

A cross-cultural exploration of online community newcomer
behaviour

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By

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Declaration

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Summary

As Internet use has become globally pervasive, the literature suggests that national culture is having an impact on online community communication practices. The importance of researching national culture in these spaces is critical for improved understanding, design and management of online communities. However, current theoretical insights on national culture in this space are inadequate for the scale of online community development being witnessed, and knowledge of how national culture can influence online community user behaviour is insufficient. In order to address this knowledge gap and reduce the complexity of exploring user behaviour, the online community newcomer was analysed using a cross-cultural comparative qualitative directed content analysis methodology.

This research aims to identify and explain cultural similarities and differences in online community newcomer behaviour, develop new theoretical conceptions of newcomer theory, and support existing theory using a cross-cultural comparative analysis. It is positioned within the online community cross cultural space and the online community newcomer theory space. The research sampled three online discussion communities from different national cultural origins, namely Spain, Ireland and Australia to explore newcomer behaviour in a cross-cultural context. Over 3,200 newcomer posts were analysed using a qualitative directed content analysis methodology, facilitated with NVivo 10. A model of newcomer behaviour was developed using both emergent and existing theoretical categories to structure this directed approach. The results of the comparative cross-cultural analysis posed that there were both similarities and differences in newcomer behaviour categories across national cultures, and that existing theories of national culture serve as a starting point to explain differences in online community newcomer behaviour. These results aided in the construction of five original models of newcomer behaviour, that could be used by online community moderators and researchers.

The original contribution to knowledge is the identification of culturally-derived similarities and differences in online community newcomer behaviour, the validation of these with existing cultural theories from the online community cross cultural space, and the creation of multiple models of newcomer behaviour which serve as a basis for formal theory in the online community space. In particular, these models could have an important impact on the future investigation, understanding and structuring of newcomer behaviour research, and serve to bridge the knowledge gap of the impact of national culture on online community user behaviour.

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Related Publications

Gallagher S.E., and Savage, T (2015) "What is becomes what is right" A conceptual framework of newcomer legitimacy for online discussion communities. *Journal of Computer Mediated Communication*. doi: 10.1111/jcc4.12122

Gallagher, S. E., and Savage, T. (2013) Cross-cultural analysis in online community research: A literature review, *Computers in Human Behaviour*, Volume 29, Issue 3, May 2013, Pages 1028-1038, ISSN 0747-5632, <http://dx.doi.org/10.1016/j.chb.2012.09.011>.

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1. Introduction

This thesis uses a qualitative cross-cultural comparative case study methodology to explore the behaviour of online community newcomers. The exploration seeks to support and expand existing newcomer behaviour theory, investigate similarities and differences in newcomer behaviour across national cultures, and develop conceptual models for managing, understanding and investigating these key community users. This research stems from a lack of understanding of online community newcomer behaviour within a cross-cultural context. The thesis is framed within two key research spaces; online community cross cultural research, and online community newcomer behaviour research.

1.1. Background and Context

Online communities¹ are computer-mediated spaces where individuals interact, communicate, share content and form relationships with other individuals. These online spaces have become increasingly popular locations for human interaction and have exhibited large membership growth since their inception in the early 1980s (Preece, Maloney-Krichmar, & Abras, 2003). The percentage reporting membership of online communities has doubled in the last five years, with 17% of all Internet users reporting membership in 2012 (World Internet Project, 2012) and the top ten most populated online communities boasting over 80 million users (Big-Boards, 2012). This increase has been caused by social, technological and commercial reasons, such as cheaper technology, the popularity of online social networking, and the rapid expansion of e-commerce.

As Internet use has become globally pervasive, researchers within the cross-cultural online community field have found that their conceptualizations of national culture are having an impact on online communication practices (Lewis & George, 2008). Although, a multitude of languages, cultural values and social organisations are now playing a part in online communication, and the impact of national culture on knowledge sharing and communication practices in online communities is not fully understood (Gallagher & Savage, 2012). National culture itself has been identified as a key challenge for the future development and increased generalizability of online community research (Chan & Li, 2010; Jin, Park, & Kim, 2010; Kim, Park, & Jin, 2008; Lin & Lee, 2006; Ridings, Gefen, & Arinze, 2002; Shu & Chuang, 2011; Wang, Carley, Zeng, & Mao, 2007), not only because of the global impact of online communities, but

¹ For a full discussion on the definition of an online community and how it is employed in this research, see section 2.3.

also as it is a key behavioural determinant of online community users² (Phang, Kankanhalli, & Sabherwal, 2009). National culture itself is a problematic concept, and intertwined with many criticisms and challenges of the concept itself, adding the online space further complicates its conceptualization. A broader examination of culture is provided in the literature review, however, within the cross cultural space, many of these broader and traditional cultural theories have been neglected. Cross cultural online community research is a relatively new research space, and because of this, a smaller subset of theories, such as Hofstede and Hall, have been used. The analysis of this research has employed these subsets of theories due to the need for theoretical framing within the online community cross cultural space. However, the implications of this research relative to the broader cultural space are also discussed. This research addresses this problematic element within the online community space by investigating whether similarities and differences in online communities from distinct national cultures are apparent.

Essentially, current theoretical insights on national culture are inadequate for the scale of online community development being witnessed, and knowledge of how national culture can influence online community user development is insufficient. This is of particular interest for cross cultural research in the online community space.

Online community users are the backbone to this community development, and their behaviour, relationships and management can bring about the success or failure of a community. Using a cross-cultural research methodology is one strategy for researching differences in user behaviour across cultures, whereby cases from different cultures are compared using research methods, such as quantitative surveys, ethnography and qualitative content analysis. The cross-cultural methodology has been successfully employed by a small number of online community researchers investigating cultural aspects of online community user behaviour ((n=36), see section 2.6).

A range of different theorists have been used as a comparative framework within the online community space, most commonly Hofstede and Hall (see section 2.4.1); however, the emergent nature of this field space allows for novel theoretical modelling of user behaviour in the online space. In addition, many cross-cultural analyses into online community user behaviour have neglected social roles apparent in online communities, which can be useful for reducing the complexity of cross-cultural analyses, aid comparison, and help develop role specific theoretical

² The terms 'users' and 'members' are often used interchangeably in online community research, but for the most part, the term 'user' is most commonly used. Hence, for the purposes of this research the term 'users' is used. However it is understood that there are differences between users and members in some online community research contexts. For example, lurkers would be users and not members as they 'use' the community but are not active 'members'.

models. These models are a practical tool for online community moderators and researchers to understand why and how members are behaving in a particular way, and allow for greater understanding of user behaviour, away from the current macro level theoretical understanding of online community user behaviour.

Online community users have been frequently classified into social roles as a way to reduce complexity in understanding member behaviour (see Appendix C and Section 2.7 for full details of these social roles). Social roles, such as 'leaders' and 'questioners', are expected patterns of behaviour in a given context where rights and duties are attached to a given status (Biddle, 1979) (e.g. a leader is expected to lead, a questioner is expected to question). These roles have long been discussed in the offline space, and their conceptualization in the online space has often leaned to the functionalist tradition; newcomers are expected to behave in a certain way by the community and learn how to do so through lurking. One such role that has particular influence on the development of online communities is the newcomer.

Newcomers, or new users, sustain a community by replacing users who leave the community (Kim, 2000; Kraut, Burke, & Riedl, 2011), contribute new ideas and perspectives (Ren, Kraut, & Kiesler, 2007) and can increase interactivity between members (Millen & Patterson, 2002). Community development depends on the movement of these users from being periphery members to core members (Singh, Kathuria, & Johri, 2012), and online community managers are faced with the challenge of integrating, socialising and retaining newcomers to maintain this development (Kraut et al., 2011). It is within this space where cultural insights can become crucial for responding to this challenge.

Researchers have identified common newcomer behaviours and theoretical insights to understand and investigate the full impact of their community presence (e.g. Golder and Donath (2004)). However, it is unknown whether there are differences in the behaviour of newcomers between online communities from differing national cultures. Investigating the behaviour of newcomers from different national cultures could help bridge the knowledge gap of whether differences in national culture are apparent in the online space in the same way as in the offline space. It can also yield new knowledge to help community managers more effectively integrate these users, and broaden the academic understanding of online community newcomer behaviour.

This PhD research uses qualitative cross-cultural methodological tools in a novel way to explore the behaviour of online community newcomers across different national cultures. The research findings and outputs contribute³ to our understanding of online community dynamics and user

³ See 1.7 and 7.5.

behaviour. They also add to the body of knowledge on online community research, specifically in terms of the impact of national culture on online community newcomer behaviour. There is no existing published research on this topic, and given the global spread, increased usage and the lack of cultural analysis⁴ in this area; research into the cross-cultural differences of online community newcomers is both important and warranted.

1.2. Research Problem

The research problem that this thesis addresses is a lack of knowledge of how national culture impacts on online community newcomer behaviour. This is a problem for online community managers and researchers because of the global spread of online community usage and the importance of understanding the behaviour newcomers from different national cultures within the online space. In particular, knowledge of how national culture could impact on the behaviour of online community social roles, such newcomers, is deficient.

There is a growing need for specific understanding of this area due to the mounting importance of online communities as a space for human interaction, the increase in the globalisation of technological resources, and the greater necessity for understanding online community behaviour where culture could be having an impact on activity, engagement and interaction. Previous research into online communities has investigated social role behaviour, such as newcomers, for classification, synthesis, comparative analysis and to develop frameworks, models and theories⁵. However, it is unknown whether the newcomer role is static across national cultures, whether national culture could impact on newcomer behaviour, and whether similarities and differences in newcomer behaviour can be explained by existing cultural theory within the scope of cross cultural online community research.

This thesis aims to explore this previously unexplored research problem, using a cross-cultural comparative research methodology. It investigates newcomer behaviour from three different national culture perspectives and explores how newcomer behaviour across these cultures may exhibit similarities or differences. By identifying similarities and differences, the research problem can be explored, related to existing cultural theory, and more information as to whether national culture is having an effect on online community newcomer behaviour can be ascertained.

⁴ It must be clarified at this early stage that online culture is not being directly investigated, rather the key focus is on national culture within the online community space. More explanation of this is available in section 2.4.

⁵ For a full literature review of this research see 2.8.

1.2.1. Research Aims

The research problem has directed the formulation of the following primary research aim:

PRA⁶: To explore the behaviour of the online community newcomer using a cross-cultural comparative method.

This research is exploratory in nature due to the newness of the topic being researched, the need for topic understanding rather than measurement, and the relative uncertainty of the research outcomes. Several secondary aims pertaining directly to the methodology were developed to build a structured foundation for the methodology and data analysis, and guide the exploratory research aim.

- SA1⁷: Investigate cross-cultural online community literature to identify conceptual patterns and emergent issues for mapping out research direction, delimiters and guidelines.
- SA2: Develop a sampling framework for online community cross-cultural analysis.
- SA3: Develop a model of online community newcomer behaviour for structuring the comparative cross-cultural analysis of newcomer behaviour in online communities.
- SA4: Develop new models, categorisations and understanding of online community newcomer behaviour derived from the cross-cultural analysis.

1.3. The Context and Boundaries of this Study

At the onset of this thesis, it is important to comment on its context and boundaries. This study is bounded by the existing research within the cross cultural online community space, and research on online community newcomer behaviour (see section 2.10 for more details).

This study used qualitative cross-cultural comparative directed content analysis to investigate online community newcomer postings collected from three online parenting communities from Ireland (Magic Mum), Spain (Ser Padres) and Australia (Essential Baby). These particular communities were selected because of the richness of the community content, the focus on a particular national culture within the aims of the community, and contextual similarities between all three (i.e. they were all parenting communities). In addition, two pilot online communities (Coursera Social Networking Analysis and North Shore Mountain Biking) were also analysed. These five communities were used to develop the Newcomer Behaviour Model,

⁶ This abbreviates 'Primary Research Aim'.

⁷ This abbreviates 'Secondary Aim 1' etc...

which structured the comparative cross-cultural newcomer analysis in order to explore and explain their behaviour in a cross-cultural context.

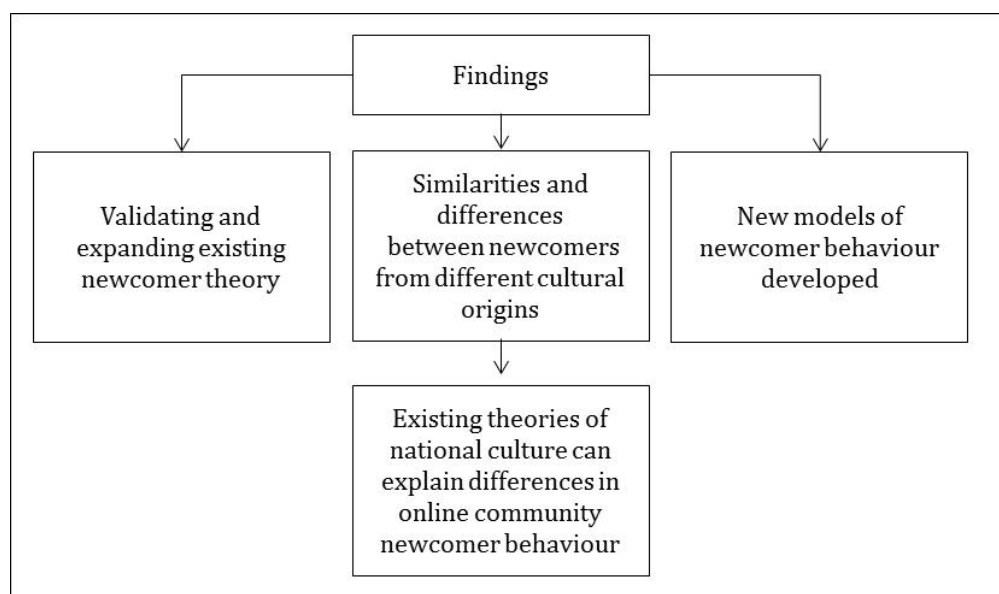
1.4. Research Methodology and Methods

A qualitative case study methodology, using cross-cultural comparative directed content analysis methods, was determined as being the most appropriate for this research. This was due to the exploratory nature of the research, the inductive research approach, the necessity for comparison, and because a deep understanding of newcomer behaviour was necessary which can be difficult to achieve with more quantitative methods.

1.5. Key Findings

There were three main areas of findings that arose; the validation and expansion of existing theory on newcomer behaviour, the identification of similarities and differences in newcomer behaviour that appear to be supported by cultural theory, and the development of new models of newcomer behaviour. Further detail on these findings is available in 5.8.

Figure 1: Summary of findings



1.6. Research Contributions

The research makes several contributions to the discipline of online community research (see Figure 2).

Figure 2: Summary of research contributions

Cross-cultural online community literature review	Newcomer Behaviour Framework
Augmentation of newcomer theory using cross-cultural research methods	Intra/Inter locus distinction
Legitimacy Model	Social Acceptance Model
Newcomer Behaviour Framework Individualist	Newcomer Behaviour Framework Collectivist

The contributions of this thesis are:

- A cross cultural online community literature review
 - This literature review of cross-cultural had previously never been undertaken and yielded novel findings including the prevalence and methodological structure of this literature (Gallagher & Savage, 2012).
- An inter/intra locus distinction in online community comparative literature:
 - A distinction identified through the literature review is one of differences in the locus of comparison in cross cultural online community comparison (Gallagher and Savage, 2013).
- Augmentation of newcomer theory using cross cultural research methods
 - The data analysis has suggested augmentation to newcomer theory using cross cultural research methods.
- Newcomer behaviour model(s)
 - A model of newcomer behaviour derived from previous literature within the online community space has been developed.
- Additional frameworks of newcomer behaviour:
 - Four additional frameworks of newcomer behaviour have been developed as detailed in Figure 2.

Further discussion of these contributions is available in 6.5.

1.7. Thesis Structure and Logic

This thesis is structured into six chapters. Phillips and Pugh's (2005) four analytical constructs for constructing a PhD have been used to frame this structure; background theory, focal theory, data theory and contribution. These constructs are useful tools for justifying the structure of the thesis, and maintaining focus during the thesis writing.

1. Background theory is identified using the literature review. It is via this analytical construct that research material is organised and evaluated, and areas of theoretical and analytical weakness are determined.
2. Focal theory is where the actual problems under investigation are established by focusing on what exactly is to be researched and why.
3. Data theory is concerned with the justification behind sampling, collection, method, general reliability and appropriateness of the data.
4. Contribution is concerned with "the evaluation of the importance of your thesis to the development of the discipline" (Phillips & Pugh, 2005, p. 59). In particular, it aims to show how the research has had an impact on background and focal theory.

In the structure of this thesis, these four analytical constructs have been addressed in the following way:

Table 1: How the thesis is structured with Phillips and Pugh's (2005) constructs

Chapter	Analytical Construct
1. Introduction and Research Question	Background theory
2. Literature Review	Background theory and focal theory
3. Methodology	Data theory
4. Model Building	Data theory and focal theory
5. Comparative Case Studies	Focal theory and contribution
6: Discussion	Focal theory and contribution

This description of the thesis structure, gives some account into the logic behind this thesis. The literature review explored the areas of online community, culture, and social roles formulating the research gap of cross cultural online community newcomer behaviour research. Following this, the methodology for addressing this research question was a cross cultural multiple case study directed content analysis. The data analysis used a comparative cross cultural approach,

followed by conceptual modelling using the results from this analysis. These results and models were then discussed in the final chapter.

2. Literature Review

2.1. Introduction

A literature review describes, synthesises and evaluates a particular topic to expand research knowledge, delimit the research field and develop the research question. It is an essential operation for relating research questions to the wider research field (Boote & Beile, 2005; Cooper, 1988; Randolph, 2009). This chapter presents how the main research aim of this thesis was developed, namely, exploring the effect of national culture on the behaviour of the online community newcomer. This research aim stems from a lack of understanding of newcomer behaviour in a cross-cultural context, and an absence of research on the impact of culture on newcomer behaviour. The chapter presents the development of the research aim through a linear process of literature review and investigation supported throughout with research questions. These research questions are set out to give structure and guidance to the literature review process. The end of this chapter provides the overarching research aims and questions for this thesis.

2.2. Chapter Summary

The literature review begins with a broad introduction to the online community field, an account of its history, a discussion of its definition, and a description of state of the art research in this field. The first key research area of this thesis, online culture and the cross-cultural comparative methodology, is then described with reference to the broader space of cultural theory and the more focused space of online community cross cultural research. This explains in detail what this methodology is, its strengths and weaknesses, its importance to the field, and the significance of researching culture in the online space. This leads to the first review which investigates online community literature that has used a cross-cultural methodological approach. The first review has been based on a research publication, Gallagher and Savage (2012), which reviewed the current research literature and highlighted methodological difficulties, emerging themes and conceptual patterns in the cross-cultural online community field. This type of review had not been previously performed and is an important contribution to the research field.

