JOURNAL OF COMPUTER-MEDIATED COMMUNICATION

Journal of Computer-Mediated Communication

"What is, Becomes What is Right": A Conceptual Framework of Newcomer Legitimacy for Online Discussion Communities

Silvia Elena Gallagher Timothy Savage

CRITE, School of Computer Science and Statistics, University of Dublin, Trinity College, Dublin, Ireland

Online community newcomers can face challenges in community participation, acceptance and fostering member relationships. Consequently, a crucial behavioral strategy for community acceptance identified by previous research is legitimacy. However, current conceptions lack classification and structure, and have a narrow focus. A broader scope for investigating legitimacy is needed for improved theoretical and practical application. This research expands on newcomer legitimacy by classifying newcomer behavior in 4 parenting and cycling discussion communities using directed content analysis. The analysis developed a newcomer legitimacy conceptual framework with categories including geographical, contextual, cultural, testimonial, lurking and external legitimacy. This research offers a valuable contribution by classifying existing theory, developing new theory, and providing a conceptual framework to guide future studies of newcomer behavior.

Keywords: Online Community, Newcomers, Legitimacy, Conceptual Framework, Directed Content Analysis, Social Role.

doi:10.1111/jcc4.12122

Introduction

Researching user behavior in online communities is an essential activity for supporting, socializing and integrating members to these virtual environments (Angeletou, Rowe, & Alani, 2011). As a result of this, a diverse range of user behaviors have been investigated, including information process (Ahuja & Galvin, 2003), community responsiveness (Burke, Kraut, & Joyce, 2010), socialization (Farzan, Kraut, Pal, & Konstan, 2012), knowledge sharing (Godara, Isenhour, & Kavanaugh, 2009), and social expression (Chua & Balkunje, 2013). Analyzing these behaviors is a crucial task for understanding different online community user typologies, such as leaders, lurkers, questioners, trolls, and newcomers (Golder & Donath, 2004). A behavior that is of particular importance for understanding the integration and socialization of these user typologies is legitimacy. This research contributes a novel classification of online community newcomer legitimacy, and presents a conceptual framework of these classifications to better conceptualize and understand newcomers. This conceptual framework and its related classifications

Editorial Record: First manuscript received on May 20, 2014. Revisions received on October 29, 2014 and January 21, 2015. Accepted by Jennifer Stromer-Galley on February 10, 2015. Final manuscript received on February 16, 2015. First published online on April 21, 2015.

operationalize, broaden and support future newcomer analysis and help understand the interrelatedness of the classifications.

Legitimacy is defined as a social object consistent with cultural beliefs, norms, and values that are presumed to be shared by others in that situation. These social objects are constructed collectively and depend on a consensus among community actors; "What is, becomes what is right" (Johnson, Dowd, & Ridgeway, 2006). Simply speaking, something is legitimate if it is in accord with the norms, values, and practices accepted by a group (Zelditch, 2001). Researching legitimacy in the online community space has importance for interpreting the newcomer user typology, as these users must legitimate themselves to gain community acceptance. Presenting legitimating behavior can facilitate community responsiveness (Burke, Joyce, Kim, Anand, & Kraut, 2007) and enable newcomer integration.

Examining legitimacy can explain why some newcomers are ignored by other members, help facilitate positive newcomer-community interactions, determine strategies for community socialization, and consequently, help improve member retention and community satisfaction. Retaining and attracting newcomers is a key problem for moderators (Farzan et al., 2012), and investigating how newcomers must legitimate their presence within a community could explain why some communities fare better than others at retaining newcomers. Understanding newcomer legitimacy can also help develop services for newcomers that are finding difficulties in aligning with the community norm (Wyke Stommel & Koole, 2010), such as using trained volunteer socializers who are aware of positive community socialization behaviors (G. Hsieh, Hou, Chen, & Truong, 2013).

Current research on newcomer legitimacy in online communities has often focused on a narrow range of online communities such as illness support communities (McCormack & Coulson, 2009), Wikipedia (Fullerton & Ettema, 2014) and online fan communities (Whiteman, 2009). A broader understanding of newcomer legitimacy behavior in the online space is necessary for wider and improved theoretical and practical outcomes. This research analyzes online community newcomer legitimacy in a range of openly accessible personal interest discussion communities (as defined by Ridings and Gefen (2004)) and broadens the scope of newcomer legitimacy analysis.

Identifying newcomer legitimacy in an online community

Newcomers are often required to legitimate their membership of a community through community interactions with existing members (Lihua, 2010), and are more readily accepted when they express a particular value held by the group (Arduser, 2011). These legitimization interactions and behaviors can be identified through members posting about contextually legitimate topics (i.e. cycling in a cycling forum), describing their membership of the community (e.g. presenting evidence of lurking (Fayard & DeSanctis, 2010; Rafaeli, Ravid, & Soroka, 2004)), explaining their membership of the issue under discussion (i.e. 'I am a mother' in a parenting forum (Burke et al., 2010; Galegher, Sproull, & Kiesler, 1998)), demonstrating experience of another established community (Smithson et al., 2011), and presenting personal or testimonial information (Arguello et al., 2006; Burke et al., 2007).

By presenting legitimacy newcomers demonstrate to the existing community how they can bring value to the community, how they are a good fit for the community, and are worthy of community attention (Wang, Walther, Pingree, & Hawkins, 2008). If newcomers fail to legitimate their presence through positive interactions, they can be reprimanded, ignored or marginalized, and will fail to assimilate into the community. Many communities adopt a stance towards a certain orientation which if newcomers do not adopt they can be ignored or chastised (e.g. eating disorders should be cured and not celebrated (Galegher et al., 1998)).

Legitimacy in online communities has often been identified and investigated in online illness support/health communities, including depression (Galegher et al., 1998), eating disorder (Wyke Stommel & Koole, 2010; W. Stommel & Meijman, 2011) and breast cancer communities (Arguello et al., 2006).

