, there is still question as to the extent to which user-generated tags are effective in resource findability and retrieval, and in particular whether specificity or levels of abstraction of assigned tags vary across diverse resources. A number of studies have suggested that resource genre may facilitate access to online resources as well as help users to make judgments regarding a resource's relevance to an information need (e.g., [Rosso, 2008](#)). However, studies of user-generated tagging vocabularies have yet to investigate whether user-generated tags vary across resource genres, which is the goal of this exploratory study.

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2. Literature review

Researchers have studied and defined genre from several disciplinary perspectives, including rhetoric (Jamieson & Campbell, 1982), linguistics (Askehave & Swales, 2001; Bhatia, 1993; Schryer, 2002), anthropology (Hanks, 1987), media (Corner, 1991; Neale, 1995), psychology (Mandler, 1984) and information science (Crowston & Kwasnik, 2003; Montesi, 2010; Montesi & Navarete, 2008; Rosso, 2005). In rhetoric, for example, Jamieson and Campbell (1982) define genre as a “dynamic fusion of substantive, stylistic, and situational elements ... that are strategic responses to the demands of the situation and purposes of the rhetor” (p. 146). Elaborating on this definition, Miller (1984) describes genre as a “conventional category of discourse based in large-scale typification of rhetorical action; as action, it acquires meaning from situation and from the social context in which that situation arose” and thus is a “rhetorical means for mediating private intentions and social exigence; it motivates by connecting the private with the public, the singular with the recurrent” (p. 163). In this way, she argues, learning about genre serves the purpose of helping people understand and gauge their involvement in various social situations.

From a linguistic perspective, Swales (1990) defines genre as a “class of communicative events, the members of which share some set of communicative purposes” (p. 58). Whereas Miller (1984) contends that genre represents shared knowledge of situational types, Swales argues that communicative purposes are shared among members of a given “discourse community” and “constitute the rationale for the genre” (p. 58). Based on his study of sixteenth-century official Mayan documents such as letters, chronicles, land surveys, and agreements, Hanks (1987) argues that genres “derive their thematic organization from the interplay between systems of social value, linguistic convention, and the world portrayed” (p. 671), that is, they are “grounded in social practices of production and reception, rather than having an independent existence of their own” (pp. 676–677). Thus, Hanks finds that genres are “open-ended and only partially specified” (p. 688), with the source of this open-endedness residing in the “process of reception” or “‘social evaluation’ of discourse, namely how it [is] ... interpreted by contemporaries and descendants” (p. 688). Hanks’s notion of genres is closely aligned with Bakhtin and Medvedev’s (1985) conceptualization of genre as an “aggregate of the means for seeing and conceptualizing reality” (p. 137). Through the lens of Bakhtin’s (1986) theorization of genres as kinds of practice: Various genres correspond to various “conceptions of the addressee” and are “determined by that area of human activity and everyday life to which the given utterance is related” (p. 95). Bakhtin also points out that “text lives only by coming into contact with another text (with context)” (p. 162). For Bakhtin, contact with another text is a “dialogic contact between texts (utterances) and not a contact of ‘oppositions,’ which is possible only within a single text (and not between a text and context) among abstract elements (signs within a text), and is necessary only in the first stage of understanding” (1986, p. 162). Bakhtin introduces the notion of *heteroglossia*, which ensures the prevalence of context over text and serves as a ground for understanding the meaning of any utterance. For Bakhtin, certain features of language (lexicological, semantic, syntactic) will knit together with the intentional aim, and with the overall accentual system inherent in one or another genre: oratorical, publicistic, newspaper, journalistic ... Certain features of language take on the specific flavor of a given genre: they knit together with specific points of view, approaches, forms of thinking, nuances and accents characteristic of the given genre (Bakhtin, 1981, p. 289). Thus, genre not only intertwines with language but also provides a framework that facilitates communication (Hajibayova & Jacob, 2014).

Information science genre studies are drawn mainly on Yates and Orlikowski’s (1992) conceptualization of genre (e.g., Crowston & Kwasnik, 2003; Lee & Zhang, 2013; Montesi & Navarete, 2008). Applying the assumptions of the theory of structuration – that the production, reproduction, and transformation of social institutions are enacted through the use of social rules by individuals – Yates and Orlikowski (1992) contend that organizational communication is “part of an embedded social process that over time produces, reproduces, and modifies particular genres of communication” (p. 323) (see also Hajibayova & Jacob, 2014). Orlikowski and Yates (1994) point out that along with the purpose, genres are recognizable by form or “readily observable features of the communication” (p. 544). Moreover, some genres have such an idiosyncratic form and purpose that it is sufficient to identify them by an instance. For example, IRS 1040 returns have definitive purpose of declaration of tax liability and distinctive form with specific fields and instructions (p. 544).

However, the resource genre is also tied to the medium and its affordances (Dillon & Gushrowski, 2000), specifically, in the web environment, wherein lack of institutionalized control and constant introduction of new web technologies result in the variability and dynamism of the web that affect the genre system and its understanding (Santini, 2007). While most of the web genres are reproduced (or borrowed) from other media and adapted to the affordances of the new medium, there are also the emergent and unclassified web genres (Crowston & Williams, 2000). Taking into consideration the dynamic nature of the web environment, Santini (2007) suggests that web genre identification should be flexible and account for genre individualization (i.e., no-genre identification) and hybridism (i.e., multi-genre identification).

Based on the various conceptualizations that abound in the literature, this study defines web genre as a dynamic and fluid type of online resource that is recognizable by a group of users who share a set of expectations for or mental model of a resource based on its form, purpose, and content.

2.1. Studies of genre tags

Researchers in information science have suggested that genre may have implications for knowledge representation and organization (Andersen, 2008; Crowston & Kwasnik, 2003; Lee & Zhang, 2013; Roussinov et al., 2001) and information

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