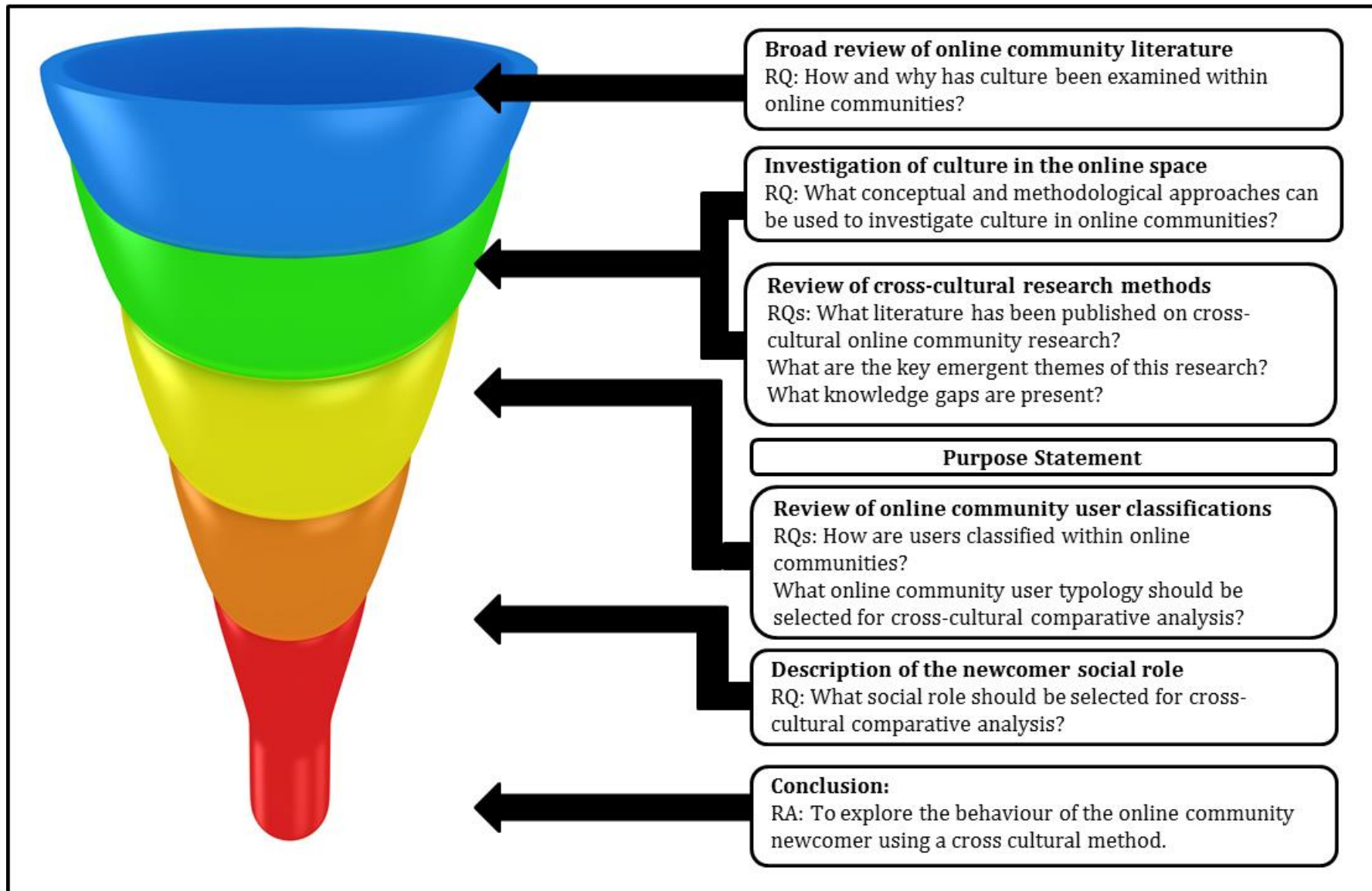
The emerging themes of this review led to the second key research area; classification of online community users.

A second literature review of online community user classifications, also not previously performed to this level of detail, is then described. This further review included an analysis of literature related to user classification in online communities, with commentary on the broader

space of role theory, in addition to a synthesis of these classifications. The results of this review lead to the selection of a particular user type for cross-cultural analysis, namely the online community newcomer. The behaviour of this particular user in an online community is then presented using previous theory. The review concludes with a summary of the key points from each of the main sections, and demonstrates how these points were used to generate, develop and support the research questions. As this process of determining the research aims and questions is somewhat complex and involves multiple literature reviews, Figure 3 gives a summary of this chapter. This figure shows how the chapter moves from the broad literature on online communities, to the specific research question investigating newcomers using a cross-cultural comparative analysis. Each section is structured with literature review specific research questions⁸ to ensure clarity, structure and process.

⁸ Note that these research questions are limited to the literature review. These are not the research questions of the thesis as depicted in 1.2.2.

Figure 3: Funnel diagram depicting literature review and research questions leading to research aim formation.



A primary issue of note before going into details of the literature review is the use of the term 'cross cultural'. It could be posited that the literature reviewed is 'cross national' rather than 'cross cultural'. Different disciplines have used either term to define similar research methodologies (Tsui, Nifadkar, & Amy Yi Ou, 2007). Within the literature surveyed (i.e. online community cross cultural studies), an analysis of whether the term 'cross cultural' or 'cross national' was conducted in order to determine which should be used in this thesis. The term 'cross national' was only used in one of the publications, and when it was used, 'cross cultural' is also used within the same paper (Marshall, Cardon, Norris, Goreva, & D'Souze, 2008).

It appears that the term cross cultural is used to define differences in values between national cultures within the cross cultural online community space. This conceptualisation of 'cross cultural' and 'cross national' within the online community cross cultural literature review brings about additional questions; should 'cross-cultural' be used if the comparisons are across geographical places, rather than specific cultural values within nation states? This is an issue that needs to be examined, but it is outside of the scope of this research, and points to wider issues of classification and theoretical delimiters absent in the online community space. However, for the purposes of this research, the term 'cross cultural' will be used in line with existing research within this space.

The following section introduces online communities, explains their background and definition, and describes why this research area is becoming more important for academic study.

2.3. Conceptualizing Online Communities

2.3.1. Online Communities

'Online communities' is the term used to broadly describe a group of individuals that interact in an online environment. More specifically, these communities have been defined as a group of people, with a common interest or purpose, whose interactions are governed by policies in the form of tacit assumptions, rituals, protocols, rules and law, and who use computer systems to support and mediate social interaction and facilitate a sense of togetherness (Preece, 2000)⁹. These communities use a variety of synchronous and asynchronous technologies, such as bulletin board software, social networking platforms, virtual worlds, email lists and chat logs, to

⁹ Preece's definition of online communities has been often used by online community researchers because of its wide scope and detail. However, given the antiquity of the definition, some could argue that it omits more current developments in online communities (e.g. some Web 2.0 technologies). Nevertheless, this thesis uses her definition as it describes the type of communities being investigated here (online bulletin boards), and is generally broad enough to encompass most online community types in some way.

support online interaction between community users. There are many different types of online communities that serve a wide range of purposes and motivations for their users. These can include discussion based communities (e.g. Boards.ie), task / goal oriented communities (e.g. UsingEnglish.com), virtual worlds (e.g. Second Life) and hybrid style communities (e.g. eBay.com) (Stanoevska-Slabeva & Schmid, 2001)¹⁰.

Originating during the early development of the Internet, communities such as PLATO (Dear, 2013), The Well (The Well, 2013), Habitat (Morningstar & Farmer, 1990), and USENET (Christoffel, Jones, Landfield, Spencer, & Wiseman, 2013) were some of the first systems to pioneer this online communication medium. The global popularity of online communities has since rapidly increased, with membership of and activity within these communities expanding at an ever increasing rate. Many popular online bulletin board communities surpass 10 million members (4Chan, 2013; Black Planet, 2013; Gaia Online, 2013) and in some countries, almost 70% of Internet users access social networking sites¹¹ (Pew Internet & American Life Project, 2012). This steep rise in online community activity can be attributed to the lowering of hardware and software costs, the increase in global networks and general internet users, and the social and psychological impact of the Internet on modern society (Kraut et al., 2002; Kraut et al., 1998).

During their early developmental years, there was disagreement as to whether these online groupings could be considered 'communities'. Some theorists, such as Rheingold (2000) believed that these new social aggregations were new forms of community. However, others believed that information exchange, such as that in online communities, did not constitute a community (Weinreich, 1997) and that the notion of community is not well suited to online discourse (Erickson, 1997). However, over time, more concrete theories have emerged that address the notion of community in online space.

Jones (1997) developed 'Virtual Settlement Theory' which he used to distinguish between simple online messages and the existence of a 'virtual' community. He reported that for a virtual community to be considered as such it required a minimum level of interactivity, a variety of communicators, a minimum level of sustained membership and a virtual common public space where computer mediated communications occur. Similarly, Blanchard (2007) argued that the measure 'sense of virtual community' (SOVC) was essential for identifying the "communityness"

¹⁰ See Appendix B for a full list of online community typologies.

¹¹ For the purposes of this thesis, social networking sites are included in the literature review (see 2.6). This was deemed important as given the small scale of current research on online communities it was decided to have as broad of a scope as possible.

of a virtual community, and to distinguish virtual communities from other types of virtual groups. SOVC was defined as members' feelings of membership, identity, belonging, and attachment to a group that interacts primarily through electronic communication. These theoretical constructs conceptualise online communities as being much more than just information exchange, and support the construction of online communities as being more than text exchange between faceless users. This is reflected in the rapidly growing body of research on the development of online communities (Iriberry & Leroy, 2009; Scopus, 2013), the behaviour of their users (Ahuja & Galvin, 2003), and their impact on society (Al-Saggaf & Begg, 2004).

It is also important to review theories of community within the offline space, and how these may relate to the online space. The concept of community, external to the online space, has been widely discussed and contested. Walkerdine and Studdert (2011) performed a review of the definitions of community within five key disciplines and found that there was 'conceptual gridlock' attached to its definition. Earlier research into communities, conceptualized this concept as stable and fixed. However, in more recent studies, the importance of networks and relationality within and between community structures has been highlighted (boyd, 2014). Walkerdine (2010) moves further along this dynamic understanding of community by suggesting that affective processes need to be more strongly considered within this space, and that the notion of communal beingness is central to understanding a community. This is further supported by Studdert (2006) who stresses the importance of researching the online community space using theoretical interrelatedness, in order to improve the potential of computer mediated communication. Within the online space, it is further questioned whether a static understanding of a community, as has been the dominant ideology within cross cultural online community research (see section 2.5), is correct.

For example, Baym (2007) believes that individuals online move between a complex ecosystem of online communities, sites, blogs and social networks, in the same way as individuals offline visit pubs, shops and schools in a larger community. In her analysis, she theorizes that a sense of community is formed by individuals 'meeting' in different places online, and practice 'networked collectivism'. "Whether one calls it a community or not, this is an important new online social formation that raises many theoretical, methodological, and practical problems. How are these ecosystems organized and navigated? What are the consequences for social coherence if groups are spread through multiple sites, only some of which are explicitly linked to one another?" Baym (2007, p. 10).

If this theorization were to have any weight, it may have had some implications for the newcomer social role, a key concept within this thesis (i.e. could newcomers be termed as such, if they had engaged with other users in a different online space?). However, it could be questioned whether this theorization of online community is correct. Firstly, it assumes that individuals engage with disparate online entities such as online communities, YouTube videos, LastFM, and other websites in the same way. In the same sense as individuals behave differently in a school than in a pub, online users behave differently on a YouTube comment section than an online learning community. It could be argued that many users act in different ways in different online communities, and rarely meet the same people within.

Her sample is also limited to one particular network of individuals online (fanatics of Swedish music), with little validation to her hypothesis “Over time, active fans will find that they bump into many of the same people wherever they go. Through this process, a sense of “community” may be formed. For instance, I have found rare videos on YouTube and then realized they had been uploaded by ‘friends’ on Last.fm, one of whom I also knew through participation in IAT and private e-mails. I have begun conversations on IAT that ended in my Last.fm profile shoutbox.”(p.11). It is also questioned as to the type of users she is discussing; in her own words ‘fans’. She does not comment on users who have a passing interest in a topic, who are merely seeking information on a temporal aspect of their lives. Boyd (2007) has a similar, but more developed argument describing how teenagers network online and move throughout multiple online spaces “navigating her identity and interests in distinct social contexts based on her understanding of the norms and community practices” (p.41). These theories and frameworks are critical for researchers, online community managers and administrators to understand and manage online communities (Dannecker, Leimeister, Konana, & Rajagopalan, 2007), and although some have initially been conceptualized in the offline space, they still hold weight in the online space. It is an important for any research into online communities to consider the dynamic nature of online communities, of which culture and its interrelated elements can be of note.

Academic research into online communities has been mainly exploratory, with the majority of research originating from the United States, the United Kingdom, and Asian countries such as China, Taiwan and South Korea (Li, Williams, & Dwivedi, 2009; Scopus, 2013). The complex structure of online communities has generated research from a wide breadth of disciplines including information science, HCI, computer science, psychology, management, and communication. In an early review of online community literature, Li (2004) reflects on this multi-disciplinary research perspective by identifying four schema for classifying online community research; a business perspective, a social perspective, community development

issues, and community application (i.e. education). This early literature review indicated that online community research had not focused on one particular characteristic but had multiple foci extending from education and business, social interaction, success factors and usability, to knowledge creation and social studies (Li et al., 2009; Rosenkranz & Feddersen, 2010). As is evident from this wide research scope and the relative recent emergence of the space, online community research is still at an early stage of development. Although there are some established theories, these are insufficient to address the massive scope of online communities globally and their potential impact on social, business, political and educational spheres. Commentators have stressed that the online community field needs greater analysis and investigation; Li et al (2009) believed that for the field of online community to grow, a greater emphasis on theory building and testing is desirable. Preece (2001) recognised the need for high-level generalisable theories, and notes that unifying theories influenced by sociology, psychology, social psychology, linguistics, communications research and psychotherapy are needed to inform online community development.

One particular theoretical research area of note, singled out by theorists as a key challenge for the future development of this field, is the impact of national culture and cultural theory on online communities (Chan & Li, 2010; Jin et al., 2010; Kim et al., 2008; Lin & Lee, 2006; Ridings et al., 2002; Shu & Chuang, 2011; Wang et al., 2007). The rapid proliferation of online networks and communication platforms has increased collaboration between cultures on a global scale. As this phenomenon increases, a better understanding of how culture plays a part in the development of these online networks is essential (Hara, Shachaf, & Hew, 2010; Lee, 2009). Culture has been found to be a key behavioural determinant of online community users (Phang et al., 2009; Vasalou, Joinson, & Courvoisier, 2010; Zhao, Hinds, & Gao, 2012), and accordingly, it has become necessary to be more aware of cultural traditions and beliefs especially in the context of general online community management, knowledge sharing in business communities, and online educational interaction (Komlodi et al., 2007).

2.4. Culture and Online Communities

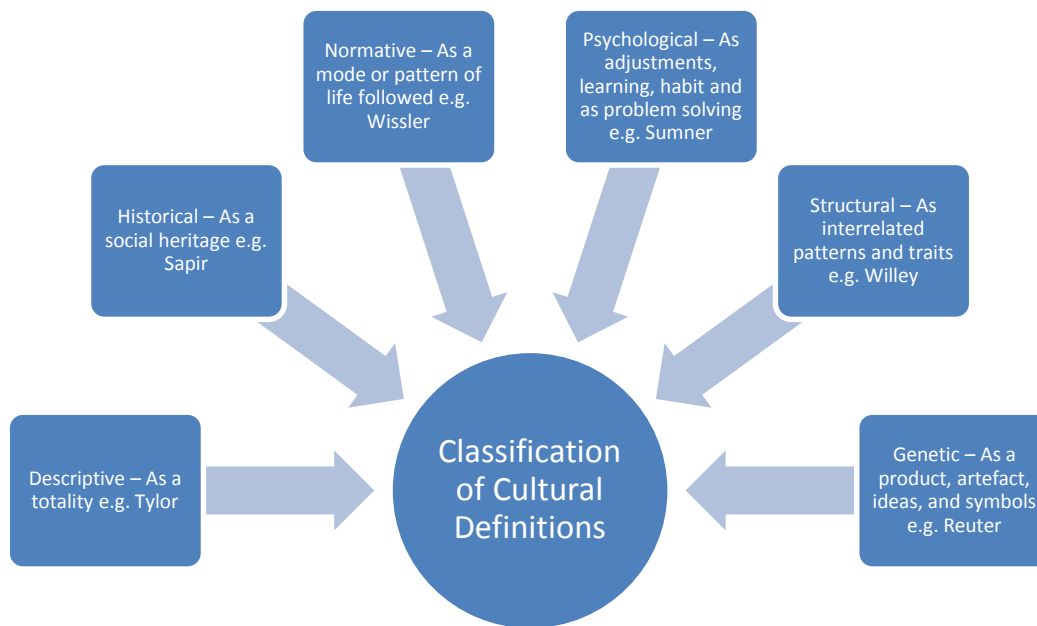
In the same sense that the concept of community draws criticisms and multifaceted discussion, the concept of culture also does so, but to a potentially greater effect.

2.4.1. The Definitional Problem of Culture

Investigations of culture have long historical roots grounded in philosophy, anthropology, sociology and cultural theory. It has long been a problematic concept, with many alternative theories and viewpoints of what culture is, and how it should be conceptualised and defined

Highlighting this definitional complexity, Kroeber and Kluckhohn (1978) classified definitions of culture into seven groups, including descriptive, historical, normative, psychological, structural, genetic, and 'incomplete definitions'. They comment "one of the reasons 'culture' has been so hard to delimit is that its abstractness makes any single concrete referent out of the question" (Kroeber & Kluckhohn, 1978, p. 80). This classification of cultural definitions is useful for understanding the history behind the problem of defining culture, and the massive scope of the definitional complexity surrounding culture.

Figure 4: Kroeber and Kluckhohn's (1978) classifications of culture



What is notable about these classifications of culture, is that there is overlap across classification groups. Kroeber and Kluckhohn believe that their work has helped extend and clarify the conception of culture, but other theorists comment that it has done the opposite by further increasing conceptions of culture (White, 1954). In addition, the classification overlap has further increased the complexity of cultural definitions. This supports the argument that culture is almost impossible to define, and that its definition is as dynamic and complex as culture itself.

The difficulties in defining culture are also apparent in the differing usages and understandings of the term historically. In the 1800's, Arnold (1869) for example, contrasted culture with anarchy, and described culture in idealist terms as something limited to exemplary artistic or intellectual activities. Within the same period, Tylor (1871) expanded this notion of culture as being "is that complex whole which includes knowledge, beliefs, arts, morals, law, customs, and

any other capabilities and habits acquired by [a human] as a member of society” (Tylor, 1871, p. 1), and understood culture as social evolutionism.