These investigations found that describing diagnosis and illness experience was necessary for community membership and legitimacy (Armstrong, Koteyko, & Powell, 2011; Walstrom, 2000). There have also been investigations into legitimacy in Wikipedia and open source communities, which focused on the legitimation of leader behavior (Zhu, Kraut, & Kittur, 2012) and legitimacy and social realities (Fullerton & Ettema, 2014). Although research in these communities has helped theorize legitimacy, there has been less research in other types of online communities where claims to membership may not be as clear-cut. Previous research has highlighted the need to investigate legitimacy in different kinds of online communities (Galegher et al., 1998) and it is unknown if legitimacy can be conceptualized in personal interest discussion communities in the same way as previously researched.

The broad definition of discussion communities are communities dedicated to the exchange of information with reference to a defined topic (Stanoevska-Slabeva & Schmid, 2001). Although this definition could include both illness support/health and personal interest online communities, illness support communities are generally abstracted from more general discussion communities because of their narrow focus and occasional strict entry requirements. It is unknown whether these other community types validate existing legitimacy theory or could augment existing theories. A lack of online community legitimacy classification and synthesis has made it difficult to address this.

Classifying newcomer legitimacy

Existing theories on online community legitimacy and their application to the newcomer social role have yet been classified into a theoretical structure or conceptual framework. Building classification schema involves identifying phenomena of interest, partitioning these phenomena into meaningful clusters, and constructing a structure reflecting relationships among the phenomena (Kaplan, 1973). Classification is important for this burgeoning field as not only does it reflect and display theory in a useful way, but also explains and generates new knowledge (Kwasnik, 1992). One of the aims of this research is to classify existing theories of newcomer legitimacy, as well as identifying emergent categories through qualitative data analysis.

Current research has focused on three main areas of online community newcomer legitimacy: legitimacy derived from lurking behaviors (Baym, 1993; Galegher et al., 1998), legitimacy created by writing about legitimate (i.e. contextually significant) topics (Fayard & DeSanctis, 2010; Galegher et al., 1998), and legitimacy presented through personal testimonials (Burke et al., 2010; Dove, Eubanks, Panteli, Watts, & Joinson, 2011) (see Table 1). Writing about legitimate topics to create newcomer legitimacy

Table 1 Classification of Existing Online Community Legitimacy Theory

Category	Operationalization	Example from data
Contextual legitimacy	Content that relates directly to the context of the community (Fayard & DeSanctis, 2010; Galegher et al., 1998).	Baby, mother, parent, bike, cycling, trails.
Testimonial legitimacy		Can anyone recommend a good crèche. I have a 2 year old?
Lurking legitimacy	Content that refers to lurking and de-lurking (Baym, 1993; Fayard & DeSanctis, 2010).	Lurk, reading, logging on.

in an online community has been classified as *contextual legitimacy* (Galegher et al., 1998). This categorization was classified as such because this legitimacy was tied to the context of the community. A second classification, derived from the literature, was *testimonial legitimacy*. This legitimacy involves providing personal information prior to making community contributions. Both Galegher et al. (1998) and Arguello et al. (2006) identified this behavior as being successful for receiving community responses, and thus increasing legitimacy. A third classification, *lurking legitimacy*, describes how newcomers presented legitimacy through referencing types of 'lurking' behavioral statements (Galegher et al., 1998). In established communities, newcomers can lurk for periods of time prior to interacting. It is in these periods of lurking that newcomers learn community norms, language and structure.

Given newcomers are drawing interest from researchers because of how their behavior can impact on overall community development (Kraut, Burke, & Riedl, 2011), classifying legitimacy with these users in mind appears to be both warranted and necessary. Prior to analyzing online community legitimacy, it is necessary to conceptualize the newcomer role to understand why these particular users were investigated.

Conceptualizing online community newcomers

In practical terms, researchers have defined online community newcomers by their activity in the community (e.g. time period since registration, or total number of posts), and the term 'newcomer' can be conceptualized from the theoretical definition of a social role. Social roles are expected patterns of contextual behavior where rights and duties are attached to status (Biddle, 1979), and behavior is classified into meaningful categories (Barnes, Bauer, Neumann, & Huber, 2007). For example, in an online community, a "lurker" is expected to "lurk" and not post any content, a "questioner" is expected to "question," and a "newcomer" is expected to be "new" to the rules of the community. These online roles can be observed in communication content, patterns in social networks and user behavioral history. Ultimately, these social roles are a window into the underlying social structure of interaction (Bettencourt & Sheldon, 2001). They can help classify, compare, understand, and reduce the complexity of population behaviors (Barnes et al., 2007; Lerner, 2005). As online communities become more complex, and social life is embedded within online systems, social roles become valuable as a tool for simplifying systems of action, recognizing user types and cultivating communities (Gleave, Welser, Lento, & Smith, 2009). Categorizing online community users through social roles is beneficial as it helps monitor the relative proportions of community roles; large numbers of existing members but few newcomers could impact on community development. It is also helpful to users to have a better understanding of who other users are which can enable social interactions (Forestier, Stavrianou, Velcin, & Zighed, 2012).

Research into the newcomer social role originated in psychology and organizational theory, and much has been written on their assimilation into offline organizations (Jones, 1986; Morrison, 2002). However, although there are similarities between online and offline groups, it would be erroneous to automatically generalize theory between them. The concept of newcomers in an online community has been discussed by a wide range of disciplines including social role theorists (Viegas & Smith, 2004), community theorists (Kim, 2006), human-computer interaction theorists (Kraut et al., 2011), and social anthropologists (Lave & Wenger, 1991). For example, online theorists (Bryant, Forte, and Bruckman, 2005) have used Lave and Wenger's (1991) theory of legitimate peripheral participation to describe how in online communities of practice, newcomers move from being new community members to experienced members. HCI theorists, such as Kraut et al. (2001), describe the challenges of dealing with online newcomers and the importance of newcomer recruitment, retention, and selection for successful online community management. Social role theorists commonly use the term 'newcomer' to aid their understanding and classification of different roles within an online community. It is evident that the broad

investigation of newcomers across multiple approaches highlights its importance for current research directions.