However, these definitions and understandings of cultures have been criticised as being small scale, homogenous, and static, and more recent theorists have been conceptualizing culture in other ways; as a process or as meaning-making, amongst many others. Rather than understanding culture as an integrated whole, looking at the processes behind culture is what matters to some theorists. Jackson (1989) writes “the stuff of culture is more elusive, best approached obliquely in terms of the processes through which meanings are constructed, negotiated, and experienced” (Jackson, 1989, p. 180) and suggests that culture can be thought of as maps of meaning to better understand the world. This argument purports that culture is not simply a description of norms, rules and practices, as generations cannot learn from descriptions alone, nor does it explain why and how behaviour persists. A cultural process is needed for new members to understand and participate in shared practices. However, this understanding has been criticised as neglecting the internal architecture of culture, and by his lack of clarity as to what processes constitute culture (Mitchell, 1995).

Shifting further away from the belief that culture can have a fixed definition, Street (1993) (among others) conceptualises culture as a process of meaning making by a group of individuals. It is a dynamic, active process in which a strict definition does not apply. The definition of culture is embodied by cultural values, changes over time, and is constructed by those within the culture itself. He goes as far as proclaiming that there is not much point in trying to say what culture is. In effect, culture should be examined not in light of what it is, but in light of what it does; rather than looking for a definition of culture, it is the meaning behind how and why definitions are made, and for what reasons that is important. Street (1993) comments at the end of his essay problematizing the concept of culture “I suspect that I have provided more problems than solutions, but if every time the term ‘culture’ is uttered warning bells ring and neon lights flash (...) then I feel that I have succeeded” (p. 43). This comment embodies much of the current thinking around culture, which is confused further when culture in the online space and notions of national culture are added into this definitional cultural mix.

It is no surprise that culture has been earmarked by online community theorists, given its importance across multiple disciplines, and its definitional complexity. Elements of culture researched and conceptualised in the online space have included religion (Mallapragada, 2010), community (Yuan, 2013), politics (Park, Thelwall, & Kluver, 2005), social organisation (Constant, Sproull, & Kiesler, 1996), economics (Hwang, Jung, & Salvendy, 2006) language (Ware, 2005) and to a greater extent, cyberculture (Bell & Kennedy, 2000). Cyberculture

describes the emerging set of values, practices, and expectations with which people act and interact within the contemporary network society (Deuze, 2006) such as in blogs, internet memes, social networks and online communities. However, a distinction must be made at this stage between this type of cultural investigation and the investigation in this thesis. Rather than looking at how an online cyberculture is manifesting itself **within** online communities, this research looks at how **national culture**, coming from **outside** the online space, can have an effect on user behaviour¹².

2.4.2. Conceptualizing National Culture

In the same way that defining culture is complex, defining national culture, and whether it is in fact a legitimate concept to investigate within the online community space, throws up another set of confusing and complex questions. National culture is the culture attached to a geographical entity or place inhabited by groups of people and defined by political, language or topographical boundaries e.g. Spanish, English, Irish. Within the scope of information systems (IS) research, a static understanding of national culture, most commonly framed by Hofstede's cultural dimensions is used. This is despite the fact that some theorists believe that use of the term is overly simplistic because of the depth of cultural and ethnic differences within nations (Myers & Tan, 2002) and because of problematic conceptualisations of national culture by prominent theorists (Hofstede & Hofstede, 2001). Others have criticised using the nation-state as a comparative variable because many nations have a large number of sub-cultures, point to nations that have fallen apart (such as Yugoslavia), and argue that individuals show within-nation variance. Furthermore, theorists argue that defining individuals by a singular cultural trait is erroneous, and we should understand culture as a plural, dynamic entity (Spencer-Oatey, 2012). This follows on from the latter understandings of culture generally, whereby culture cannot be understood as uniform, and that 'national culture' is part of a wider interlinked whole of cultural processes, norms, signals and patterns.

However, national culture, as a concept, is still widely used in various disciplines including management, social science, economics, computer science and psychology, as is evident within academic database searches such as Scopus. Within the scope of this research, namely cross cultural online community research, the majority of studies rely on Hofstede's model of national culture. He surveyed global IBM employees, and found that individuals from certain countries differed over various cultural dimensions. He initially developed four central dimensions of

¹² Although this thesis does not reflect on cyber culture, it must be noted that to some extent cyber culture has an effect on outside culture (Gajjala, 2012), similarly to how national culture has an effect on online behaviour.

cultural diversity; power distance, collectivism versus individualism, femininity versus masculinity, and uncertainty avoidance (Hofstede & Hofstede, 2001). He claims that his surveys demonstrated the existence of national culture through the dimensions. Hofstede's research on culture has been criticised as being selective, not as representative as he claims, and being limited to one type of individual (marketing and sales staff within one organization). McSweeney (2002) provides a widely cited criticism of Hofstede's work, and describes the key problematic assumptions; every micro-location is typical of the national, national culture creates response differences, national culture can be identified through response differences, and that culture is the same in every situation of a nation. In addition, questions must be raised as to the validity of using Hofstede's dimensions of national culture outside the management realm where the survey originated from. Other criticisms of Hofstede point to the relatively new phenomenon of the nation-state, and the mis-match between framing culture within a nation-state and a 'culture' that has existed for thousands of years (Myers & Tan, 2002). In addition, globalisation has facilitated individuals to move to cultures outside of their 'home' culture, creating tension in the individual understanding of a national culture.

Although criticised by many, the use of national culture as a comparative and classificatory concept is still popular among IS and cross cultural online community theorists. What is uncommon, is providing solutions to this contested concept. Some suggest that IS researchers should treat national culture as multidimensional and dynamic, and study it at different levels. This includes using much smaller samples which can lead to a more precise understanding of the societies being researched (D'Iribarne, 1996). A greater reflexive approach is also proposed, and rather than treating national culture as a given, it should be treated more as a 'moving target'. In effect "we challenge information systems researchers to go beyond simplistic models of national culture. We propose that IS researchers should adopt a more dynamic view of culture – one that sees culture as contested, temporal and emergent." (Myers & Tan, 2002).

Aside from Hofstede, other theorists that have investigated national culture include Hall, Trompenaars, Schwartz, Kluckhohn and Strodtbeck, and the GLOBE research group. In an interesting thematic analysis across these six models Nardon and Steers (2006) examine potential common themes between these models. They determined that there are five distinct themes across the models:

1. Distribution of power and authority in society
2. Centrality of individuals or groups as the basis of social relationships
3. People's relationship with their environment
4. Use of time

5. Mechanisms of personal and social control

This analysis suggests that national cultural dimensions are apparent across multiple models, and can be identified within nations suggesting that although there are critical flaws in the conceptualization of national culture, there appears to be consensus across theorists as to theoretical thematic elements across national cultures. Two dimensions that are particularly apparent within national culture theory are the individualism / collectivism duality (Kim, Triandis, Kâğitçibaşı, Choi, & Yoon, 1994). Theorists believe that cultures differ to the extent by which individuals are embedded within groups. Countries such as the United States, Australia and Canada tend to be more individualist, whilst Portugal, India and Japan more collectivist. What makes these dimensions different to other national culture theories is that there is greater consensus about their validity across multiple disciplines (Triandis & Gelfand, 2012). However, a later meta-analysis of research using these dimensions concluded that individualism was not necessarily the best predictor of behaviour (Taras & Steel).

Another key point to note here is how each of these models were developed. Hofstede used IBM employees as participants, Schwartz school teachers, GLOBE middle managers, Trompenaar managers and employees, and Hall a variety of ethnographic settings. Nonetheless the Hofstede dimensions, for example, have been used frequently in cross-cultural studies across a variety of disciplines. It could be argued as to the viability of using national culture, with these parameters in mind, to the online community field. Should these dimensions only be used within the scope of management?

This criticism has been addressed by theorists outside of the management discipline, for example, as Huang et al (1995) are quoted within Cho et al (1999) in their comparative study of US and Korean television commercials “One must keep in mind that Hofstede studied work related values. People tended to consider work as important in their lives. Whether the same values would be manifested as promoting consumption (...) is surely open to question” (p. 61). However, disciplines, including IS, have found that his dimensions have been found to be relevant to web design (Callahan, 2005), aspects of web-based communication (Wilson & Peterson, 2002), tourism (Boley, Maruyama, & Woosnam, 2015), social psychology (Han & Shavitt, 1994), psychology (“Hofstede’s dimensional system originated in the domain of industrial-organizational psychology but the four dimensions deal with issues that are equally relevant to clinical psychologists (and psychoanalysts).”) (Arrindell et al., 1997), and within online communities (Pfeil, Zaphiris, & Ang, 2006). It is within this particular space that this thesis addresses.

2.4.3. National Culture in the Online Space

In the offline world, geographical boundaries, norms, values and physical objects such as state documentation can be used to define whether a person is from a particular nation or not. However, it is unknown whether individuals online are actually from a particular nation, even if they say that they are.

Even with the criticisms of using national culture as a static concept, lately, there has been increased interest in the effect of national cultures on the behaviour of online community users (Gallagher & Savage, 2012), and how differences between national cultures should be explored to improve design, administration and user communication in online communities (Morio & Buchholz, 2009). Although in the past researchers believed that there were no physical boundaries between online communities, and therefore, no cultural delimiters, more recent online communities have been created specifically for the needs of people in a particular country (Burnett, Dickey, Kazmer, & Chudoba, 2003; Hampton & Wellman, 1999; Talukder & Joham, 2009). This has changed the perception of online communities as being a culturally neutral space (Pfeil et al., 2006), to one which cultural aspects guide, influence and often limits user interaction.

For example, if, as early research suggests, the Internet transcends geographical boundaries, then why are thousands of online communities delineated by country ties? Why do individuals from similar geographical places (e.g. national countries) congregate in the same places online? This is apparent in the website prefix (.co.uk, .ie, .es), the aims of the community, the location of members, the topic of communication, the emphasis of being a community from a particular geographical location, and the administration of the community by moderators located in a geographical place. If it were the case that offline geographies had no impact on the development, make-up, structures and behaviour of online communities and their members, then why do Internet users create and engage in online communities with members of their own nation state? Why does the topic of conversation move towards culturally specific objects such as place names, local customs, idioms and nationally specific language? Although many multicultural online communities (e.g. Reddit, Facebook, 4chan) have interactions with individuals from many different nations, within these, geographically specific sub-forums are also both available and active. These have been created by community members, evidently, as there is a need for geographically specific online communities.

Researchers have found that some national cultural norms and characteristics can manifest themselves in online cultures (e.g. Hofstede's (2001) cultural dimensions, Hall's (1977) contextuality and Schwartz's (1992) model of cultural values) (Qiu, Lin, & Leung, 2012), and that patterns of accepted cultural behaviour should be taken into consideration during online

community investigations (Chou, 2010; Wasko & Faraj, 2005). More recent research has also found that geography shapes tie formation among individuals online, and that physical proximity strengthens the effect of virtual interactions (Hwang, 2015; Mersey, 2009). Some even believe that existing cultural ideologies are exaggerated in online communication (Wilson & Peterson, 2002), and that community members assert, define and negotiate cultural identities within cross-cultural communities (Darling-Wolf, 2004).

National culture has found to be a behaviour determinant in online communities (Vasalou et al., 2010) and has been earmarked as a neglected research area (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006). In effect, researchers have accepted that “the web is not a culturally neutral medium, but it is full of cultural markers that give country-specific websites a look and feel unique to the local culture” (Singh, Zhao, & Hu, 2003, p. 203). However, in these investigations of national culture in the online space, the concept of national culture is often neglected and the participants are often assumed to be part of a national culture because of their geographical location (i.e. being a student in a course) or their self-defined national culture belonging.

In looking at the idea of national culture, Anderson (1991) provides a definition of a nation is one which is limited, sovereign, imagined and a community; “It is imagined because the members of even the smallest nation will never know most of their fellow members, meet them, or even hear of them, yet in the minds of each lives the image of their communion (...)The nation is imagined as limited because even the largest of them, encompassing perhaps a billion living human beings, has finite, if elastic, boundaries, beyond which lie other nations;” (p. 6).

Anderson's imagined community has been addressed with reference to online communities by Heinz (2011) in her discussion of nationality in online communities. She found in her analysis of ‘Irish’ Facebook pages that many of the administrators of these pages were in fact American. “What makes them Irish though is that they imagine themselves to be part of this community (...) citizenship or being physically in Ireland is not relevant here (...) literally they share photographs, information and comments, and symbolically, they share an imagined connection to Ireland, as a real and a virtual space” (p. 219). Furthermore, she determined that although online communities maintain a national identity of Irishness, they also call into question the concept of nationality in the online space. Although being ‘Irish’ online is not limited to the location of the user, it guides our imagined understanding of ourselves in the online space.

Within the case of this research, the fixed determination of where the users are from, although of note, is not at the forefront. If we are to take Heinz's understanding of nationality using Anderson's imagined community, it could be posited that the actual location of the newcomer is not under discussion but it is rather their imagined national state within the community that is.

It could be posited that anyone can be 'Irish' online if they are imagining themselves as being Irish. However, in order to maintain certain national cultural parameters, a sampling framework has been developed for this study to ensure that the communities sampled are from defined national cultures.

We have already seen how online communities have grown in both size and importance, and there is a need to research the effects of national culture in online communities as:

- Current theoretical insights are inadequate for the scale of development being witnessed.
- Knowledge of how national culture can influence online community analysis, design and development is insufficient.
- The impact national culture has on knowledge sharing and user behaviour communication practices in online communities is not fully understood (Gallagher & Savage, 2012).

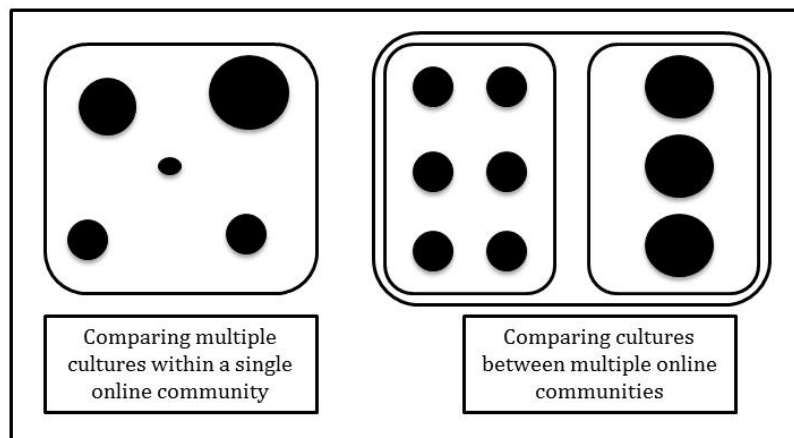
A major concern for researchers, community moderators and this thesis in particular, is how user behaviour in online communities can differ significantly between national cultures. It can be very difficult to plan and manage a community of users from different cultures without understanding key cultural elements from those cultures. For example, Japanese participation in online culture has been hampered by a written language based on ideographs rather than an alphabet, as well as certain cultural norms, such as social formalities (Barwell & Bowles, 2000). It may not be relevant or correct to use theories generated by Western online community research for communities from vastly different cultures.

Cultural differences can affect how individuals are motivated to use online communities (Madupu & Cooley, 2010), what information individuals contribute to the community (Karl, Peluchette, & Schlaegel, 2010), what knowledge is shared (Shu & Chuang, 2011), how cultures interpret online privacy (Chen, Chen, Lo, & Yang, 2008) and the degree and manner of cultural communication (Chu & Choi, 2011). By identifying what these cultural differences are, the core behavioural issues in online communities can be better understood (Chapman & Lahav, 2008). In essence, many researchers have noted that a more multicultural analysis of online communities is needed; "There appears to be ample opportunity for research based outside the USA to conduct country/culture specific VC (virtual community) research" (Li et al., 2009, p. 24).

Reflecting this belief, there has been a recent shift in online community research focus where research is moving from single specific case studies to more comparative, exploratory, inductive

and multicultural research (Wellman, 2004). Cross-cultural online community research is an example of this, which involves comparing two or more cultures across single (inter) or multiple (intra) online communities. This could involve, for example, comparing French and German user content across a single online community (e.g. Facebook). Alternatively, it could involve comparing users across two or more distinct online communities, for example, surveying users from Chinese and US online wedding communities.

Figure 5: Types of online community cross-cultural analysis (Gallagher and Savage, 2012)



Cross-cultural research is one method of investigating the globalised online space and its implications for wider cultural, economic and social interaction. It has proven to increase generalisability of findings, enhance methodological and theoretical robustness, identify differences between cultures, and promote greater understanding of user behaviour and communication. These features are highly significant for broadening the scope of online community research, especially in relation to cultural elements. This is of major importance for individuals involved in the field, and findings on cross-national perspectives can suggest appropriate courses of action for general community management, academia, regulatory agencies, and businesses (Shin, 2010). The next section describes what cross-cultural research is, and how it has been used in the online community field.

2.5. Cross-cultural Research

Cross-cultural research is a methodology most commonly used in the social, anthropological and psychological sciences. The methodology arose as a reaction against “the tendency in psychology to ignore cultural variations and consider them nuisance variables” (Kagitcibasi & Poortunga, 2000, p. 133). It can be defined as an approach where “one or more units in two or more societies, cultures or countries are compared in respect of the same concepts and concerning the systematic analysis of phenomena, usually with the intention of explaining them

and generalising from them” (Hantrais & Mangen, 1996, p. 1). It aims to discover variations that are not present in one single social setting (Segall, Dasen, Berry, & Poortinga, 1999, p. 2), and find relationships in variables under circumstances where they have been modified by cultural conditions (Delva, Allen-Meares, & Momper, 2010). The aspect of comparison is important in cross-cultural research, in that in order to interpret findings adequately researchers must systematically compare data from two or more cultures. Ultimately, the goal of this methodology is to discover and explain differences of behaviour and development among humans, with the aim of achieving a deeper understanding of individuals (Manaster & Havighurst, 1972).

It is important to note the differences between culture and cross cultural research within certain disciplines. Within psychology, for example, the notion of culture in cross cultural research is treated as an antecedent variable, and is viewed as external to the individual. Methodological approaches tend to be derived from psychology. However, within cultural psychology, many theorists treat culture as inside the individual, and research methodologies are derived from culture itself (Greenfield, 2000).

The scope of this part of the literature review focuses on research that has employed a cross-cultural comparative methodology within the online community space. An analysis of this type had never previously been conducted. It was unknown what the scope and space of this research space was, and a literature review of this nature provided a useful contribution to the field (Quattrone, Mashhadi, & Capra, 2014). This part of the literature review moves away from the wider definitional problem of culture and community, as discussed in 2.3, and focuses on the smaller sub-set of research investigating cross-cultural comparisons in the online community space.

The purpose of cross-cultural analysis in online community research is both varied and significant. It ranges from enhancing and increasing the generalisability of online community theory, to addressing methodological issues in online community research. On a more practical level, it allows for valuable insights in the design, moderation and facilitation of online communities by understanding how cultural differences influence community development. Examining the differences in online behaviour patterns between national cultural backgrounds has been identified as potentially improving the generalizability of results (Chan and Li, 2010), boosting research robustness (Jin et al., 2010), identifying patterns in the literature (Chan & Li, 2010), complementing existing research (Shu & Chuang, 2011), and advancing future research (Ridings et al., 2002). It has been highlighted as an important activity for future research directions such as privacy in the online space (Chen et al 2008), motivations for using social

networking sites (Kim, Song and Choi, 2011) and behaviour in online learning environments (Wang, 2011). As Lin and Lee (2006) describe in their research into determinants of success for online communities "(...) previous studies found that culture plays a significant role in Internet user behaviour (Liao and Cheung 2001). Knowledge of how cultural factors (such as lifestyle, cultural environment, technology adoption rate and traditions) affect the member behaviour in online communities will heighten the generalisability of online community research. An understanding of different cultural factors would allow this study to be applied to different cultures and thus provide cross-cultural comparisons"(p479).

The following sections explain the growing importance of cross-cultural online community research, with a particular focus on theory, methodological issues, the informing of design decisions and providing insights into user behaviour.

2.5.1. Theoretical Issues

The works of three cultural theorists dominate cross-cultural analysis in online community research; Hofstede, Hall and Kohn. Their work has been used to explain and direct research findings in the online community sphere (Fong & Burton, 2008; Hara et al., 2010; Karl et al., 2010). Edward Hall's (Hall, 1977) research focused on language patterns in different cultures and formed a distinction between high and low context cultures, in that some cultures differ in the amount of contextual information necessary for information transaction. Communications in high context cultures (such as Spain, Japan, China and Korea) tend to be implicit, indirect and abstract, whereas low context cultures (such as Australia, the United States and Ireland) express information more explicitly and directly (Choi, Kim, Sung, & Sohn, 2011). Another key theorist, Kohn (1987), distinguishes between four approaches to cross national comparison depending on the principal focus of the study; nation as an object of study, nation as a context of study, nation as a unit of analysis and nation as part of a larger international/global system.

Nevertheless, many have questioned the legitimacy of using the nation-state for this purpose given the global movement of individuals, culture, economy and labour (Hasebrink, Olafsson, & Stetka, 2010; Livingstone, 2003). For example, within the context of online communities, many, although grounded in a particular nation, may contain users from other nations. This could limit the verifiability of online cross-cultural research. As discussed in 2.2, within online community cross-cultural research, the term 'cross-cultural' is used rather than 'cross-national'. In effect, online community research is using the term 'culture' to denote geographical spaces. This brings about further questions as to the conceptualization of culture by online community researchers

and whether cohorts of individuals can be grouped in classifications of culture derived by their geographical location (see further discussion of this in 6.4.2.1).

The review identified that many studies used Hofstede dichotomies to select their countries for comparative analysis. Cross-cultural researchers in the web science and IS fields have commonly applied his cultural dimensions in analysis and theoretical development, with the individual-collectivism dichotomy being particularly popular (Choi et al., 2011; Kim et al., 2011; Madupu & Cooley, 2010). For example, Asian cultures tend to exhibit a greater level of collectivism, whereas Western cultures tend to be more individualistic. Karl et al. (2010) used Hofstede's country rankings to select countries for investigating personality differences in Facebook. Having chosen two countries with dissimilar individualism rankings (Germany and the US), they then used this cultural dimension to hypothesize theory on posting faux pas in social networking sites. Further studies have used this dichotomy to identify privacy issues (Chen et al., 2008; Marshall, Cardon, Norris, Goreva, & D'Souze, 2008), and communication behaviour (Fong & Burton, 2008) in online communities.

However, as discussed 2.4.2, there have been critiques of Hofstede's work, which suggest that one cannot assume findings from just one company and 100,000 people to the entire global population (McSweeney, 2002). Critics believe that generalizing all members of a culture to single description neglects diversity within these cultures and reduces culture to a simplistic model. In the context of online community research, it does call in to question whether Hofstede is the optimum theorist, given the likely mixing of cultures within an online community in particular. This cultural diversity within online communities can be seen in Internet traffic statistics, user divulgence of geographical location, language and slang used, and the general content of the community. It is important to be aware of this cultural diversity when conducting cross-cultural research. It can profoundly affect the research, especially if there is an assumption that the compared data is uniquely from one culture. The suitability of using fixed descriptions of culture could hinder analysis, and adequate research into the user composition of an online community is well-warranted prior to selecting it for cultural analysis.

Language is another concept that has been used to a lesser extent to define and classify online communities. However, it can be erroneous to suggest that a language can be used to classify a community. In 2010, over 153 million Spanish speakers used the Internet (Internet World Statistics, 2013), but it is the official language in twenty sovereign states (Wikipedia, 2013). This suggests that a language, such as Spanish, cannot be used to classify a community because of its use in many different cultures. For example, the culture in Spain is very different to the culture in Peru and yet their language is the same.

Cultural differences should not be confined to language and national characteristics, and yet it can be difficult to understand culture without these characteristics. The nature of online communities can often result in the blending of cultural values and norms (Grace-Farfaglia, Dekkers, Sundararajan, Peters, & Park, 2006) creating analytical difficulties. Accordingly, a broader, holistic analysis that takes these concepts into account, but is not limited by them, is warranted. It could also be suggested that a more holistic approach to cultural theory would be more suited to this type of research. Instead of only using national culture as a comparative particular, additional parameters such as community subject type, number of user typologies and size of community be taken into account when sampling communities for analysis. This could narrow down the wide scope that national culture uniquely has in a comparative analysis.

2.5.2. Methodological Issues

In the past, online community research has primarily used single case studies, either from a single online community or from a single nation, to develop and generate theory. Few studies have paid attention to the differences between cultures within online communities (Ishii and Ogasahara 2007). Accordingly a significant area of comparative analysis that could provide important insights into user behaviour in online communities, for example, is lacking.

Cross-cultural research methodology tests hypotheses over different populations and cultures, creates increased variables for study and reveals population variation. In particular for online communities, this methodology can provide information on understanding different national communication practices, identify the impact of national culture on online communities, help design better information sharing systems and shape online community policies. Testing theory and hypotheses in environments with different cultural characteristics could extend the external validity of the study (Kim et al., 2008), and using culture as a research variable could also have an effect on theory generation.

Comparative research identifies both theoretical similarities and differences between cultures and is used for many diverse reasons (see 3.2.2 for a full discussion of this). These include testing a theory across distinct settings, challenging claims of universality, evaluating the scope and value of phenomena, improving international understanding, building a universally applicable theory, questioning the uniqueness of findings based on nation-specific data, revealing gaps in knowledge, and point to new variables influencing the phenomenon under analysis (Hasebrink et al., 2010; Livingstone, 2003). This comparative element of a cross-cultural methodology is at the same time both fundamental and problematic. It is imperative

that multiple cultures are compared to develop and substantiate theory, but comparing different cultures can be highly complex and challenging.

There are conceptual and interpretive difficulties associated with comparing different national cultures. On a practical level there are difficulties in data comparison and sampling issues, such as the selection of suitable communities for study on the basis of convenience or personal ties. Within cross-national collaborative research there are problems arising from the cultural differences inherent in the collaborators (Berry, Poortinga, Breugelmans, Chasiotis, & Sam, 2011; Hantrais & Mangen, 1996). Methodological problems in comparative research, such as measurement equivalence, can also call results into question. Is the concept of trust, for example, considered the same in Japan as in Spain?

Other problematic methodological issues that are associated with cross-cultural research include cultural equivalence (e.g. differences in linguistic and cultural understandings of research concepts (Tran, 2009)) and ethno-centrism, defined as misinterpretation of the behaviour of others through one's own cultural glasses (Matsumoto, 1997). This is problematic, as if research is only viewed in terms of the researchers own culture, false assumptions could be made.

2.5.3. Design Issues

The consideration of cultural differences when designing online communication systems is of great significance (Morio & Buchholz, 2009). Chapman and Lahav (2008) stress that designers should identify and target specific markets, or consider how to design adaptable platforms that can meet the varying needs of users in multiple cultures. Correct online community design should take into account cross-cultural differences, for example an employee's values, perceptions, preferred style of communication, and cognitive and learning style, and is important for the success of corporate and multinational knowledge-based online communities (Ardichvili et al., 2006).

A cross-cultural research methodology helps identify differences between cultures, and hence can help designers to develop better cross-cultural knowledge management systems and shape policies that advocate cross-cultural knowledge sharing (Siau, Erickson, & Nah, 2010). Developing improved design features stemming from cross-cultural research could potentially increase membership and progress user behaviour within the community. However, given some of the aforementioned challenges associated with cross-cultural research, research into design issues within the cross cultural online community space should consider how these methodological and theoretical challenges may impact on research outputs.

2.5.4. Issues of User Behaviour and Communication

User behaviour in online communities can differ significantly between national cultures, and this can be a concern for community managers and administrators (Fong & Burton, 2008; Jawecki, Füller, & Gebauer, 2011; Pfeil et al., 2006). It can be difficult to plan and manage a community of users from different cultures, and cross-cultural research can help improve understanding of these cultural variations. Cultural differences can affect user motivation, knowledge sharing, privacy, cultural communications and many other pertinent online community issues. Research into cross-cultural user behaviour in online communities, such as deceptive activities, can also provide insight for trade negotiations, intelligence gatherings and international conflicts (Lewis & George, 2008). Large multinational organisations are employing more individuals from disparate cultures, and the need to pay attention to cultural differences has become a priority for organisations to fully exploit their intellectual assets across-cultural borders (Ribiere & Qiping, 2010). There is a need to understand these differing cultures in the context of online communication, especially when many are using in-house knowledge management systems and communities to share and disseminate knowledge.

It is evident that cross-cultural analyses of online communities are a pertinent and relevant research methodology. However, although this is a significant research area, it was found that there was no existing literature review on the prevalence of cross-cultural online community research. This next section reviews the literature on cross-cultural online community research, and discusses the implications that have arisen from this research.

2.6. Cross-cultural Online Community Literature Review

Given the importance of the cross-cultural methodology for online community analysis, it was surprising that a literature review of cross-cultural studies of online communities had not been previously performed. A review of this type was necessary as it directed future theoretical study and demonstrated the significance of using a cross-cultural analytical methodology with online community research¹³. It was also an interesting topic for identifying potential gaps in research that could be addressed by this thesis.

<p>Literature Review Research Questions:</p>
<p>What literature has been published on cross-cultural online community research?</p>

¹³ This section selects the most pertinent points from Gallagher and Savage (2012). For more information and greater detail on the methodology and results of this review, please consult this paper.

What are the key emergent themes of this research?

What are the gaps in knowledge of the research?

In this literature review the term 'online communities' was used to denote the full range of online community types. This includes traditional community discussion forums (Chiou & Lee, 2008), communities of practice (Li, 2010), social networking sites (Chapman & Lahav, 2008) and collaborative authoring communities such as Wikipedia (Pfeil et al., 2006). Within these 'online communities' there can be large differences in community motivation, purpose and orientation, which can affect cultural development and analysis. However, as this type of literature review has not been previously completed, and in order to provide a wide-ranging picture of cross-cultural research in the online community field, all community types were included in the review.

2.6.1. Literature Search and Scope

The objective of this literature review was to identify and review comparative cross-cultural online community academic articles. The rationale for doing this was to understand fully the cross-cultural methodology in the online space, and identify emerging themes and potential knowledge gaps in the literature. Online academic databases were used to identify relevant articles. These included ISI Web of Science, Science Direct, Scopus, Google Scholar, SpringerLink and the Association for Computing Machinery. The search was limited to English language, peer-reviewed articles published between 2000 to the end of 2011.

The following search terms were used both singularly and in combination in the searches: 'online community', 'virtual community', 'social networking', 'cross-cultural', 'cross-national', 'culture', and 'multicultural'. These terms were searched for during November, December and January of 2011 / 2012. The bibliography of each article that was initially identified in the electronic search was subsequently searched to find any further papers for inclusion.

2.6.2. Inclusion Criteria

A literature review requires explicit inclusion criteria to ensure proper selection and identification of literature. To be selected for inclusion in this review, each article satisfied the following criteria:

- The research is investigating some aspect of online communities¹⁴, be it using online community data, or investigating opinions of some aspect of online communities.
- The research is investigating data or opinion from two or more differing national cultures. In general, geographical countries were taken as the unit of culture¹⁵. The rationale for this was because it was the main unit used in the literature reviewed and it allowed comparability between the publications.
- The national cultures must be compared over some research topic or hypothesis.

A total of 36 articles that met the inclusion criteria were selected for review. Each article identified in the literature search was read, and text of importance was subsequently entered into a concept matrix (Webster & Watson, 2002) in order to compare, classify and extract information from each. The matrix contained conceptual headings from which similarities and differences between the studies were identified including 'methodology used', 'countries compared', 'research typology', 'online community type', and 'online community specific comparatives'. Results identified from each publication were inputted into the grid (see Appendix A). It was from this matrix and its comparative analysis that themes emerged for discussion.

2.6.3. Results

This section describes the results extracted from the concept matrix, and contrasts the literature in terms of the cultures and online communities compared, the research topics used, and the differences in methodology and sampling techniques. It will address more general issues at the beginning, and continue to discuss specific results of interest and provide a classification of the literature based on the analysis. These results were important for identifying emerging trends and potential gaps in online community cross-cultural research.

Appendix A gives an overview of all 36 studies in terms of the following characteristics; the author and year of publication, the research methodology and sample, the countries compared against each other within the literature, the research typology, the online community type, and the online community research comparatives.

¹⁴ The broad term 'online communities' was used and it encompasses all those communities that an author has stated as being 'online communities', 'virtual communities', 'social networking sites', 'knowledge communities', 'online communities of practice', or 'online discussion boards'. Given the small scale of the current state of this research, it was decided to have as broad a scope as possible.

¹⁵ Four publications use language instead of country as the cultural delimiter.

2.6.3.1. Comparative Research Particulars

Comparative cross-cultural analysis was the principal analytical tool repeated throughout the literature. For this reason, the review extracted the four key comparative elements from within each study; culture, research topics, method¹⁶ and online community type. The following sections describe the results of the comparative extraction of culture and research topics which are the most relevant to the three literature review specific research questions detailed in 2.6.

Comparative Cultures

As described in 2.6.2 a study must have two or more cultures compared over a particular theme or theory to be included in the review. The majority of studies used two comparative cultures (n= 20), with lesser numbers of three (n = 8) and four or more (n = 8) comparative cultures. Using additional comparative cultures can bring about problematic practical and methodological issues, but conversely, it can also provide more comprehensive, generalisable and detailed comparable information.

The countries used for comparative analysis tended to be from Asia or North America. Of particular interest, the review found the same countries being used across many of the studies, namely the US (n=25), China (n=13), Korea (n=9), France (n=6), India (n=4), Japan (n=4) and Taiwan (n=3). Few South American (n=3) countries were compared, and none from the African continent.

Country selection is of great importance in comparative cross-cultural research, and, evidently, countries with greater Internet uptake and developed online communities are those more widely used for analysis. Common reasons given for selecting a particular country include comparing a 'Western' and an 'Eastern' culture, or to compare countries that were on opposite ends of the Hofstede scale. In comparing Western and Eastern cultures, online communities from the US have been commonly used as the dominant 'Western' analytic culture, with smaller and more disparate numbers of European countries such as France and the UK, used (Vasalou et al., 2010).

Of the 'Eastern' online community cultures used for comparative analysis, China and Korea were frequently used. Few online communities from technologically emerging cultures such as Indonesia and the Philippines were studied. A striking finding was that a significant number of studies used maximum variation sampling in selecting their countries, for example the US and China (n=10), and the US and Korea (n=6). Fewer studies compared countries with less extreme

¹⁶ This is discussed in Chapter 3 – Methodology and in 2.6.3.3 below.

cultural differences, such as the UK and France (Posey, Lowry, Roberts, & Ellis, 2010; Vasalou et al., 2010) and Taiwan and China (Chou, Lee, Chang, & Lin, 2009).

Other reasons for country selection identified in the literature review included selecting countries that displayed the greatest online community activity, selecting on the basis of research team composition, and selecting to compare industrialised and industrially developing countries.

Comparative Communities

The type of online community used for analysis by each study was examined. However, a lack of continuity of the term used to define the online community was found, which caused some difficulties in comparison. Rarely were formal classifications of online communities used. One study (Chou et al., 2009) referenced Armstrong and Hegel's (1996) categorisation of online community, however other common typologies were not used. This was a problematic issue as it hindered comparative analysis between the studies. For example, a wide variety of online community terms were used in the literature including social networks, bulletin board communities, Google Groups, Yahoo communities, organisational communities, educational communities, knowledge sharing communities, brand communities, newsgroups (both public and private), virtual worlds (Second Life) and Wikipedia.

The review found that Cyworld (Korea), Facebook (Global) and MySpace (US) were the three most commonly compared online communities. These are social networking communities with a large user base from highly technologically advanced countries. General online bulletin board forums and social networking websites were other commonly researched online communities. Conversely, blogging and chat communities were not as commonly studied in cross-cultural analysis, nor were communities of practice and virtual worlds.

Comparative Research Topics

An important research aim of this review is to investigate what conceptual patterns are emerging from the studies. This is significant, as it can identify both knowledge gaps and similarities in the research field. The broad comparative research topics (i.e. topics where the cultures were compared with each other) for each study were extracted, inputted into the matrix and evaluated against one another. This analytical technique showed some interesting patterns in the literature.

Certain comparative topics were repeated throughout the studies. These included motivations to use an online community, online versus offline relationships, knowledge sharing and creation

in online communities, demographic and activity measurement, Hofstede's individualism versus collectivism, Hall's contextuality, and online community behaviour and communication. These topics can be grouped under the broad heading of user behaviour.

2.6.3.2. Inter-comparative vs. Intra-comparative Community Analysis

A key distinction, not previously identified in the literature, was the difference in the locus of cultural comparison in cross-cultural research, namely whether the research was comparing two or more cultures within a single online community (intra-comparative) or comparing two or more communities from distinct cultures (inter-comparative). Intra-comparative studies compared different cultures within a single online community. For example, surveying Facebook users in different countries (Karl et al., 2010; Vasalou et al., 2010), Wikipedians from different language speaking cultures (Hara et al., 2010; Pfeil et al., 2006; Stvilia, Al-Faraj, & Yi, 2009) or interviewing multicultural users from a single community of practice (Ardichvili et al., 2006). These studies used multicultural online communities for theory verification, hypothesis testing and general exploratory analyses.

Inter-comparative studies compared different cultures located within two or more distinct communities, for example two separate Google Group communities in Germany and India (Pflug, 2011). These included studies comparing motorcycle discussion communities (Madupu & Cooley, 2010), or corresponding Yahoo communities (Siau et al., 2010). These studies explored specific research issues, for example, political participation in online communities (Xie & Jaeger, 2008), contextuality (Pflug, 2011) and leisure activities in virtual worlds (Flores & Horner, 2010). Other inter-comparative studies included a content analysis of two dissimilar communities in different cultures (Talukder & Joham, 2009) and a cross-cultural user survey about general online social networking activity (Cardon et al., 2009). Many of the inter-comparative studies were exploratory in nature, and most used their research for theory verification rather than generation. The review found that 8 studies used an intra-comparative analysis and 28 studies used an inter-comparative analysis.