These users have been characterized by behaviors such as questioning (Burke et al., 2010), supplication (Golder & Donath, 2004) and seeking information. These strategies are used to help them gain knowledge and awareness of the community's expectations (Han & Farzan, 2013). Although the research purports similarities between newcomer behavior, some classification has been developed which suggests the heterogeneous and complex nature of newcomers (Han & Farzan, 2013; Singh, Kathuria, & Johri, 2012). It is important to note this behavioral complexity could have an impact on newcomer legitimacy classification, whereby other behaviors could be intertwined with legitimacy behavior.

It is evident newcomers play an important role in community development, and investigating their legitimation strategies is a key concern for understanding, developing, and managing online community user behavior. The literature review has identified the importance of investigating newcomer legitimacy; current conceptions of legitimacy, although significant, lack classification and structure and have failed to address a broad range of online community types. Ultimately, analyzing how newcomer legitimacy is presented in a wider scope of online communities allows for improved generalizability and theoretical development.

Research Aims and Questions

This research has three major research aims. First, it aims to identify and classify existing theories of online community newcomer legitimacy via existing literature and emergent qualitative analysis. This classification aims to provide sensitizing categories of newcomer legitimacy which can help frame, guide and direct future research. Secondly, the research aims to support existing theories of legitimacy by examining them in newcomer data from four online discussion communities. Thirdly, it aims to determine whether new theoretical constructions of legitimacy can be identified and emerge from this data, via directed content analysis using these existing theories. In essence, the emergent analysis intends to explore how newcomers establish legitimacy themselves, and the directed analysis explores how newcomer legitimacy presents itself from a previous theoretically derived perception. The combination of these aims intends to identify how newcomers establish legitimacy in an online community.

Method

Qualitative directed content analysis

This research used directed content analysis to analyze legitimacy behavior in newcomers from four online discussion communities (see Figure 1). Content analysis is a method for analyzing written, verbal or visual communication messages to produce a condensed and broad description of a phenomenon, or to generate concepts used for building conceptual frameworks or theoretical categories (Elo & Kyngäs, 2008). It has been classified into three approaches; conventional, directed, or summative (H. Hsieh & Shannon, 2005), and the directed approach uses existing theory and prior research as structure for the content analysis. This approach has been used to validate or extend existing theory, or to augment incomplete theory.

In practice, this method uses existing theoretical concepts derived from the literature to frame thematic analysis and help determine initial coding schemes and coding relationships. These theoretical concepts are then identified, categorized, and operationalized within the text. After these concepts have been coded, both remaining text and previously coded text can be coded with new categories, or as a subcategory of an existing code.

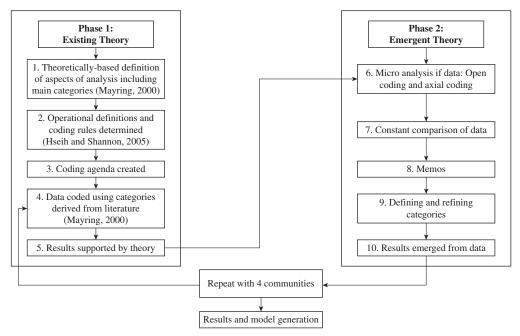


Figure 1 Directed Content Analysis Procedure

Identifying existing online community legitimacy theory

A literature review on online community legitimacy was conducted to direct the content analysis. This review used academic databases such as Scopus, ISI Web of Science, Science Direct, Google Scholar, and SpringerLink to search for peer-reviewed literature with keywords related to legitimacy and online communities (e.g. legitimate, legitimacy, online community). Literature of note was read and any potential categories were identified. These categories were developed by codifying existing research into coding frameworks, and formed the basis of the directed content analysis. The following existing theoretical concepts were codified by the authors and used to direct the initial content analysis: contextual, testimonial, and lurking legitimacy (see Table 1). Following the literature review and the classification of existing theory, newcomer data from four online communities were sampled.

Sampling

Active online communities were sought with daily new postings and threads, healthy traffic statistics, and substantial numbers of community members encompassing different roles. Communities were selected from four separate geographical bases (Ireland, Australia, Spain, and Canada) to mitigate any problematic cultural biases. The subject matter of parenting was selected for three communities as these communities are known for their abundant activity, good social interactivity, and high information dissemination (Appleton, Fowler, & Brown, 2014; Farquharson, 2011; Niela-Vilen, Axelin, Salantera, & Melender, 2014). The fourth community, NSMB, was selected as it also displayed high interactivity between users, an established user base, and provided a different subject matter than parenting to allow for greater generalizability of the analytical output.

Three parenting communities, SerPadres.es, MagicMum.com, and EssentialBaby.com, and one cycling community, North Shore Mountain Biking (NSMB.com), were sampled. Magic Mum (est. 2004)

Table 2 Online Communities Sampled for Legitimacy Analysis

Community Name	Magic Mum	Essential Baby	NSMB	Ser Padres	Total
Total Members(Sept 2014)	35,260	248,642	34,400	8,874	293,120
Sample of Newcomers	60	79	56	69	264
Analyzed					
Sample of Threads Extracted	173	116	63	110	455
No. of Threads With Coding	59	81	54	85	279
References to Legitimacy					
Total Posts Within Threads	1,422	645	184	708	2,959
Total Words	99,651	47,778	11,230	64,557	223,216

is an Irish parenting website focusing on mothers and expectant mothers, Essential Baby is touted as the largest online parenting community in Australia (240,000 members), and Ser Padres is a Spanish parenting community (est. 2009) that provides information and support in parenting topics. NSMB is a Canadian mountain bike website and community that discusses mountain bikes, and Canadian trails with over 34,000 members. The administrators of each community were contacted prior to data collection to ensure that no ethical standards were breached, and all data examples have been fully anonymized (see Table 2).