2.6.3.3. Research Methodology and Sampling Procedures

Methodological classification is an important process in this review, as it can help determine relationships between studies, visualise common methodological structures, provide a reference point for future studies, lay a foundation for future theorisation and facilitate comparative analysis. The studies can be classified into two broad methodological strands of cross-cultural online community research; observational research (i.e. via ethnography or

content analysis) and opinion research (i.e. via surveying or interviewing). The review established that 19 of the studies reviewed used opinion research, 12 used observation, and 5 used a combination of both (see Appendix A for more details).

Further discussion of the findings from this literature review and how they impacted on the sampling and methodology of this research are provided in Chapter 3 and in Gallagher and Savage (2012).

2.6.4. Emergent Themes

Three key emergent themes were identified from the literature that warranted further discussion; methodological difficulties in online community cross-cultural research, the impact of theory on cross-cultural online community analyses, and the analysis of user behaviour across different national cultures. For the purposes of this literature review, relevancy and brevity, only the latter theme will be discussed (see Gallagher and Savage (2012) for a full discussion and section 3.2 for a discussion on methodological difficulties).

One of the key emergent themes that arose from the analysis of cross-cultural online community literature was the interest in online community behaviour and computer mediated communication across different national cultures. As has been described in 2.4.1 issues of user motivation, knowledge sharing, and various elements of cultural theory related to behaviour were investigated by the literature review, and the review identified that many of these studies used Hofstede dichotomies to select their countries for comparative analysis. However, as discussed, there are problematic elements to using his theories in this type of research, even though a large number of peer reviewed publications within the online community space use his theories.

It could be suggested that a more holistic approach to cultural theory would be more suited to this type of research. Instead of only using national culture as a comparative particular, additional parameters such as community subject type, user typologies, size of community or user behaviour classification should be taken into account when sampling and investigating communities. This could narrow down the wide scope that national culture uniquely has in a comparative analysis.

In fact, cross-cultural theorists Hantrais and Mangen (1996) claim that looking into sub-societal units rather than whole societies can help define the unit of observation in a cross-cultural analysis. They believe that by grouping and comparing sub-societal units, such as age, occupation or family position, the range of uncontrolled variables is scaled down, and more

significant answers could potentially be drawn from the sample. In effect, using theories such as Hofstede, could be supported by using a smaller range of uncontrolled variables.

As such, comparative investigations of smaller societal and behavioural units could be very significant for improving cross-cultural analysis within the online community field. However, in an online community, demographic units such as age and occupation are rarely visible nor validatable. The main classifier used by researchers investigating online communities is user typologies of behaviour.

Looking at this in more detail, it was found that there was no detailed literature on cross-cultural comparative analysis of the behaviour of online community user typologies.

2.6.4.1. Knowledge Gap

Four key elements that arose from the literature review need to be highlighted at this stage:

- There is great interest in the impact of culture on user behaviour within the online community cross-cultural research community.
- A more holistic approach involving micro-level classifiers could aid cross-cultural analysis of online communities.
- Comparing online community user typologies could minimise the range of uncontrolled variables that arise from cultural analysis.
- Current classifiers of user behaviour have not been examined cross-culturally.

The literature review suggests that a comparative investigation of user behaviour typologies (e.g. lurker, leader, elder) between online communities from different cultural backgrounds (i.e. comparing French and German lurkers) would be justified. This has not been previously investigated by researchers and leads to the development of the broad purpose of this research.

2.6.4.2. Purpose Statement

Up to this point, the literature review has outlined the importance of researching cultural elements in online communities, and how the cross-cultural method using micro level user typology classifiers could be a useful facilitator for this investigation. The next section describes how these elements were used to formulate the research aim. Consequently, the purpose of this research is to explore whether there are cross-cultural differences in online community user behaviour using micro-level classifiers of online community users. This has never been implemented in an online community setting previously.

The following sections refine this purpose statement by addressing online community behaviour and its current classification in the literature, and explain which micro-level classifier will be used for cross-cultural analysis.

2.7. Classifying Online Community Users

User behaviour in online communities has been a much researched topic because of its importance for community development, satisfaction and interaction, and classifying users and their related behaviour has been a popular research endeavour (see Appendix C for details of this popularity).

The literature review on online community cross-cultural analysis identified an issue that warranted further analysis, namely using smaller units of analysis for comparative research on online community user behaviour. In order to identify these smaller units of online community behaviour, a second literature review was conducted to determine how users are classified within online community literature.

At this stage, the word 'classification' is being used as the encompassing term for the different online community user types being investigated. It is understood that the word 'classification' may not be the optimum word to use because of structural variation of different user taxonomies and typologies described in this literature review. Although many researchers use the terms interchangeably, it must be noted that there are differences in typification and classification (Doty & Glick, 1994). Typification refers to the "pragmatic reduction and equalisation of attributes relevant to the particular purpose at hand for which the type has been formed, and involves disregarding those individual differences of the typified objects that are not relevant to such a purpose." (McKinney, 1969, p. 1), or more briefly, where concepts are being classified. In contrast, classification involves arranging something into a set of related categories. As the ultimate aim of this portion of research is to examine the classification of online community users, rather than typifying them, the term classification is used.

<p>Literature Review Research Question:</p>
<p>How are users classified within online communities?</p>

2.7.1. Literature Search and Scope

When researching online community users it became apparent that authors had identified and classified a vast number of different classifications of user behaviour. Many of these classifications of user behaviour overlapped and an extensive literature review and

organisation of these classifications was conducted. The objective of this literature review was to comprehend fully the literature surrounding the classification of online community users in order to determine which could be used for cross-cultural comparison.

Ultimately, the main aim of this exercise was to help understand key concepts behind each classification of user typologies and provide definitions for each. Online academic databases were used to identify relevant articles. These included ISI Web of Science, Science Direct, Scopus, Google Scholar, SpringerLink and the Association for Computing Machinery. The search was limited to English language, peer-reviewed articles published between 2000 and the end of 2012. The bibliography of each article that was initially identified in the electronic search was subsequently searched to find any further papers for inclusion.

2.7.2. Inclusion Criteria

The following search terms were used both singularly and in combination in the searches: 'online community', 'virtual community', 'social networking', 'classification', 'user', 'user behaviour' and 'user typology'¹⁷. A wide range of online community types was searched in order to get a full review of all user behaviour typologies in this field. Although there may be marked differences in the concepts that were obtained from the literature in terms of context and meaning, more importance was given to the definition, classification and identification of these concepts to demonstrate the variety and spread of online community behaviour classification. During the process of the review it was noted that the many user behaviour classifications were termed as 'roles' and the following search terms were added: 'role', 'type', 'social role' and 'user role'. These terms were searched for during November, December and January of 2011 / 2012.

2.7.3. Classification and Analysis of Online Community User Types

89 different online community user type concepts¹⁸ by 25 articles were identified in the literature review and analysed using a concept matrix (Webster & Watson, 2002). These concepts were identified through reading the text and entering the information into the concept matrix. This was to provide a classification and synthesis of the user types and is available in

¹⁷ Typology was also searched for because of the common practice of using the terms typology and classification interchangeably. The term 'classification' is used here for reasons of clarity but it is understood that both terms have been used in the literature.

¹⁸ The word 'concept' is used here as an overarching term for all of the classifiers of online community behaviour. This is for ease of understanding. As will be seen from the literature review, user behaviours were called different terms by different researchers, and it was decided that 'concept' was the broadest term that could be used at this stage.

Appendix C. This analysis of online community user classification literature was divided into three sections:

1. Primary level classifier

The primary level classifier is how each paper identified their classification within the text. Three main classification categories were identified; 'roles', 'types' and 'other'. These classifications were developed by looking at how the papers self-defined their user classification. For example, authors who defined their concepts as social roles, member roles and participation roles were all grouped under the 'Roles' classification. Authors who defined their concepts as social types, member types, user types were grouped under 'Types'. This was useful to see how authors were conceptualising their online community behaviours at the macro level. This classification demonstrated that there was small and stable organisation of high-level user types with only three different classifiers. The most common classification was 'roles', with 10 articles, followed by 4 articles under 'types', and 3 under 'other'.

2. Researcher defined classification

The second analysis investigated the researcher defined classification, that is, the term used to define their classification. Eleven separate classifications were identified in the 25 different articles reviewed. Although some of these classifications are context specific (i.e. Learner roles (Waters & Glasson, 2006)) it was important to identify these in order to classify and compare with the other roles. Social roles were the most common classification denoted by authors, with 7 articles calling their user behaviours 'social roles'. 'User participation' was the second most common with 2 articles, and the remaining classifications were all singularly defined (i.e. member roles, author types, user types). Of interest, there were some classifications that were very similar to 'social roles' and were defined almost identically such as 'social types', 'user types', 'member roles' and 'member types'.

3. Researcher defined concepts

The smallest level of analysis involved selecting each individual behaviour classification from each paper. This was done in order to find out the complete range of online community behaviours that had been identified in the literature. A total of 89 concepts were identified. What was striking about the analysis of the micro-level behaviours, were the similarities between many of the concepts even though many were context specific (i.e. learner roles). User behaviour concepts such as questioners (5 articles), periphery members (9 articles), newcomers (5 articles), leaders (10 articles), negative behaviour members (4 articles), lurkers (6 articles) and active members (10 articles) were all repeated across the classifications.

Three key elements stood out in this analysis:

1. The use of the word 'roles' in the majority of online community user behaviour classifications.
2. The similarities between many concepts across different classifications and contexts.
3. The great breadth of user behaviour classifications across the literature.

This review provided an excellent background to user types in online communities. It was important to conduct this investigation because it gave additional insight into how micro level classifications of user types are being investigated by researchers, and demonstrated how there are similarities in overarching user types.

In looking at the literature review of user types in online communities, it was noted that there had been no cross-cultural comparisons of micro level behaviours, including social roles such as newcomers and leaders. This supports the research that arose from the cross-cultural online community literature review which also found that there had been no cross-cultural analyses of online community types.

This leads us to the next research question:

Literature Review Research Question

What online community user typology should be selected for cross-cultural comparative analysis?

The literature review demonstrated that the most common method for classifying user types in online communities is by using the concept of a social role. The use of a 'role' as a classifier for social behaviour has been explored in great detail across many disciplines. As Biddle comments "Role theory concerns one of the most important characteristics of social behaviour-the fact that human beings behave in ways that are different and predictable depending on their respective social identities and the situation"(Biddle, 1979).

Roles have been examined within the symbolic interactionist, structural, organizational, functionalist, and cognitive perspectives, among others. The symbolic interactionist perspective argues that social roles evolve through social interaction (Stryker, 2001). In contrast, the structural perspective determines that social roles arise from social structures, in that patterns of behaviour are disseminated to individuals within similar social structures (Burt, 1976). The third perspective, organizational, believes that social roles are pre-planned and hierarchical, such as those in organizations (Halpin, 1958). The functionalist perspective attributes social roles to expectations within societies that have been taught to individuals. The final perspective,

cognitive, focuses on relationships and social conditions that drive role expectations (e.g. role-playing (Moreno & Jennings, 1934)). Using the term 'social roles' has been criticised as neglecting the complexity of social systems, and role theory, as described above, lacks comprehensiveness and adequate consideration of socio-political forces that impact on human actions (Jackson, 1998). However, even so, both online and offline communities have been investigated with social roles in mind, as is apparent from the wide variety of literature on social roles within multiple disciplines.

Within the context of online communities, all of these perspectives could potentially apply, as the determination of a social role in the online space is similar (albeit contextually and spatially different) as the offline world. In examining the literature on classifications of online community users, it is apparent that this literature views social roles in a functionalist and social interactivist perspective. In particular, this literature conceptualizes social roles as behaviour that is 'learned' through lurking in the community. This is one of the areas in which offline and online communities differ somewhat. It is difficult for offline community newcomers to lurk before exposing themselves to a community. The learning of social roles is often done in conjunction with interacting with the community. However, in the online space, members can lurk, through reading community interactions, without having to actually interact with other members. This is an interesting area for future research, but, within the context of this research, social roles are valuable as a tool for simplifying systems of action, recognising and comparing user types and cultivating and managing communities (Gleave, Welser, Lento, & Smith, 2009).

Investigating how these structures differ between and within cultures has been a common activity in the offline world (e.g. comparing father and mother roles in the US and Poland (Kohn & Slomczynski, 1990)) (Schooler, 1996), and should also be taken into account in attempts to find similarities and differences between online users. In the same way that there are many different types of online communities, there are many different types of online community users who behave in different ways. These online community users have been distinguished and classified in a community by the social role they occupy. These can include active users who post regular content (known as regulars (Lave & Wenger, 1991) or actives (Ip & Wagner, 2008)), users who read posts but don't contribute (known as lurkers (Chen, 2004)), and users who ask questions but don't reply or contribute much (known as questioners (Brush, Wang, Turner, & Smith, 2005)).

Social roles are expected patterns of behaviour in a given context where rights and duties are attached to a given status (Biddle, 1979). For example, a lurker is expected to 'lurk' and not post any content, a 'questioner' is expected to question. These online roles can be observed in

communication content, user identities, patterns in social networks and the behavioural history of members. Ultimately, these social roles are a window into the underlying social structure of interaction (Bettencourt & Sheldon, 2001). They can help classify, compare and reduce the complexity of population behaviours and understand the behaviour of individuals and communities (Barnes, Bauer, Neumann, & Huber, 2007; Lerner, 2005). Researchers also use social roles to differentiate between research subjects and display links between an individual's role and the structure of the community (Barnes et al., 2007; Gleave et al., 2009; Golder & Donath, 2004; Yeh, Lin, & Lu, 2011). It is notable how online community research has moved from arguing against online communities being communities, to incorporating elements from traditional theories of sociology and psychology, to understand member behaviour.

Categorising online community users through social roles is beneficial to online community managers as it helps monitor the relative proportions of roles within a community; for example, if there are large numbers of existing members but very few newcomers, this could have an impact on the future development of the community. It is also helpful for the online community users themselves, as being able to distinguish between social roles enables better understanding of who other users are, how they can be useful in a community, and can help support community user interaction (Forestier, Stavrianou, Velcin, & Zighed, 2012).

In summary, social roles are a relevant, important and valuable way of investigating online community user behaviour. The concept of social roles also supports the emergent themes and knowledge gaps (investigating user behaviour cross-culturally using smaller units of analysis) identified from the cross-cultural literature review. In particular they are useful:

- To understand the behaviour of people holding the roles.
- To explain why and how people interact and collaborate.
- To help classification, synthesis, comparative analysis and to develop frameworks, models and theories.
- To help community management, growth and design through identifying patterns in social role development.
- To reduce the complexity of population behaviours.
- To make sense of online community behaviour types.
- To de-clutter the online community classification field.

Social roles have been identified as the user typology to be used for comparative cross-cultural analysis in online communities. The following section narrows down the research by identifying which social role will be used for comparative analysis.

2.8. Identifying the Social Role for Comparative Analysis

Classifications, such as social roles in online communities, are used to classify diversified behaviour into meaningful categories (Barnes et al., 2007), and yet it is unknown whether there are deviations in these social roles between cultures online. Investigating social roles can help understand the behaviour of an individual and the communities they inhabit. However, there have been no analyses of online social roles comparing and investigating potential differences and similarities between different national cultures. This is of great importance to the field, as it could highlight areas of difference between standard conceptions of online social roles between national cultures and provide additional insights into community communication practices. This returns to the issue identified in the cross-cultural literature review, namely that a cross-cultural methodology had not been used to investigate online community social roles.

A comparative cross-cultural investigation of social roles (e.g. lurker, leader, elder) between online communities from different national cultures (i.e. comparing English and Irish lurkers) could provide detailed information on the formation, development and breakdown of online community users. It could inform whether these social roles can be taken as culturally homogenous across online communities, or whether national culture has any effect on social roles. This leads us to the next research question:

Literature Review Research Question

What social role should be selected for cross-cultural comparative analysis?

From the social role literature review and classification, a great number of different social roles were identified, and the newcomer was subsequently selected as the role that would be most interesting and pertinent to investigate in a cross-cultural context. The rationale for using this particular social role is:

- Newcomers sustain a community by replacing users who leave the community (Kim, 2000; Kraut et al., 2011) and are indispensable for membership growth. Community development depends on the movement of these users from being periphery members to core members (Singh et al., 2012).
- Newcomers contribute new ideas and perspectives (Ren et al., 2007) and can increase interactivity between members (Millen & Patterson, 2002). By identifying similarities and differences of newcomers in different cultures, insight can be made into the development of a community, and how culture can have an impact on this.

- A major challenge for online community managers is to recruit, integrate, socialise and retain newcomers into the community (Kraut et al., 2011; Preece & Shneiderman, 2009; Ren et al., 2007). If new members fail to socialise, communicate and contribute to the community, its success could be compromised (Ren et al., 2012). Investigating the behaviour of newcomers in different cultures can produce important knowledge to help community managers effectively integrate these users.

2.8.1. Defining a Newcomer in an Online Community

Research into newcomers originated in psychology and organisational theory, and much has been written on their assimilation into offline organisations (Chao, O'Leary-Kelly, Wolf, Klein, & Gardner, 1994; Jones, 1986; Moreland, 1985; E. W. Morrison, 2002). However, although there are similarities between online and offline groups, it would be erroneous to generalise theory automatically between them (Al-Saggaf & Begg, 2004; Choi, Alexander, Kraut, & Levine, 2010). The concept of a newcomer in an online community has been discussed by a wide range of disciplines including social role theorists (Golder & Donath, 2004; Viegas & Smith, 2004), community theorists (Kim, 2000), human-computer interaction theorists (Kraut et al., 2011) and social anthropologists (Lave & Wenger, 1991). These researchers have defined online community newcomers by their activity in the community (e.g. time period since registration or total number of posts). Their investigations have analysed newcomer behaviour in order to understand how to retain them in the community, sustain their community presence, support them during their initial communications, and improve their community interactions.

Newcomers have been primarily characterised by their behaviour in an online community (e.g. conversation strategies, information process, membership claims). Common newcomer conversation strategies such as questioning (Burke, Kraut, & Joyce, 2010), supplication (Golder & Donath, 2004) and legitimacy (Galegher, Sproull, & Kiesler, 1998; Lihua, 2010; Stommel & Koole, 2010; Stommel & Meijman, 2011), have been identified. It has also been established that many newcomers tend to seek rather than impart information to help them gain knowledge and awareness of the community's expectations (Ahuja & Galvin, 2003; Han & Farzan, 2013; Singh, Johri, & Mitra, 2011). Similarly, to aid community integration, newcomers claim group or identity based membership to indicate their connection with the larger social category from which the community draws its membership (Burke et al., 2010). For newcomers to be accepted into a community, they need to be answered and receive positive replies from the group. Research has found that whether a newcomer receives a reply or not (community responsiveness) is a major factor for community integration and the likelihood for repeat posting (Burke, Joyce, Kim, Anand, & Kraut, 2007).

Although the research suggests that there are similarities between newcomer behaviour, some classification has been developed which suggests the heterogeneous and complex nature of a newcomer (Han & Farzan, 2013; Pan, Lu, & Gupta, 2014; Singh et al., 2011; Singh et al., 2012). Even though the complexities of the newcomer are now more understood, there is scant research into how newcomer behaviour may differ within online communities from different national cultures. Investigating this social role in the context of culture will provide information as to whether newcomers behave differently in different cultures and could be of great importance to both the online community academic community, and managers who preside over the day to day movements of online community users.

The following sections describe key newcomer behavioural traits and theory identified from an online community literature review of newcomers to fully understand their online community interactions.

2.8.2. Key Newcomer Theory in Online Communities

2.8.2.1. Information Process

Information process refers to how online community users are seeking, providing and sharing information in an online community. The literature suggests that newcomers (both online and offline) tend to seek rather than impart information when they initially enter a community. This behaviour helps new members gain knowledge and awareness of the groups expectations (Golder & Donath, 2004), assimilate into the new environment (Ahuja & Galvin, 2003), and reduce uncertainty about their interactions with the community (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). Awareness of the information process of newcomers is significant for both researchers and online community managers as this behaviour can have an effect on newcomer retention (Han & Farzan, 2013), socialisation (Ahuja & Galvin, 2003) and uncertainty (E. W. Morrison, 2002).

Information process can be further classified into two sub-categories, information providing (Ahuja & Galvin, 2003) and information seeking (also known as requests (Burke et al., 2007; E. Morrison, 2002)). Information providing by online community newcomers can include providing answers to direct questions, contributing personal experiences to a subject specific thread and giving personal opinions about a topic. Consequently, it can be defined as how knowledge is extended from a newcomer to other community members.

Conversely, information seeking is the reverse of the information giving process whereby newcomers seek information by asking questions either to the community directly or to individual community members. Newcomers exhibit this behaviour in order to try and reduce

uncertainty and create a predictable environment (Berger, 1979). Three types of information seeking in organisations were defined by Bauer et al. (2007) namely referent information, appraisal information and relational information. Although these do not apply directly to online community newcomers, they give an interesting insight into the conceptualisation of this behaviour in a different space. This is useful for opening up new theoretical perspectives in the online community space. This type of information seeking behaviour has also been investigated under the term 'requests' by Burke et al. (2007) where it was found that explicit requests by newcomers were likely to elicit a response from the community. By making a request, newcomers are explicitly calling the group to answer, making it obvious to the community that they are looking for information.

2.8.2.2. Community Responsiveness

Another category extracted from the literature review and discussed in detail by online community theorists is the importance of community responsiveness. This is the simple measure of whether existing members of an online community respond to newcomers or not. When community members reply to newcomers it shows that the community are accepting the new member, and that the newcomer is potentially a valuable member worthy of their attention. This in turn encourages the newcomer to post again, facilitating their transformation into a committed community member (Burke et al., 2010). Research has found that this type of community response is associated with the increased likelihood and haste of repeat newcomer posting (Lampe & Johnston, 2005).

How a community responds to a newcomer can have a major impact on whether they will continue to participate in the community, the speed of their future contributions and their survival in the community (Burke et al., 2010). Existing members can challenge, reprimand or criticise new members if they behave against community norms and values. Joyce and Kraut (2006) found that if newcomers asked a question or wrote a long post they were more likely to receive a response. In addition, newcomers whose posts were replied to were more likely to post again. Other factors such as the inclusiveness of the language used by community members, the number of replies received, the type of community and the repliers experience, can have an impact on newcomer participation (Kraut, Wang, Butler, Joyce, & Burke, In Press). For example, online support communities were found to be more responsive to newcomers than political discussion groups (Fisher, Smith, & Welser, 2006).

Taking a context-specific example, in an online learning community the community space is an important medium for online learners to interact with other students. If community

responsiveness is poor, student interaction will suffer and this could have a detrimental effect on both community development and student learning.

2.8.2.3. Socialisation

In the offline world, socialisation has been defined as the “process through which individuals, through learning, acquire the knowledge, values and behaviour patterns of their society and learn behaviours appropriate to the various social roles that the society provides” (Warren, 1971). Within the online community cross cultural literature, socialisation is the term used to describe the adjustment and adaption of individuals to a community environment (Ahuja & Galvin, 2003). All newcomers need to learn what they can do in a community, who they can do it with, where they can do it and how they are expected to behave (Kim, 2000). Socialization can be seen in the degree of correspondence resulting from shared and negotiated experiences between the personal meanings of individual members and the shared meanings of the community (Devan & Di Tullio, 2008). Online community newcomers must be socialised so that they can successfully conform to community norms, form relationships with other members, contribute to the community and help sustain a healthy and productive community (Cranshaw & Kittur, 2011). Tactics have been used by online community managers to socialise newcomers include welcome messages, positive feedback (Farzan, Kraut, Pal, & Konstan, 2012), constructive criticism, invitations to join (Choi et al., 2010), mentorship from ‘old-timers’ and FAQ lists (Ren et al., 2007).

Many newcomers go through a sometimes difficult and complex process of adjustment and acculturation during their socialisation with the community. Although there has been scant research on this in the online community space, organisational theorists have focused on the importance of newcomer adjustment in organisations using categories such as role clarity, self-efficacy and social acceptance as antecedents for newcomer adjustment (Bauer et al., 2007). These categories explain how newcomers must learn and understand the tasks they have to perform on the job in order to be liked and trusted by peers. Evidently, there are some parallels between these theoretical categories and the behaviour of newcomers in an online community.

Claims to community membership are a common tactic that newcomers employ when faced with socialising into a new community. According to Burke et al (2010) there are two types of claims, group-based and identity-based. Newcomers’ group-based claims can refer, for example, to the time they have invested lurking in the community (i.e. proclaiming membership despite being invisible or lacking a post count). These types of de-lurking posts were found to be a precursor for ‘welcoming committee’ style posts from the community and fostered community interaction (Baym, 1993). Identity-based claims indicate their connection and similarity to the

larger social category from which the community draws its membership (i.e. I am a mother of four from Ballyfermot). Communities were found to be more responsive to newcomers who used these types of membership claims and less responsive when exclusionary language such as 'you' (i.e. directed at single members) were used (Kraut et al., In Press).

When newcomers are a good fit in a community, it leads to more positive outcomes for both the newcomer and the community (Farzan et al., 2012). Newcomers learn to adapt by interacting with other members (Lihua, 2010) and acculturating themselves to the culture of the community (Ward, 2010). However, there can be tensions between protecting the community status quo, and welcoming and socialising newcomers (Kraut et al., 2011). In Ducheneaut's (2005) investigation of socialisation within an open source software community he presents case studies of successfully socialised newcomers. Their socialisation was reinforced by giving information relevant to the community (i.e. providing bug fixes), asking pertinent questions and forming social relationships with other members.

2.8.2.4. Legitimacy

Addressed by researchers from social psychology and organisational theory, legitimacy has been a popular research space for investigating collective and community behaviour. Broadly speaking, legitimacy has been understood 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 actors in the community situation. In effect, "What is, becomes what is right" (Johnson, Dowd, & Ridgeway, 2006).

In order for newcomers to be accepted in an online community, they must demonstrate that their community presence is legitimate (Lihua, 2010). This legitimacy can be observed through users writing about legitimate topics (e.g. cycling in a cycling forum), presenting evidence of 'lurking' prior to posting, demonstrating experience of another established community (Smithson et al., 2011) and describing their membership of the group under discussion (i.e. I am a mother). Investigating newcomer legitimacy can be important for understanding why some users are disregarded or ignored by other members, or how best newcomers can integrate in a community.

For example, if many newcomers are being ignored by existing members, investigating how they are legitimising themselves in the community could explain this reaction. Community moderators could develop services for newcomers that are finding difficulties in aligning with the community norm (Stommel & Koole, 2010), or alternatively advise core members to be more inclusive and patient with newcomers. Similarly, research on online illness support

communities found that describing their diagnosis and illness experience was necessary for community membership and legitimacy (Stommel & Meijman, 2011). Many communities adopt a stance towards a certain orientation which if newcomers do not adopt they can be ignored or chastised (e.g. agreeing that eating disorders should be cured and not celebrated). Galegher et al (1998) reported that without these types of legitimising claims, many newcomers were ignored in an online community. Investigating the legitimisation strategies and interactions of newcomer community engagement can be an effective method of understanding their behaviour and potentially retaining them into the community.

2.8.2.5. Conversation Strategies

Newcomers, in general, have little community communicative competence, and researchers have identified common conversation strategies used during their initial interactions. These strategies are used to elicit responses from the existing community members. Most commonly they ask questions, seek help, refer to their newcomer status, illustrate behaviours that legitimise their presence, or act in a supplicating manner (e.g. an apology, a proclamation of unworthiness, or using hedges to lessen the impact of their comment) (Golder & Donath, 2004).

Using questions, for example, as an community entry strategy has two major functions; the answers given by the community fulfil the newcomers information need, and the act of answering shows the community's willingness to connect with the newcomer (Burke et al., 2010). Arguello et al.'s (2006) investigation into interactions in Google Groups supported this finding, and also established that newcomers who gave autobiographical testimonials, posted on topic and used uncomplicated language were also more likely to receive replies.

Another common strategy used by newcomer is through introductions. These interactions are of great importance as they are the initiation stage of a potential relationship between a group and an individual (Dove, Eubanks, Panteli, Watts, & Joinson, 2011). Group introductions are used by newcomers to show how they have experience of community posts or users through lurking. Topic introductions, on the other hand, describe the personal relationship the newcomer has with the topic of discussion. This type of behaviour shows the community that they are willing to disclose information about themselves and be vulnerable in the eyes of the community. This disclosure of vulnerability can foster the building of close relationships between members (McKenna, Green, & Gleason, 2002).

It is evident that this is an important category to investigate as this behaviour contrasts newcomers with existing users, coordinates the interaction between newcomers, and the community, and indicates to the community that the user is a newcomer.

2.8.2.6. Boundary Maintenance

Assimilating into an online community can often be mediated by socially created boundaries. They enable communities to grow and thrive, but also function as protection and security against external threats (Jarvenpaa & Lang, 2011). Although these boundaries are rarely clearly set out, they help members define the existence of their community (Cherny, 1999) and give newcomers a way of displaying knowledge of these boundaries for community acceptance (Smithson et al., 2011). They are usually constructed using social norms such as netiquette and group-specific norms (Honeycutt, 2005). Group-specific norms can include using spoiler tags or acronyms (e.g. DD = Dear Daughter, SO = Significant Other). Alternatively, disputes between newcomers and seasoned members can also be an effective way for online communities to set and identify boundaries (Weber, 2011).

Boundary maintenance is an important way of identifying and removing deviant members, of which many can be newcomers. This is particularly important for forums with sensitive topics where sustaining a civilised community space is crucial for the development and interaction of members (Herring, Job-Sluder, Scheckler, & Barab, 2002). However, community boundaries are not necessarily under the control of community management (Jarvenpaa & Lang, 2011), and if community boundaries are too high to scale or difficult to make sense of, they could be harmful for community development (e.g. if newcomers are not being easily assimilated or socialised). Identifying and monitoring these boundaries could be beneficial as a method for understanding the behaviour of newcomers.

2.8.2.7. Social Expression and Emotional Disclosure

Two further categories were identified from the literature review differed slightly from the preceding categories. These categories were derived from literature on online community members with very little information on online community newcomers specifically. However, it was decided to include these categories into the model as they conceptualised some behaviour that was generally displayed by all community members, including newcomers.

Online community members display social expression in their interactions with other members through making self-introductions, initiating off topic conversations, and citing personal examples (Chua & Balkunje, 2013; Ma & Yuen, 2011). Social expression satisfies the need to belong to a group in order to retain interpersonal relationships. Many newcomers also use greetings such as salutations (or openings) and valedictions at the beginning and end of their posts, such as 'Hi', 'Hello', 'Thanks' or 'Bye' (Weber, 2011). Rather than launching into a comment or opinion, or sharing a resource, newcomers felt the need to precede and follow their community contributions with a polite phrase or word. Previous research has found that the

frequency and length of greetings decreases as familiarity between members increases (Veselinova & Dry, 1995).

These phatic expressions are important for their exploratory and attention-seeking functionality, and for the social information embedded within them (McLaughlin, 1987). Openings and closings have been rigorously investigated in the field of linguistics, and yet there has been little investigation in the online interaction field. Early work on interpersonal interactions in IRC channels found that openings had the role of coordinating interaction, helping relational development and representing relationship status (Rintel, Mulholland, & Pittam, 2001). They have also been deemed 'access rituals', whereby ritual is understood as a conventionalised act through which an individual portrays his respect and regard for some object of ultimate value (Goffman, 1972). This is a very interesting theoretical understanding of this category, as it could imply that newcomers greet the community as a way of showing civility or servility, and conversely, illustrates to community members that they are in turn respecting them. Moreover, this category could be of interest to cultural scholars who are investigating differences in giving and receiving respect across different cultures.

The second category, emotional disclosure, is an individual's urge to express feelings and sentiments towards oneself or to others. These can be either positive or negative, and either self-directed or other-directed (Chua & Balkunje, 2013). This manifests itself in an online community through the expression of pride, hope of achievement, fear, envy, disbelief and sympathy towards others. Words expressing either positive or negative emotion were also more likely to get a reply (Arguello et al., 2006) within an online community .

2.9. Literature Review Summary

This literature review has addressed some innovative areas in the field of online community research. Both the first literature review of cross-cultural online community research, and the second review of online community user behaviour classifications were new contributions to the research field.

In summary, the knowledge gaps directing this research are:

- Knowledge of the impact of national culture has on online community user behaviour is not fully understood.
- Current classifiers of online community user behaviour have not been examined cross-culturally.

- Knowledge of how national culture could impact on the behaviour of online community social roles, such as newcomers, is deficient.
- The behaviour of online community newcomers has not been examined cross-culturally.

2.10. A Note on Scope

It is important to comment on the scope of this research having described the multifaceted elements around the literature review. The scope of this research is limited to online community newcomer theory and the cross-cultural methodology within online community research. The reasons for this relative close scoping are as follows:

- A comparative cross cultural analysis of newcomers had never been done previously, the boundaries remained tight for this very reason. Support from existing research was needed to frame this analysis, as a wholly interpretive analysis would have neglected the importance of existing cross cultural research.
- A broader scope, using online community user behaviour theory generally, for example, would have added increased complexity to the analysis and would have made it difficult to compare themes across online communities from different national cultures. Although it is noted that a limitation of this research is that themes outside of newcomer behaviour research are not consulted, it was determined that using themes from outside newcomer behaviour literature for the cross cultural comparative analysis would have been a body of work outside the scope of the PhD. However, the importance of other cultural, community and role theory is noted, and suggestions for future research using these themes is provided in the discussion chapter.
- The research needed to have a basis in newcomer theory rather than more general online community or cultural theory. The comparative analysis would be less generalizable and more complex if broader theoretical elements had been used. By using theory attributed to the sample used (i.e. newcomer theory), more linear connections between theory and sample are set out at the onset. A sub-set, in this case, newcomers, was needed to aim comparison between cultures. Additionally, if a wholly emergent content analysis were to be used, the benefits of existing theory available would not have been available to help frame this analysis. Hence, the literature review and subsequent modelling of the newcomer behaviour model was limited to newcomer behaviour.
- If a broader literature review had been carried out, with all online communities members, themes and theories, it would have been difficult to conceptualize the similarities and differences between cultures.

2.11. Research Questions

Having reviewed the literature and reflected upon the key considerations, issues, and gaps in knowledge, the following are the research questions of this thesis:

- RQ1¹⁹: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?
- RQ2: Are there **similarities** in newcomer behaviour across online communities from different national cultural origins?
- RQ3: Can existing cultural theories **explain the similarities and differences in newcomer behaviour** found in online communities from different national cultural origins?
- RQ4: Does a cross-cultural comparative analysis of online community newcomers **validate** and **support** existing theory?
- RQ5: Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory?
- RQ6: Can **models of newcomer behaviour** be developed to explain, explore and describe national cultural differences in online community newcomer behaviour?
- RQ7: Does national culture have an **impact** on the behaviour of online community newcomers?

These were developed in order to provide structure, clarity and guidance to the research process.

2.12. Research Aim

This leads us to the main aim of this thesis:

To explore the behaviour of the online community newcomer using a cross-cultural comparative method.

The next chapter discusses how the methodology of this thesis will be used to achieve this main aim and address the research questions.

¹⁹ This abbreviates 'Research Question'.

3. Methodology

3.1. Introduction

The literature review has described the multi-faceted construction of this thesis, involving online community cross-cultural research literature, social roles and newcomer behaviour. It has demonstrated that there is a lack of cross-cultural investigation and analysis into the online community newcomer role, and explains why this is a warranted contribution to the online community research field. The review demonstrated how although there has been research into online community social roles, such as newcomers, it is unknown whether these roles are static across cultures, or whether their behaviour differs between national cultures.

The research problem that this thesis addresses is a lack of knowledge of how national culture may influence online community newcomer behaviour within the scope of cross cultural online community research and newcomer behaviour research. Although there is existing research and theory on online community newcomer behaviour, no previous research has investigated how national culture could influence these theoretical conceptions. Hence, the aim of this thesis is to explore newcomer behaviour in light of previous and emergent theory, and explain any similarities and differences with reference to existing theoretical conceptions of culture within the online community space.

Following the development of these research problems and aims via the literature review, this chapter describes the methodology and subsequent methods of this research study. The methodology is the justification for using a particular research method by describing the research philosophy and strategy behind selecting these methods. Essentially, this chapter explains not only the methods by which we are looking to solve the research question, but also the logic, structure and rationale behind the use of these methods (Kothari, 2004).

3.2. Chapter Summary

The structure of this chapter is in two main parts; first, philosophical and epistemological methodological rationale is explored, followed by describing the key research methodology and methods applied to answer the research questions. Secondly, the chapter explains the more practical research elements such as research design, sampling, data collection and data analysis. The chapter concludes with ethical considerations for doing research in the online community space.

The aims of this chapter are:

- Analyse the selection of appropriate methods using methodological requirements, philosophical orientation, positionality of the research, and a personal statement.
- Describe the research methods used to answer the research questions.
- Describe how the research methods were practically implemented with the data.
- Explain how and why the three online communities were sampled.
- Describe how the data was collected.
- Explain how the data was analysed.
- Explain the ethical considerations that were taken into account during the research.

It is important to note at the onset of this chapter the authors' understanding of the differences between methodology and method. In many instances in the literature, these terms are used interchangeably, or concepts termed as methodologies by some are referred to as methods by others. For example, ethnography is termed as a methodology by most, but other define it as a method under the case study methodology (Angers & Machtmes, 2005). To complicate matters further, many methodological actions are termed 'approaches'. It is difficult and confusing to understand the differences between methodologies, methods and approaches when the literature gives inconsistent information. For this reason, the determination of a methodology or method used in this research will be qualified through the use of previous literature in the cross-cultural online community space.