A sample of threads within a 3-month period by or contributed to newcomers were extracted from each community between August and December 2013. Newcomers were determined as users who had a registration date and had posted content 3 months or less from the time of extraction. The rationale for using time from registration date rather time from first posting was because it was suggested by Sonnenbichler (2009) and most other investigations into online community newcomers had used this variable (Choi, Alexander, Kraut, & Levine, 2010; Singh, Johri, & Mitra, 2011). The time period for sampling newcomers was determined through a qualitative reflexive analysis of the four online communities using detailed memos and qualitative matrices. This analysis determined that, in general, after 3 months newcomers were integrated into the community which was evidenced through their use of community specific language, adherence to community norms and awareness of community interaction protocols. 'Buy and Sell' style subforums were not included within the analysis.

Data Analysis

Posts and threads from newcomers were extracted and this text was coded with either pre-determined or emergent codes using NVivo 10. The aim of this coding was not to provide comparative quantitative results, but rather to provide sensitizing categories that could aid further development and guidance for examinations of newcomer behavior. NVivo software has been a successful facilitator of qualitative content analysis in many research projects involving online communities (Barney, Griffiths, & Banfield, 2011; Maor, 2007).

Data was first coded under the broad term "legitimacy," implemented via the structured operationalization of the term (see Table 3). The operationalization of legitimacy was constructed through definitions of legitimacy in the literature, for example, Galegher et al. (1998) conceptions of group and topic claims to membership legitimacy. After this initial coding, this data was recoded into subcategories either emerging iteratively from the data, or from the literature. As these new categorizations emerged, they were in turn operationalized in the coding framework for reference, continuity and structure, and iterative coding continued through the four online communities. The

Table 3 Operationalizing New Categories of Legitimacy in Qualitative Data Analysis

Category	Operationalization	Example from data
Legitimacy	Newcomer posts that gave information about group or topic based claims to community membership (Galegher et al., 1998). Introducing oneself; referring to one's experience and expertise; referring to lurking; welcoming new members (Fayard & DeSanctis, 2010).	I have finally joined EB and am expecting my first child. Looking forward to participating now that I have something to post about!
External legitimacy	Links to social media accounts (i.e. Twitter, Facebook, and Google+), personal websites/blogs and e-mail addresses.	For any of you quilters on the thread or sewers feel free to enter my giveaway that I am hosting on my blog at the moment.
Geographical legitimacy	Content including geographical locations and places.	Dublin, Canada, Brisbane, Whistler, North Shore Trails.
Cultural legitimacy	Identification of nongeographically specific cultural artefacts.	Colloquial language, national holidays, cultural artefacts.

data was coded multiple times and reflexive memos and matrices were used to organize and give a deep understanding of the concepts emerging from the analysis. In total, three additional categories emerged from the analysis. Table 3 describes the operationalization of each new emergent category.

Results

The results of the NVivo directed content analysis validated existing newcomer legitimacy theory, and augmented these theories with new conceptions of newcomer legitimacy. A total of 865 coding references across 279 sources were used to code six categorizations of legitimacy. Six categorizations of legitimacy were present in the data. The first three types of legitimacy were based on previous conceptions of legitimacy which arose out of the literature, whereas the final three categorizations emerged from the content analysis. The development and identification of these six categories address the primary research aim, and identifies how newcomers establish legitimacy in an online community, and how they are perceived by the community to establish legitimacy.

Contextual legitimacy

In order for newcomers to legitimate their presence, they needed to post content relative to this context (Galegher et al., 1998). Contextual legitimacy was exhibited by newcomers in all four communities through context-specific content in their postings (e.g. motherhood and cycling). Contextual legitimacy can also be linked to Fayard and DeSanctis (2010) understanding of legitimacy when newcomers referred to a previous post via quoting or discussion. Referring to the context of the community in their posts shows they are aware of the community discussion, and their post becomes grounded and legitimate in the eyes of others. Each posting categorized as contextual legitimacy was replied to by other community members, showing contextual legitimacy elicited community-newcomer engagement.

Hi just wondering if anyone is expecting triplets? And what ur care plan is ... I only found out at 14 weeks and there is a lot of confusion in the hospital ... Anyone else expecting triplets? < Newcomer 1; EssentialBaby > .

Testimonial legitimacy

Another common legitimacy behavior exhibited was providing personal testimonials (Arguello et al., 2006; Galegher et al., 1998). This was seen through personal pronoun use, and giving personal information about themselves. In the parenting communities, the newcomers tended to identify the number of children they had, their relationship status, and whether they were a parent, expecting, or trying to conceive. In the case of the cycling community, the newcomers would describe their riding style or their bicycle model.

I'm from Pemberton, BC, been riding AM for about 3 yrs. Being a family man, my riding style is more non aggressive < Newcomer 2; North Shore Mountain Biking>

By presenting this information to the community, the newcomers demonstrated their knowledge of the topic being discussed and shared personal information about themselves to the community. By sharing this personal information, the newcomer is indicating to the community they are willing to impart information about themselves for community assessment. If their personal testimonials are context-relevant, valid (in the eyes of the community), and of interest, their community presence may be legitimated. There was some overlap between contextual and testimonial legitimacy, whereby much of the testimonial content was contextual (e.g. the cyclists would give contextual testimonial information).

Lurking legitimacy

Evidence of *lurking legitimacy* was commonly found in the data, where newcomers described how they had previously 'lurked' on the community or read posts and threads before posting. Admissions of de-lurking were also common whereby newcomers would refer to 'finally' joining after they had become a mother (in the case of the parenting communities) or purchased a bicycle (in the case of the cycling community). This showed how they felt that being pregnant or being a bicycle owner was a prerequisite for posting in the community. This ties in with contextual legitimacy, in that the newcomer would have lurked and seen that having experience of the community context is significant for legitimacy.