3.3. Methodological Requirements

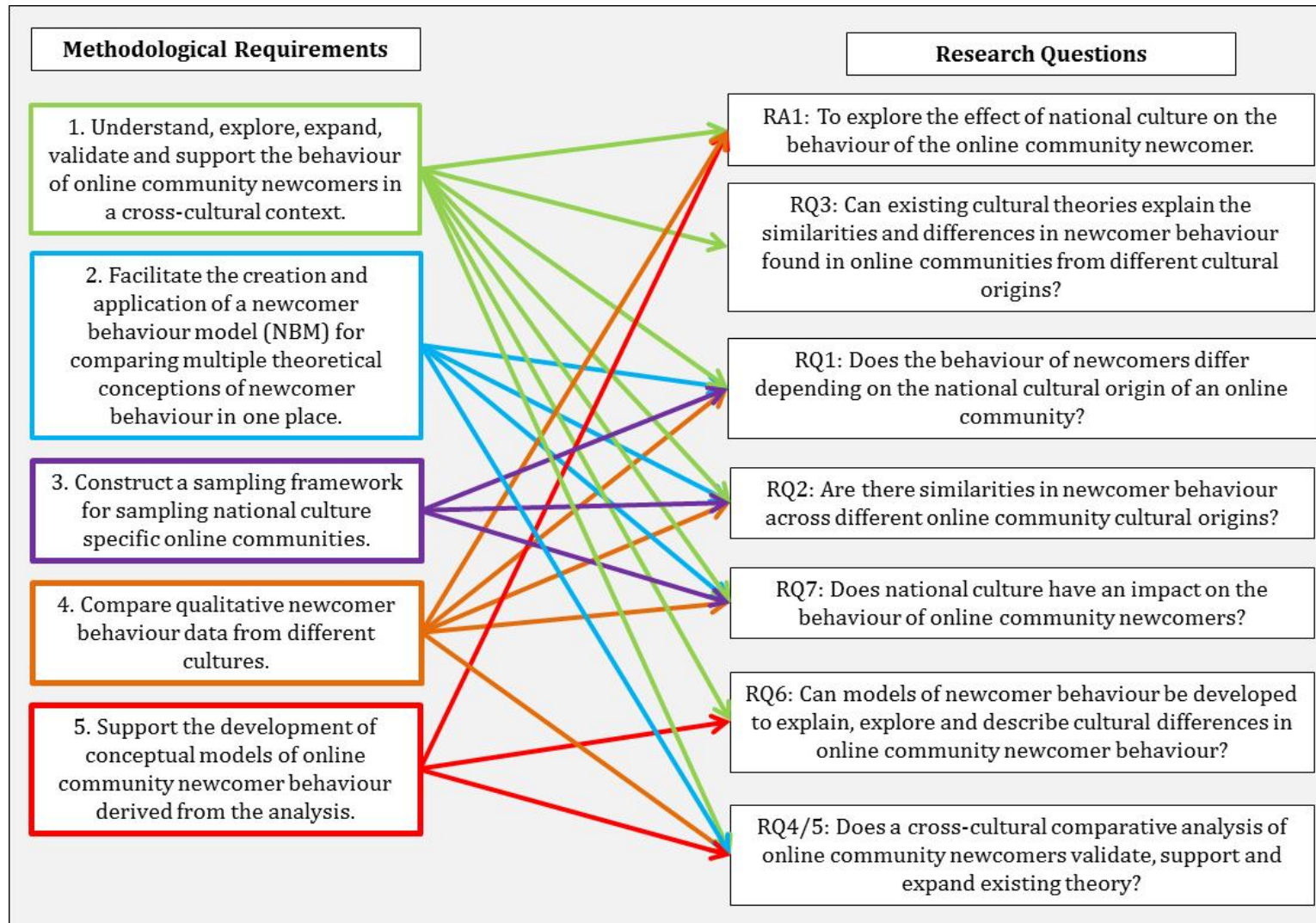
There are five methodological requirements set out by the research aims and questions, and the literature view, which need to be addressed by this chapter.

1. To **explore** the effect of national culture on the behaviour of the online community newcomer using theoretical conceptions from existing cross cultural online community literature. This requirement is key, as understanding and exploration are part of answering all of the research questions in some way. This is an inductive process as exploration rather than explanation is required (more detail is provided in section 3.3.1 below).
2. To select a method that facilitates the creation of a **newcomer behaviour model** (NBM) derived from previous theory for comparing newcomer behaviour across multiple cultures. In order to maintain rigour and validity in comparison, previous newcomer theory will be used in this comparative process. However, previous theory needs to be structured and a method which facilitates this comparative analysis using previous theory is needed.

3. Following this, the third requirement is to construct a **sampling** framework in order to accurately select the newcomers for comparative analysis. This framework must ensure that newcomers from national culture specific communities are selected.
4. This leads into the fourth requirement, to ascertain which methods will best allow the **comparability** of qualitative newcomer behavioural data using the NBM, and to identify similarities and differences in newcomer behaviour across cultures.
5. The results from this NBM directed comparative analysis lead into the fifth requirement, which is derived from the sixth research question; to develop **models** of online community newcomer behaviour from the analysis. These models will help structure, explain and provide guidance for the exploration of newcomer behaviour in online communities with regards to culture.

Figure 6 below links these methodological requirements to the research aim and questions posed in Chapter 1 – Introduction and Research Questions. This shows that each research question has been addressed with the methodological requirements in mind.

Figure 6: Linking the methodological requirements with the research questions posed



These requirements will subsequently be explored in more detail relative to the research design, methodological and philosophical approaches selected.

3.3.1. Philosophical Orientation

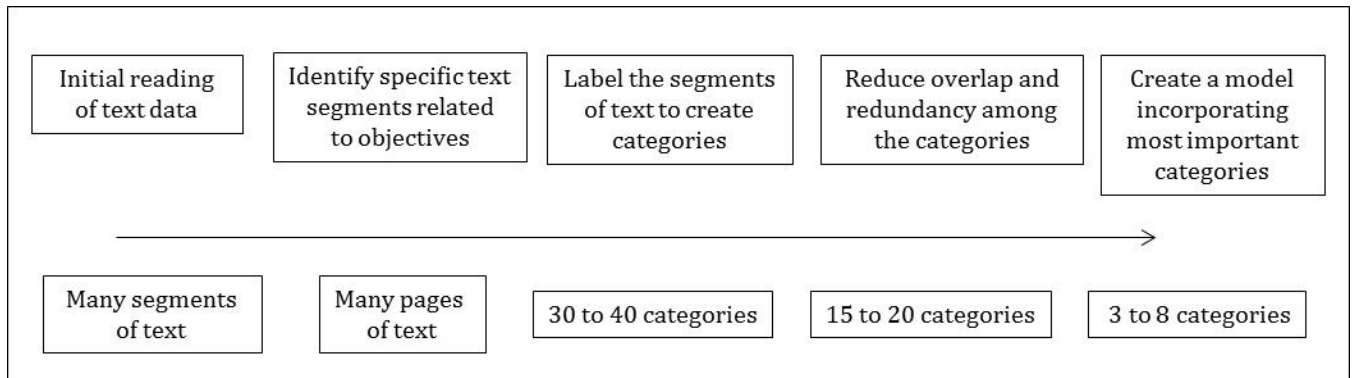
Prior to discussing the methodology and methods used, it is of key importance to determine the philosophical orientation of this research in light of the methodological requirements. Scientific methodologies can be separated into two main approaches; inductive and deductive. The deductive method begins with a theoretical statement and looks to support that statement with observations from data. In contrast, the inductive method begins with observations, determines patterns from the data and produces theory based on these generalised data patterns. In other words, inductive research begins from the area of study and creates a theory from the collected data (Strauss & Corbin, 1998). According to Thomas (2003) the main purpose for using an inductive approach is to develop a theory about the underlying structure of experiences or processes which are evident in raw data, and allow themes to emerge without the constraints of structured methodologies. The use of inductive reasoning in research does not assert that the theory derived is true or false, rather the reasoning describes how probable it is that the conclusions are true; in effect, the conclusions can be seen as either strong or weak.

In the case of this research, it had to be determined whether the research questions and subsequent models should be investigated and developed inductively or deductively. At the onset, it was predicted that an inductive approach would be the most suitable for most of the methodological requirements. The exploratory nature of the research and the lack of a theory or statement that could be used to support a deductive methodology supported this decision. However, an examination of the process involved in inductive analysis and the criticisms of inductive reasoning was needed to further qualify this philosophical orientation.

First, an examination of the process of inductive analysis was carried out in order to determine whether it could successfully answer the research questions and satisfy the methodological requirements. The development of an inductive analytic process in qualitative analysis has itself been modelled by various theorists. Bendassolli (2013) presents the three step Generic Analytic Cycle (GAC) which begins with careful reading of text, thick description and note taking, followed by discovery of themes from the data either inductively or deductively via previous theory, and finally conceptualising and reconceptualising the data to reduce the material, relate to theory and develop conceptual models and typologies. Similarly, Thomas's (2003) approach describes the process as starting from condensing text into summaries and categories, establishing links between the research questions that are both transparent and defensible, and

finally developing a model or theory on the experiences displayed in the data. Creswell (2008) illustrates this inductive process which moves from the initial reading of text data through to the creation of a model (see Figure 7). It was determined that this inductive process could address the research questions, satisfy many of the methodological requirements and actively facilitate modelling of newcomer behaviour.

Figure 7: The coding process in inductive analysis (Creswell, 2008)



Secondly, criticisms of this approach were reflected upon, and an understanding of why this approach should be used in light of these criticisms. Theorists have long been critical of the inductive approach to generating models. This criticism stems from the perceived lack of understanding of whether a belief about the future can be justified only on past observations (Hume, 1909-14). The oft quoted Humean example of "all swans we have seen are white, and therefore all swans are white" before the discovery of black swans presents this problem. In effect, how can it be certain that multiple observations will continue to occur in the future, and whether models generated inductively will effectively serve their purpose? Additionally, qualitative inductive research in particular has also been criticised in that researchers hyper value the importance of observational statements (Bendassolli, 2013), and that observation is always selective, theory-laden and not presuppositionless (Morse & Mitcham, 2002).

Some researchers adopt the grounded theory methodology whereby literature is not consulted prior to analysis in order to circumvent the latter problem. However, in this research, the presence of newcomer theory was determined as being of great importance for the NBM construction which facilitated and validated comparative analysis, and this methodology was not deemed appropriate (see section 3.1.2.4 below for more details). Nevertheless, creating a NBM using previous theory falls into the Popperian criticism of theory-laden observation, in that scientific theory is influencing observation. However, in this research context this is not a critical issue. It is helpful to explain that in this research, in order to rigorously compare observations of newcomer behaviour, theory is needed to structure this comparison. Rather

than aiming to avoid theory-ladenness, this research seeks to position newcomer observations within theory. In fact, contextualising the thematic concepts emerging from the analysis to theory has been a suggestion for helping address the problem of induction (Bendassolli, 2013). Effectively, the themes are being constructed both inductively from the data and deductively via theory, and researchers can draw from previous theory to support and explain their emergent models and theories. If only an inductive approach was used, prior theory could not be used and only themes derived inductively could be used. This directed approach was facilitated by the directed content analysis method described in Chapter 4 – Newcomer Behaviour Model.

It was decided that in order to support an inductive approach, to utilise the strength of previous theory, and because these theories had never before been amalgamated in a singular model, a model of newcomer behaviour derived both from previous theory (deductive) and emerging from the text (inductive) should be developed as a coding framework. This hybrid inductive / deductive approach to thematic analysis has been successfully employed in the literature (Burman, 2012; Fereday, 2006). This is also known as the template approach to coding (Crabtree & Miller, 1992) whereby the operationalisation of codes is done a priori based on the research questions and previous theory.

Table 2: Philosophical orientation addressing methodological requirements

Methodological Requirements	Philosophical Orientation
Understand, explore, expand, validate and support the behaviour of online community newcomers in a cross-cultural context.	Inductive
Facilitate the creation and application of a NBM for comparing multiple theoretical conceptions of newcomer behaviour in one place.	Inductive and Deductive
Construct a sampling framework for sampling national culture specific online communities.	Deductive
Compare qualitative newcomer behaviour data from different cultures.	Inductive
Support the development of conceptual models of online community newcomer behaviour derived from the analysis.	Inductive

The rationale for an inductive research methodology using some deductive elements with this research is fourfold:

- The data being investigated is from a new research field, where theory has not yet been developed. A deductive methodology would not facilitate the exploratory nature of the research.
- An inductive methodology allows emergent themes to arise from the research. This helps build a broad thematic basis for model and theory building.
- Deductive analysis uses a pre-defined hypothesis to frame data which can impose theoretical boundaries on the research. By using an inductive methodology these boundaries are less apparent and a more open research framework can be operated on.
- Combining induction and deduction in the model development process can add rigour and validity to the comparative analysis.

Similarly to the inductive / deductive delineation, social anthropologists have used the emic / etic dual taxonomy to classify how the research will understand participant behaviour. The emic approach looks at human behaviour from the bottom-up, and investigates behaviour using the perspective of the 'insider' (the person being researched) rather than the 'outsider' (the researcher). In contrast, etic knowledge refers to generalisations about human behaviour that are considered universally true, for example, linking cultural practices to economic or ecological conditions. Comparativist researchers tend to use an etic approach whereby they compare cases or cultures over a particular standard, whereas ethnographers tend to try and understand a culture under its own terms (Morris, Ames, & Lickel, 1999). At the onset, it is important to clarify what approach is to be used in this research.

The research initially uses an emic approach as it is looking at newcomer behaviour from within the perspective of the newcomers themselves through their own online community data. However, in the construction of the NBM some etic considerations are presented whereby this data is framed by theory and results are linked to existing cultural theories. This combined approach has been suggested for research that is in various stages whereby emic approaches guide the initial research and etic approaches explain the research output (Berry, 1989 ; Brett, Tinsley, Janssens, Barsness, & Lytle, 1997). Berry (Berry, 1999) believes that both approaches are useful in order to both gain "local knowledge and interpretations" (emic) and "relate variations in cultural context to variations in behaviour" (etic). In effect, they have a symbiotic relationship. This combined approach has also been conceptualised as a 'derived etic' approach which explores similarities in psychological phenomena through the comparative examination of behaviour following an emic approach.

In addition to discussing the inductive / deductive and emic / etic distinctions, a description of whether this research will use an interpretivist, positivist or other methodological approach is

now presented. Positivist-led research into online community newcomer behaviour would use scales, data mining, and surveys, for example, to produce empirical data to answer research questions. On the other hand qualitative interpretive analysis of online community newcomers in their natural setting allows themes to emerge from the data, rather than being too structured within a rigid theoretical framework. An interpretivist approach would be more context dependent, and would take into account social and cultural conditions neglected by a positivist standpoint. The subjective complexities of our reality are considered, rather than just taking objective observation alone as the theoretical method. Nonetheless, given that previous theory is to be used in the development of the NBM, it is considered whether this can be contextualised as purely interpretivist, and whether it can be better placed within a post-positivist approach.

A post-positivist approach opposes using the strictly observation-heavy and theory laden positivism, while also rejecting a solely interpretive and subjective approach. One of the key areas that makes post-positivism stand out is its emphasis on ongoing reflexivity throughout. Taking one of the methods used in this research, directed content analysis, as an example, this method satisfies some of these post-positivistic conditions. This method is described as 'a family of analytic approaches ranging from impressionistic, intuitive, interpretive analyses to systematic, strict textual analyses' (Hsieh & Shannon, 2005, p. 61), whereby the type of approach chosen by a researcher varies with the theoretical and substantive interests of the researcher and the problem being studied (Hsieh & Shannon, 2005). Post positivism has been critiqued as somewhat difficult to implement because of its use of multiple methods and difficulties with correlating results from these methods. Research using post-positive methods can be difficult to prove because of its subjectivity and reliance on the researcher rather than strict theoretical rules. Results can be unclear and confusing.

Investigating a subject matter such as newcomer behaviour by only using a positivist approach neglects the importance of triangulation, cultural realities, research bias and epistemological uncertainty. On the other hand, relying on a purely interpretivistic approach for this topic can lend itself to hyper subjectivity, researcher bias, ignoring previous research that is beneficial for framing the data and a difficulty in generalising results to other populations because of its complex and reflexive nature. However, a post-positivist approach within content analysis would use some elements of positivism such as statistical analysis and frequency counting of themes.

Having considered positivism, post-positivism and interpretivism, this research uses an interpretivist approach, with some areas of post-positivism in its use of directed content analysis and inter rater reliability measures. To clarify, the NBM, developed via the directed

content analysis, uses theoretical themes derived from previous literature (this points to positivist methodology), and also gleans themes inductively and a priori from the data (which does the same to the interpretivistic methodology). It is important to note that the ultimate goal of this research is to explore and understand newcomer behaviour within the context of a cross-cultural comparison. This exploration and understanding will be consolidated with the development of multiple models of newcomer behaviour. Models are a visual representation of a process that can be used to generate theory (see Chapter 4 – Newcomer Behaviour Model for a more in-depth discussion of models). In effect, models are the basis of theories, whereas theories explain phenomena; models show how something works, whereas theories explain why it works in that way. It is important to note that at the onset, this research seeks to output models of newcomer behaviour, and it is through these models that potentially theory may be generated. However, the generation of theory is not the primary objective of this research.

It is my understanding that using a solely positivist approach to research is limiting, as is a solely interpretivistic approach. Through using elements of both approaches in my research, I believe that a more rounded, holistic, theory generative and informed methodology has been developed.

The following section goes into more detail as to why these background methodological approaches have been used in the context of the author's own personal epistemological outlook.

3.3.2. The Positionality of the Researcher

Addressing the positionality and reflexivity of the researcher at this stage of the thesis is crucial for providing transparency to the perspectives brought to this research. A discussion of personal reflexivity related to the methodology and data collection has been presented in the previous section. Positionality, on the other hand, is a reflection and recording of the researchers' position upon the research being conducted, and what impact it may have had on the research. It is important in order to give context to the research, and for readers to understand what is being said from the position of the author (Day, 2012). As Major and Savin-Baden (2011) explain "it is important to acknowledge positionality, considering how researcher biases may influence the research design, questions, interpretation, and so forth." (p.10). This thesis explored online parenting communities originating from three different national cultures. Opposite to many other qualitative studies where the researcher is actively engaged with the participants, I had no interaction with the participants, and had no active role within these communities. On the one hand this was beneficial as the community itself had no influence on my analysis via mutual discussions or interactions. However, on the other hand, by

not engaging with the communities, the possibility of missing themes during the analysis was apparent. The use of directed content analysis which included newcomer behaviours previously identified by other literature helped direct themes within the communities, in the absence of community-research interaction. However, it is understood that a lack of interaction with the community participants may have had an influence on the analysis.