After months and months of watching this thread I thought I would finally register and post a couple pictures of my Santa Cruz Nomad. <Newcomer 3; North Shore Mountain Biking>

By presenting this information to the community, existing members are made aware that the new-comer has already researched community norms and values, which lends legitimacy to their community postings.

Geographical legitimacy

The first of the new emergent categories of legitimacy was entitled *geographical legitimacy*. The analysis found that newcomers tended to mention both geographical and culturally specific content in their primary interactions with the community. Many newcomers mentioned place names (i.e. Brisbane, Sydney) or gave details of the names of local hospitals, trail centers or bike shop locations. This gave the community information as to the location of the user, demonstrated they had a common geographical interest,

and provided a clearer understanding of their offline identity. By sharing this information, the newcomer is showing they are members of the cultural locus in which the community bases itself within, and legitimates their community presence because of this cultural membership. Interestingly, this was common to all four communities and was almost a prerequisite for initial interactions.

So I just spent the snowboarding season in Pemberton and had a blast! Really don't want to go home yet, so I've decided to stay another 4 months to do some mountain biking and see the area in the summer. < Newcomer 4; North Shore Mountain Biking>

Cultural legitimacy

In addition, it was found that newcomers mentioned non-geographical cultural artefacts during their initial community interactions such as culturally specific abbreviations (i.e. Para, ECCE, and NCT), resources (i.e. websites with country specific prefixes), language (i.e. Aistear), current affairs (i.e. politics, television programs), and infrastructure (i.e. DART, LUAS).

I'm pregnant with Number 2 (due 12 August) and live in Perth. (...) Hoping for the birthing centre at **RBH** < Newcomer 8; Essential Baby>

This second emergent category of legitimacy was entitled *cultural legitimacy*. Newcomers presenting these types of explicit cultural artefacts showed they had cultural commonalities with the community which in turn legitimated their community membership.

External legitimacy

The third of the new emergent categories was entitled *external legitimacy*. This was a less common but relevant form of legitimacy emerging from the data. This was the use of external sources to legitimate a newcomer's identity. Reference to personal blog sites, social media channels, private messaging, and contact addresses were all used by newcomers to provide legitimacy to their community interactions. Some newcomers used business addresses or website links at the end of their posts to facilitate this legitimacy.

Hi all, a month or so ago I got a call from a company offered me advertising in their magazine (...) Please be on the lookout for these scam artists and don't let them fool you.Sarah Babyfun Montessori Pre-School, Dublin, <Newcomer 2: MagicMum>

By presenting these external sources to the community, existing members could verify the identity of the newcomer thus providing legitimacy to their community presence.

Conceptualizing the Directed and Emergent Categories

These six types of legitimacy were not standalone categories, and interaction and overlap were identified between them (e.g. testimonial and contextual legitimacy). Subsequent to the data analysis, it was determined a conceptual framework of newcomer legitimacy could be developed to outline these relationships (see Figure 2). A conceptual framework lays out key concepts and suggests relationships between them in either graphical or narrative form (Miles & Huberman, 1994). They provide understanding rather than theoretical explanation, and are commonly used for assessment and future theory building (Hawkins &

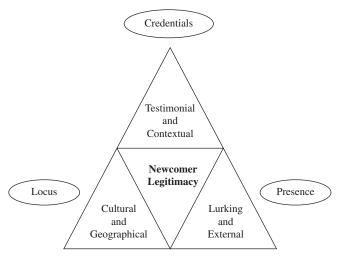


Figure 2 Conceptual Framework of Online Community Newcomer Legitimacy

Verhoest, 2002; Jabareen, 2009). This framework was developed in two ways. First, by creating a coding comparison in NVivo, and identifying where codes overlapped. The analysis demonstrated the categories testimonial legitimacy and contextual legitimacy, and geographic and cultural legitimacy had many commonly coded references. This suggested these categories had intrinsic properties in common. Secondly, relationships between the remaining categories, lurking and external, were determined using a qualitative reflexive approach.

Given the commonalities between some categories, segments were created containing these pairings. Cultural and geographical legitimacy had strong conceptual similarities, with location being a key variable for both categories. This segment was termed "locus" in the conceptual framework. Testimonial and contextual legitimacy also had strong conceptual similarities with a focus on giving credentials, and were paired together as under the term "credentials." Finally, lurking and external legitimacy were paired under the conceptual variable similarity "presence." This variable was selected as both categories are centered on newcomers giving evidence of their online presence prior to community engagement.

A triangular shape was used as it displayed the primary concept (i.e. newcomer legitimacy) in a central position and permitted behavioral categorizations to be further classified and arranged around this position. This ensured greater clarity of understanding, allowed for all categories of legitimacy behavior to be viewed in one place, and displayed the interrelatedness of concepts both with one another and with the primary concept.

The framework provides a foundation for future analysis of newcomer legitimacy behavior. However, it must be noted the framework could change depending on how the categories combine and interact within different communities. In effect, it is not a static tool, but could have different size segments, interaction patterns or shape depending on the behavior of newcomers in a particular online community. For example, in a community where locus is not of great importance (i.e. multinational communities), this segment may be smaller and the credentials segment may be larger. If this is the case, the triangle may be less like an equilateral triangle and more like an isosceles triangle. Alternatively, the categories could interact with other types of newcomer behavior such as information seeking or social expression. The construction of the framework allows for this malleability, and for any future legitimacy categories.

The coding and subsequent framework obeyed the validation techniques by H. Hsieh and Shannon (2005) for directed content analysis by adhering to a coding schema. Other qualitative methods such as constant comparison, NVivo visualizations, task lists, matrices and reflexive notes were also used which supported the validity of the process. In addition, by combining induction and deduction in the development of the categories and conceptual framework, analytical rigor is supported. The use of multiple communities also increases the research breadth and validity by using more than one analytical source. As the open coding is derived from raw data, this process itself lends validity because of the direct connection between theoretical development and data origination. The framework of newcomer legitimacy extends the prior classification and is a visual tool to understand newcomer legitimacy within different online communities.

Discussion

The results of this study have classified, augmented, validated and conceptualized existing and emergent conceptions of newcomer legitimacy. The research has subsequently offered a tool for researchers to better understand newcomer behavior. For example, if a community has low newcomer retention rates, understanding how newcomers are (or are not) legitimating themselves to the community could be framed by these categories. If newcomers are not providing any form of legitimacy in their initial community contributions, moderators can identify this and encourage more personal or contextually specific contributions.

A key point that arose which warrants further discussion is the emergence of a multifaceted understanding of newcomer legitimacy via the classification and data analysis process. Existing research illustrated online community legitimacy was present in different ways in online communities. However, classifying these theoretical conceptions of legitimacy had never previously been conducted. This research has contributed a classification of existing online community legitimacy behavior. The analysis of four online communities using these classifications confirmed online community legitimacy is not a static concept, and has many complex offshoots. This supported previous research and gave credence to the investigation of legitimacy with a focus on newcomers. In addition, the directed content analysis methodology facilitated this multifaceted analysis by aiding the collection and classification of previously scattered theoretical concepts as well as identifying emergent categories. This classification of existing research on legitimacy has important implications for the understanding of online community users. The classification frames existing theory, improves clarity, and provides a framework for examining legitimacy from a contextually determined perspective (Kwasnik, 1992).

However, additional newcomer behaviors such as information seeking, emotional disclosure, and social expression could also be interrelated with these classifications of newcomer legitimacy. Future research is warranted where these existing newcomer behaviors could be investigated in light of the novel classifications in this research. As these categories of legitimacy are not stand alone, future research could unearth additional newcomer legitimacy behaviors. Analysis of the overlap of codes within the categories is evidence of this interrelatedness and complexity of newcomer behavior, and this points to the necessity of further analysis of newcomer behavior and the categories within. It is important to note that these categories are not definitive substantive categories, but rather sensitizing categories to bring awareness to the complexities of newcomer behavior and allow room for future revision, addition and exploration. They provide a general sense of reference and guidance (Blumer, 1954).

This research has also provided new insight into online community newcomer behavior by identifying emergent categories of legitimacy from online communities from different geographical domains. Two of these new categories focused on the presentation of cultural and geographical information to legitimate their presence. Geography forms a basis for social community (Festinger, Back, & Schachter,

1950), and additional literature analyzing other social media channels such as Twitter (Herdagdelen, Zuo, Gard-Murray, & Bar-Yam, 2013) have highlighted the importance of geographical location for user interaction. Geographical location within an online forum was previously conceptualized by Fayard and DeSanctis (2010) who found that sharing information about geographical locale supported collective identity and shared culture in an online community. By asserting that they are from the same geographical locations as the community, newcomers can legitimize their presence through increasing feelings of similarity with the group, which results in greater fostering of social community (Forman, Ghose, & Wiesenfeld, 2008). The implications of this research are that geographical and cultural factors have a greater role to play in online community socialization than previously realized.

A limitation of this research related to the validity of the categories used in the framework given the developmental stage of online communities. One could argue that as newcomer behavior analysis is at a preliminary phase, the framework is not as accurate as it could be if the field was more advanced. More categories of newcomer legitimacy could potentially be identified in the future. However, as the framework has been developed through qualitative methods it lends itself to future theoretical integration, and is a useful tool for guiding, supporting, and directing future research. If, and when, new theories of newcomer behavior emerge, they can be added to the conceptual framework. Furthermore these categories are not definitive substantive categories of newcomer legitimacy. They are sensitizing categories that help researchers become aware of newcomer behavior that they may encounter but they do not have a particular content until they are defined relative to a substantive issue. Rather than being definitive, the categories are tools for future research.

The classification and conceptual framework have both theoretical and practical implications. By assimilating existing and emergent forms of newcomer legitimacy in one place the framework improves theoretical understanding of legitimacy behaviors and the relationships between them. The framework also has practical implications for online community managers that are looking to retain and support newcomers. Community managers could use the conceptual framework to identify how newcomers in their community are legitimating their presence, support these newcomers and identify whether the existing community is responding positively to this. This could improve newcomer retention and interaction, and also contribute new knowledge of newcomer behavior in online communities.

References

- Ahuja, M. K., & Galvin, J. E. (2003). Socialization in virtual groups. *Journal of Management*, 29(2), 161–185. doi: 10.1177/014920630302900203
- Angeletou, S., Rowe, M., & Alani, H. (2011). Modelling and analysis of user behaviour in online communities. In L. Aroyo, C. Welty, H. Alani, J. Taylor, A. Bernstein, L. Kagal, N. Noy & E. Blomqvist (Eds.), *The Semantic Web ISWC 2011* (Vol. 7031, pp. 35–50): Springer Berlin Heidelberg.
- Appleton, J., Fowler, C., & Brown, N. (2014). Friend or foe? An exploratory study of Australian parents' use of asynchronous discussion boards in childhood obesity. *Collegian*, 21(2), 151–158.
- Arduser, L. (2011). Warp and weft: Weaving the discussion threads of an online community. *Journal of Technical Writing and Communication*, 41(1), 5–31.
- Arguello, J., Butler, B., Joyce, E., Kraut, R., Ling, K., Ros, . . . Wang, X. (2006). Talk to me: foundations for successful individual-group interactions in online communities. *Proceedings of the 2006 SIGCHI Conference on Human Factors in Computing Systems*, 959–968. doi: 10.1145/1124772.1124916

- Armstrong, N., Koteyko, N., & Powell, J. (2011). 'Oh dear, should I really be saying that on here?': Issues of identity and authority in an online diabetes community. *Health:*. doi: 10.1177/1363459311425514
- Barnes, J. S., Bauer, H. H., Neumann, M. M., & Huber, F. (2007). Segmenting cyberspace: a customer typology for the internet. *European Journal of Marketing*, 41(1–2), pp 71–93.
- Barney, L. J., Griffiths, K. M., & Banfield, M. A. (2011). Explicit and implicit information needs of people with depression: A qualitative investigation of problems reported on an online depression support forum. *BMC Psychiatry*, 11(88). doi: 10.1186/1471-244X-11-88
- Baym, N. K. (1993). Interpreting soap operas and creating community: Inside a computer-mediated fan culture. *Journal of Folklore Research*, 30(2/3), 143–176. doi: 10.2307/3814314
- Bettencourt, B. A., & Sheldon, K. (2001). Social roles as mechanisms for psychological need satisfaction within social groups. *Journal of Personality and Social Psychology*, 81(6), 1131–1143.
- Biddle, B. J. (1979). Role theory: Expectations, identities, and behaviors: Academic Press.
- Blumer, H. (1954). What's wrong with social theory? American Sociological Review, 19(1), 3-qo.
- Bryant, S. L., Forte, A., & Bruckman, A. (2005). Becoming Wikipedian: Transformation of Participation in a Collaborative Online Encyclopedia. In Proceedings of the 2005 International ACM SIGGROUP Conference on Supporting Group Work (pp. 1–10). ACM.
- Burke, M., Joyce, E., Kim, T., Anand, V., & Kraut, R. (2007). Introductions and requests: Rhetorical strategies that elicit response in online communities. In C. Steinfield, B. Pentland, M. Ackerman & N. Contractor (Eds.), *Communities and Technologies* 2007 (pp. 21–39): Springer London.
- Burke, M., Kraut, R., & Joyce, E. (2010). Membership claims and requests: Conversation-level newcomer socialization strategies in online groups. *Small Group Research*, 41(1), 4–40. doi: 10.1177/1046496409351936
- Choi, B., Alexander, K., Kraut, R. E., & Levine, J. M. (2010). Socialization tactics in Wikipedia and their effects. Paper presented at the Proceedings of the 2010 ACM Conference on Computer Supported Cooperative Work, Savannah, Georgia, USA.
- Chua, A., & Balkunje, R. (2013). Beyond knowledge sharing: Interactions in online discussion communities. *International Journal of Web Based Communities*, 1, 67–82.
- Dove, J. A., Eubanks, D. L., Panteli, N., Watts, L. A., & Joinson, A. N. (2011). Making an entrance 2.0: The linguistics of introductory success in virtual communities. *Proceedings of the 2011 Hawaii International Conference on System Sciences* 1 10. doi: 10.1109/HICSS.2011.290
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107 115. doi: 10.1111/j.1365-2648.2007.04569.x
- Farquharson, K. (2011). Doing 'race' on the Internet: A study of online parenting communities. *Journal of Intercultural Studies*, 32(5), 479–493. doi: 10.1080/07256868.2011.593115
- Farzan, R., Kraut, R., Pal, A., & Konstan, J. (2012). Socializing volunteers in an online community: A field experiment. *Proceedings of the 2012 ACM conference on Computer Supported Cooperative Work*, 325–334. doi: 10.1145/2145204.2145256
- Fayard, A.-L., & DeSanctis, G. (2010). Enacting language games: the development of a sense of 'we-ness' in online forums. *Information Systems Journal*, 20(4), 383–416. doi: 10.1111/j.1365-2575.2009.00335.x
- Festinger, L., Back, K. W., & Schachter, S. (1950). Social pressures in informal groups: A study of human factors in housing. Stanford University Press.
- Forestier, M., Stavrianou, A., Velcin, J., & Zighed, D. (2012). Roles in social networks: Methodologies and research issues. *Web Intelligence and Agent Systems*, 10(1), 117–133.

- Forman, C., Ghose, A., & Wiesenfeld, B. (2008). Examining the relationship between reviews and sales: The role of reviewer identity disclosure in electronic markets. *Information Systems Research*, 19(3), 291–313. doi: 10.1287/isre.1080.0193
- Fullerton, L., & Ettema, J. (2014). Ways of worldmaking in Wikipedia: Reality, legitimacy and collaborative knowledge making. *Media, Culture and Society*, 36(2), 183–199.
- Galegher, J., Sproull, L., & Kiesler, S. (1998). Legitimacy, authority, and community in electronic support groups. *Written Communication*, 15(4), 493–530.
- Gleave, E., Welser, H., Lento, T., & Smith, M. (2009). A conceptual and operational definition of 'social role' in online community. *Proceedings of the 42nd Hawaii International Conference on System Sciences*, 1–11. doi: 10.1109/hicss.2009.6
- Godara, J., Isenhour, P., & Kavanaugh, A. (2009). The efficacy of knowledge sharing in centralized and self-organizing online communities: Weblog networks vs. discussion forums. *Proceedings of the 42nd Hawaii International Conference on System Sciences*, 1–10. doi: 10.1109/HICSS.2009.432
- Golder, S., & Donath, J. (2004). *Social roles in electronic communities*. Paper presented at the 2004 Association of Internet Researchers Conference, Brighton, England.
- Han, S., & Farzan, R. (2013). *Guiding newcomers' information seeking in Wikipedia*. Paper presented at the CSCW 2013 Workshop on Social Media Question Asking, San Antonio, Texas.
- Hawkins, R., & Verhoest, P. (2002). A transaction structure approach to assessing the dynamics and impacts of 'business-to-business' electronic commerce. *Journal of Computer-Mediated Communication*, 7(3).
- Herdagdelen, A., Zuo, W., Gard-Murray, A., & Bar-Yam, Y. (2013). An exploration of social identity: The geography and politics of news-sharing communities in Twitter. *Complexity*, 19(2), 10–20.
- Hsieh, G., Hou, Y., Chen, I., & Truong, K. N. (2013). Welcome! Social and psychological predictors of volunteer socializers in online communities. *Proceedings of the 2013 Conference on Computer Supported Cooperative Work*, 827–837.
- Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277 1288.
- Jabareen, Y. R. (2009). Building a conceptual framework: Philosophy, definitions, and procedure. *International Journal of Qualitative Methods*, 8(4).
- Johnson, C., Dowd, T. J., & Ridgeway, C. L. (2006). Legitimacy as a social process. *Annual Review of Sociology*, 32, 53–78. doi: 10.2307/29737731
- Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustments to organizations. *The Academy of Management Journal*, 29(2), 262–279. doi: 10.2307/256188
- Kaplan, A. (1973). The conduct of inquiry: Transaction Publishers.
- Kim, A. J. (2006). *Community building on the web: Secret strategies for successful online communities.* San Francisco, USA: Peachpit Press.
- Kraut, R., Burke, M., & Riedl, J. (2011). The challenges of dealing with newcomers. In R. Kraut & P. Resnick (Eds.), *Building successful online communities: Evidence based social design.* Cambridge, MA: MIT Press.
- Kwasnik, B. (1992). *The role of classification structures in reflecting and building theory.* Paper presented at the 3rd ASIS SIG/CR Classification Research Workshop.
- Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge, UK Cambridge University Press.
- Lerner, J. (2005). Role assignments. In U. Brandes & T. Erlebach (Eds.), *Network analysis: Methodological foundations*: Springer.

- Lihua, L. (2010). Support newcomer's learning in community of practice: in terms of legitimate peripheral participation. Paper presented at the IEEE International Conference on E-Business and E-Government.
- Maor, D. (2007). The cognitive and social processes of university students' online learning. *Proceedings of ASCILITE 2007: ICT: Providing Choices for Learners and Learning*, 611–623.
- McCormack, A., & Coulson, N. S. (2009). Individuals with eating disorders and the use of online support groups as a form of social support. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 3(2), 5.
- Miles, M. B., & Huberman, H. (1994). *Qualitative data analysis: An expanded sourcebook*. SAGE Publications
- Morrison, E. W. (2002). Newcomers' relationships: The role of social network ties during socialization. *Academy of Management Journal*, 45(6), 1149–1160.
- Niela-Vilen, H., Axelin, A., Salantera, S., & Melender, H. L. (2014). Internet-based peer support for parents: A systematic integrative review. *International Journal of Nursing Studies* (19).
- Rafaeli, S., Ravid, G., & Soroka, V. (2004). De-lurking in virutal communities: A social communication network approach to measuring the effects of social and cultural capital. *Proceedings of the 37th Annual Hawaii International Conference of Systems Sciences*.
- Ridings, C., & Gefen, D. (2004). Virtual community attraction: Why people hang out online. *Journal of Computer-Mediated Communication*, 10(1).
- Singh, V., Johri, A., & Mitra, R. (2011). *Types of newcomers in an online developer community*. Paper presented at the ACM Conference on Computer Supported Cooperative Work, Hangzhou, China.
- Singh, V., Kathuria, S., & Johri, A. (2012). Newcomer integration and learning in OSS technical support communities. *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work*, 215–218. doi: 10.1145/2141512.2141581
- Smithson, J., Sharkey, S., Hewis, E., Jones, R. B., Emmens, T., Ford, T., & Owens, C. (2011). Membership and boundary maintenance on an online self-harm forum. *Qualitative Health Research*, 21(11), 1567–1575. doi: 10.1177/1049732311413784
- Sonnenbichler, A. (2009). *A community membership life cycle model.* Paper presented at the Sunbelt XIX International Social Network Conference, University of California, San Diego, USA.
- Stanoevska-Slabeva, K., & Schmid, B. (2001). A typology of online communities and community supporting platforms. *Proceedings of the 34th Annual Hawaii International Conference on System Sciences (HICSS-34)-Volume 7 Volume 7*, 7010.
- Stommel, W., & Koole, T. (2010). The online support group as a community: A micro-analysis of the interaction with a new member. *Discourse Studies*, 12(3), 357–378. doi: 10.1177/1461445609358518
- Stommel, W., & Meijman, F. J. (2011). The use of conversation analysis to study social accessibility of an online support group on eating disorders. *Global Health Promotion*, 18(2), 18–26. doi: 10.1177/1757975911404764
- Viegas, F., & Smith, M. A. (2004). Newsgroup crowds and authorlines: Visualizing the activity of individuals in conversational cyberspace. *Proceedings of the 37th Hawaii International Conference on System Sciences*.
- Walstrom, M. (2000). "You know, who's the thinnest?": Combating surveillance and creating safety in coping with eating disorders online. *CyberPsychology & Behavior*, 3(5), 761−783.
- Wang, Z., Walther, J. B., Pingree, S., & Hawkins, R. P. (2008). Health information, credibility, homophily, and influence via the Internet: Web sites versus discussion groups. *Health Communication*, 23(4), 358–368. doi: 10.1080/10410230802229738

Whiteman, N. (2009). The de/stabilization of identity in online fan communities. *Convergence: The International Journal of Research into New Media Technologies*, 15(4), 391 – 410.

Zelditch, M. (2001). Theories of legitimacy. In J. T. Jost & B. Major (Eds.), *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations*: Cambridge University Press.

Zhu, H., Kraut, R., & Kittur, A. (2012). *Effectiveness of shared leadership in online communities*. Paper presented at the Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work, Seattle, Washington, USA.

About the Authors

Silvia Elena Gallagher is at the Center for Research in IT and Education in the University of Dublin, Trinity College. Her research interests include online communities and Massive Open Online Courses. Postal address: Department of Computer Science, College Green, Trinity College, Dublin University, Dublin 2, Ireland. Email: sgallag1@tcd.ie

Timothy Savage is an Assistant Professor and the Associate Dean for Online Education at Trinity College, the University of Dublin where his role is to provide academic leadership to technology-enhanced and online learning across College and to lead the online education initiative. His research interests include the role of technology in enhancing higher education, online education and the exploration of virtual worlds for learning. Postal address: Department of Computer Science, College Green, Trinity College, Dublin University, Dublin 2, Ireland. Email: tsavage@tcd.ie