Where the communities may also have influenced my analysis was through my own bi-cultural heritage. I have always had an interest in how individuals in different cultures behave differently, but also, at heart, are very similar. My own heritage as being from two different cultures is evidently something which has had an impact on my position during this research. Given that I have lived in two countries, and had close family members within two different national cultures, I initially thought that I would be more aware of the cultural intricacies within Irish and Spanish cultures and this would aid the analysis. However, it could be said that because I have had personal experience of these cultures, could it mean that I am biased towards my own perceptions of these cultures? My mother's family are loud, emotional and hot-tempered. My fathers' laid back, gregarious, yet stoic. Could my perceptions of these differences influenced the qualitative analysis? Would I be more likely to code and these the Spanish responses as emotional, and the Irish responses individualistic because of my previous position? This awareness was brought to the forefront during the qualitative analysis, and I also employed two additional researchers to validate my own analysis.

Another way that my position could have influenced the research came from my research background in both quantitative and qualitative approaches. My epistemological position comes from a bewildering array of different research methods and methodologies I have had experience of throughout my employment. In one sense, I would lean towards rationalism, in that reasoning and logic are key to understanding. However, I would also be open to the importance of interpretivism for directing and framing research. This multifaceted position arising from both positivist and interpretivist epistemologies directed the methodology of this research; a directed content analysis which employed both a strict operational framework derived from theory, and an open coding of content. However, if I had only used a quantitative approach, or alternatively, a qualitative approach could the analysis have differed? In looking at previous research that has used solely a quantitative approach, or a qualitative approach, similar results on newcomer behaviour have emerged. However, a directed content analysis allows for emerging interpretivist coding and more directed rational approach from theory. This was a method used to soften my bi-methodological positionality, rather than leaning to one or the other. The dual processes of an awareness of my cultural heritage and the use of a second coder during the analysis helped me move away from potential biases in the research, in

addition to the directed content analysis approach which mitigated methodological biases with quantitative or qualitative approaches.

3.3.3. Personal Statement

In designing the research methodology, reflecting on my philosophical and epistemological outlook was an important task to legitimate methodological selection, to validate research design and to support my personal learning progression. Methodological construction is shaped by personal place and cultural context (Kunkwenzu & Reddy, 2008), and philosophical and epistemological assumptions are key for guiding methodological development and approaches (Burrell & Morgan, 1979). In addition, personal reflection and changes in epistemological beliefs during the PhD process are a good indicator of deep learning and autonomous thinking (Hanrahan, 1999). This personal statement ties in with my discussion of positionality. In order to situate my epistemological beliefs, it is helpful to provide a summary of my research background and how it had an influential role on developing the methodology for this research.

I began my research journey as a historical documentary researcher for the Commission to Inquire into Child Abuse (CICA); a government body investigating child abuse within the Irish Catholic Church. Much of my research in this role involved analysing large numbers of documents to find historical evidence for the legal team constructing a large scale public report. This was a mainly interpretivist, qualitative and investigatory role where I worked with contemporaneous documents pertaining to the 1900s in Ireland. Working with text-based documents introduced me to the basics of content analysis techniques, such as theming, operationalising concepts, identifying relationships between concepts, and evaluation. There was less of a focus on the quantitative nature of content analysis and more about looking for meaning behind historical affairs and the social, cultural and historical effects on researching this topic. This role heightened my interest in research and I left to complete a Masters in Applied Social Research.

After completing my Masters, I commenced working as a Researcher for the Mental Health Unit in the Health Research Board (HRB). This role was very different to the CICA role, in that the methodology used for my research was strictly positivist; reporting on mental health statistics within Irish institutions. It is clear that my research experience up until this point had been quite skewed to either one research methodology or another. Having experienced both sides of the research spectrum, I arrived at my PhD with an array of understandings of what constituted a research methodology.

My experience of somewhat dichotomous research methodologies was at the same time both beneficial and problematic. In one sense, I had the benefit of seeing how two very different methodologies worked in practice, and how using a particular methodology produced very different results because of the type of methodology used, the research outlook, and the research question posed. However, having been exposed to different methodologies, my thinking was undefined and I was unsure what epistemological leaning I would focus on for the PhD.

Examining my previous research experience, my epistemological viewpoint, and how my research has progressed throughout the PhD journey, an interpretivist approach using some elements of post-positivism (i.e. directed content analysis) was used to generate the methodology and research design. This approach lends itself to my dichotomous research background and the research questions, and will be employed to develop the research methodology and methods.

With regards to the data collection, a structured sampling framework was developed in order to mitigate any biases related to collecting data. By having a structured framework, which aided sampling of national cultural specific communities, personal biases and assumptions were softened. However, it is important to note that the creation of this framework could have been biased by my own personal assumptions. I would believe that there are national culture specific online communities, because of the makeup of these communities (see section 3.6.2 for details of the sampling framework and section and 2.4.3 for a wider discussion on this.) However, some could argue that online communities are not culture specific and a sampling framework is not sufficient for determining that online communities are from a particular culture. My personal assumptions that online communities can be from a specific culture have driven the formulation both of this framework, but also the main themes surrounding the whole thesis. I believe that national culture specific online communities are present, not only because of their structure, but also because of how individual online perceive themselves as being part of a national culture even if they are not geographically present within that culture. For example, many 'Irish' communities have large numbers of American expatriates within, or emigrants from the United Kingdom or Canada. These individuals 'imagine' themselves as being Irish, and frequent the community because of this. It is this belief that encompasses why national culture specific online communities are present and suitable for data collection and cross cultural comparison.

The following sections go in more detail into the design of the research, and methods used to complement and operationalise this methodological outlook (and more importantly, attempt to answer the research questions). In this relatively early period of online community

investigation, many researchers have had to adapt existing methods to the online space because of the lack of online community specific methods (Preece & Maloney-Krichmar, 2005). Many researchers have been successful in doing this, for example, Bishop (2009) found that using methodologies designed with online communities in mind helped reveal information that might not have been picked up by methodologies designed for traditional media. Given this finding, it was also important to investigate the methodologies and methods used by other online community researchers, and consult different approaches in order to develop effectively the methodology and methods for this research. This was very useful for practical implementation strategies, methodological justification and aligning research questions with research methods.

3.3.4. Consideration of Methodological Approaches

Prior to setting out the methodology and methods for this research, a consideration of other approaches in terms of the methodological requirements was necessary. The review of online community cross-cultural literature²⁰ demonstrated five common research methodologies and methods used by researchers in the field of cross-cultural online community research: surveying (n=17), content analysis (n=8), mixed methods (n=5), qualitative interviewing (n=3) and ethnography (n=3). These approaches, and some alternative methodologies (grounded theory), were critically considered to determine which best addressed the methodological requirements.

3.3.4.1. Consideration of Surveys

Surveys were commonly employed in previous literature (see Appendix A). Using a survey could have facilitated a well-structured, clear theoretical focus that could produce relatively quick and measurable results across newcomer behavioural categories. On reflection, the use of surveys would have been problematic for the following reasons:

- Given the open and exploratory nature of this research, it is unknown whether a structured instrument such as a survey would suitably address the research questions posed. The positivist survey methodology is mainly deductive and used for verification rather than discovery (Gable, 1994). Using positivist methodologies to explore and understand newcomer behaviour in online communities, where abstract and somewhat metaphysical concepts such as culture, sense of virtual community, social interactions, and behaviour are being investigated, would be difficult.

²⁰ Full details of this literature review are available in Gallagher and Savage (2013).

- Surveys may tell us how many newcomers are behaving in a particular way at a particular time, but it does not explain why these newcomers are doing so. Being able to qualitatively analyse user comments in an online community can broaden the scope of the analysis to elements that may be outside what a survey can ask. It fails to take into account the importance of social, cultural and historical conditions that are not present within an objective reality and that have an effect on both researcher and the individuals being researched.
- Access to newcomers would be difficult given their new presence in a community. Response rates, due to the time consuming process of identifying newcomers, contacting them individually, and waiting for responses, would be low. Surveys would not be flexible enough for this research and would undermine the reflexivity, creativity and agency of the social actors being researched.

3.3.4.2. Consideration of Qualitative Interviewing

Alternatively, qualitative interviewing could be used to address the social and cultural conditions, satisfy the methodological requirements that positivist survey research does not, or expand upon survey research. Qualitative interviewing asks respondents open ended questions followed by data analysis using grounded theory or content analysis to determine answers to research questions. On reflection, the use of qualitative interviewing would have been problematic for the following reasons:

- Practical elements such as the location of respondents in different countries and gaining access to online community newcomers would cause difficulty.
- Only a small number of respondents could have been interviewed and analysed in the time determined by the PhD which would limit the generalisability of the research, and the potential for modelling. As one of the methodological requirements is to create models of newcomer behaviour, it would be difficult to do this with results from only a relatively small number of respondents.

3.3.4.3. Consideration of Netnography

Another common methodology that could be used to satisfy the methodological requirements would be a netnography. The methodology uses an immersive, descriptive and multi-method approach (e.g. qualitative interviews and surveys) to understand how a particular culture behaves (Jaweck et al., 2011). This methodology satisfies some requirements of this research. On reflection, the use of netnography would have been problematic for the following reasons:

- Netnography tends to be inward looking and is inclined to avoid the use of previous theory (Yin, 2009) until the interpretation stage of the research (Wilson & Chaddha,

2009). This research is outward looking in that it is looking to see the differences and similarities in newcomer behaviour identified from both existing and emerging theory, rather than from the perspective of the newcomers themselves, which is commonly employed by ethnographic approaches.

- This research will use a structured directed approach using previous theory. This is at odds with the openness of ethnographic research which uses a more flexible approach and is generally not guided by previous theory.

3.3.4.4. Consideration of a Grounded Theory Approach

It could also be argued that a grounded theory approach could be used to determine the differences and similarities in online community newcomers. This is a methodology where ‘the discovery of theory from data systematically obtained from social research’ is employed (Glaser & Strauss, 1967, p. 2). On reflection, the use of a grounded theory approach would have been problematic for the following reasons:

- A methodological requirement of this thesis is to structure existing and emerging newcomer theory into a NBM to be used for comparative analysis. If grounded theory were to be used, this previous theory could not be employed in the analysis. This is because grounded theory moves from the data to theory, rather than using any theoretical elements at the beginning of the process.
- Grounded theory is a complex process, and examining multiple communities using this methodology would be outside the scope of this PhD.

3.3.4.5. Consideration of a Content Analysis Approach

The final approach commonly used in previous online community research is content analysis. Content analysis is a method used by both quantitative and qualitative researchers which analyses written, verbal or visual communication messages (Cole, 1988). Its aim is to condense large amounts of text into smaller content categories to describe a phenomenon. These categories are subsequently used to form a conceptual framework, model or theory. Content analysis is not a static method, and Hsieh and Shannon (2005) describe three approaches to content analysis; conventional, directed or summative. The directed approach uses existing theory and prior research as structure and guidance for the content analysis method. This approach to content analysis has been used mainly for theory that is incomplete, or to extend an already formulated theory. It has also been used to help focus research questions and guide discussions of findings, or in this case, to expand research in new and emerging research areas.

On reflection, the use of a content analysis approach is considered for the following reasons:

- Content analysis on user postings has been previously used in cross-cultural online community research. It has also been commonly used to understand how culture influences communication strategies (Chiou & Lee, 2008).
- The literature review identified 10 publications that had used content analysis for cross-cultural online community research. This demonstrated the relevance and applicability of using this method for our research, and the literature was useful for providing both emergent and a priori coding schema templates as models for this research (Chiou & Lee, 2008; Hara et al., 2010; Pfeil et al., 2006; Ridings et al., 2002).
- For example, Fong and Burton (2008) coded data using dimensions of online behaviour identified a priori, to examine differences in information seeking levels in Chinese and US online discussion boards.
- Pflug (2011) used a similar content analysis methodology to compare contextuality in German and Indian Internet forums (see Table 3 for a list of published literature on online communities using this methodology).

Table 3: Literature using content analysis methodology in cross-cultural online community research

Author	Countries compared	Community Type²¹
Chiou and Lee (2008)	US, Japan and Taiwan	Discussion forums
Yildiz (2009)	Native English and Non-Native English speakers	Web based courses
Fong and Burton (2008)	US and China	Discussion boards
Morio and Buchholz (2009)	US and Japan	Online communities
Stvilia et al. (2009)	Arabic, English and Korean Wikipedia	Wikipedia
Talukder and Joham (2009)	Venezuela, Bangladesh and US	Virtual Communities
Siau et al. (2010)	US and China	Virtual Communities
Hara et al. (2010)	English, Hebrew, Japanese and Malay	Communities of Practice
Pflug (2011)	Germany and India	Internet forums
Pfeil and Zaphiris (2010)	French, German, Japanese and Dutch.	Wikipedia

²¹ Note the term used by the authors is also used here.

Some researchers have criticised content analysis as being overly-simplistic, having low credibility, and time consuming whereas others see problematic elements with content analysis when words are decontextualised from the discourse being examined. However, in light of the research questions and methodological requirements, content analysis was determined to be suitable. It is useful for exploratory research, helpful for organising and developing thematic elements and useful for relating data to existing theories using a directed content analysis method.

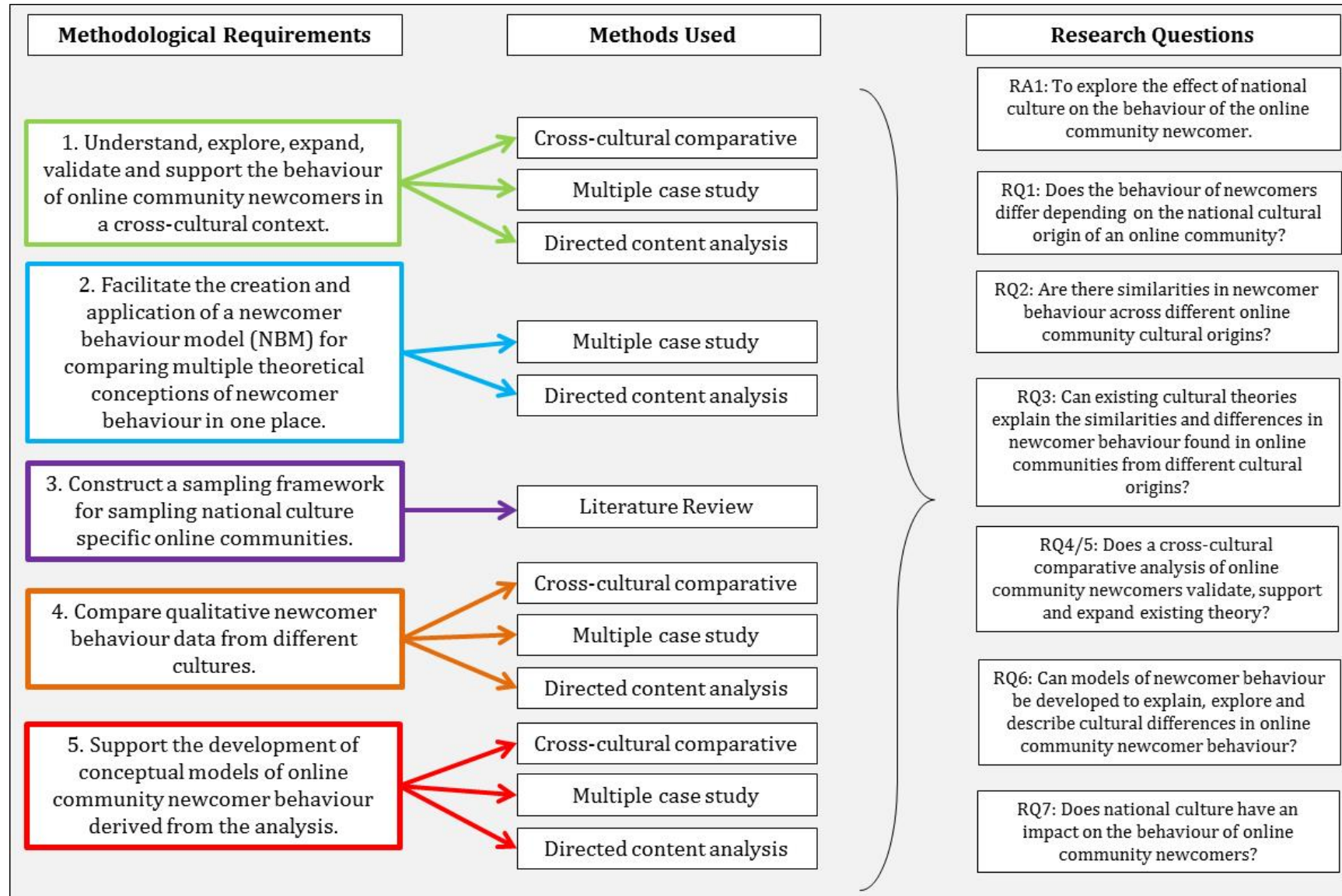
Although some theorists argue that a content analysis approach is a quantitative method as it is limited to counting textual elements, others argue that it is simply a vehicle for further more reflexive and interpretive analysis by helping better understand the perspectives of the individuals within the community. More detail on how the content analysis approach was implemented for open coding is available in 4.5. Table 4 below presents a summary of potential methodologies and why they were deemed unsuitable for this research.

Table 4: Consideration of different approaches to address the methodological requirements

Methodological requirement	Survey	Interviewing	Ethnography	Grounded Theory
Understand, explore, expand, validate and support the behaviour of online community newcomers in a cross-cultural context.	Lack of survey instruments Deductive nature of survey research Access, time and practical issues.	Could satisfy requirement because of the exploratory nature of qualitative interviewing.	Could satisfy requirement because of the exploratory nature of ethnography.	Could satisfy requirement because of the exploratory nature of grounded theory.
Facilitate the creation and application of a NBM for comparing multiple theoretical conceptions of newcomer behaviour in one place.	Bias and validation issues in survey creation.	Sufficient numbers of participants to create model would not be available.	Does not satisfy requirements because of the use of prior theory to create model.	Does not satisfy requirements because of the use of prior theory to create model.
Construct a sampling framework for sampling national culture specific online communities.	Could satisfy requirement.	Could satisfy requirement.	Could satisfy requirement.	Could satisfy requirement.
Compare qualitative newcomer behaviour data from different cultures.	Could satisfy requirement.	Access, time and practical issues.	Does not satisfy requirements because of the use of prior theory for comparing newcomer behaviour across cultures.	Does not satisfy requirements because of the use of prior theory for comparing newcomer behaviour across cultures.
Support the development of conceptual models of online community newcomer behaviour derived from the analysis.	Access, time and practical issues and the lack of survey instruments.	Sufficient numbers of participants to create model would not be available.	Could satisfy requirement.	Could satisfy requirement.

Having discussed the methodological requirements, addressed my personal viewpoint, and considered various methodologies it was determined that a case study methodology using a cross-cultural comparative directed content analysis method should be employed for this research. These methods will be detailed in the following section; each methodology and method will be described in turn, and how they were applied to answer the research question will be explained. Figure 8 summarises the methodology chapter up to this point by combining the methodological requirements, the methods used and the research questions. This figure shows how the methods chosen address both the methodological requirements and the research questions.

Figure 8: Combining the methodological requirements, the methods used and the research questions



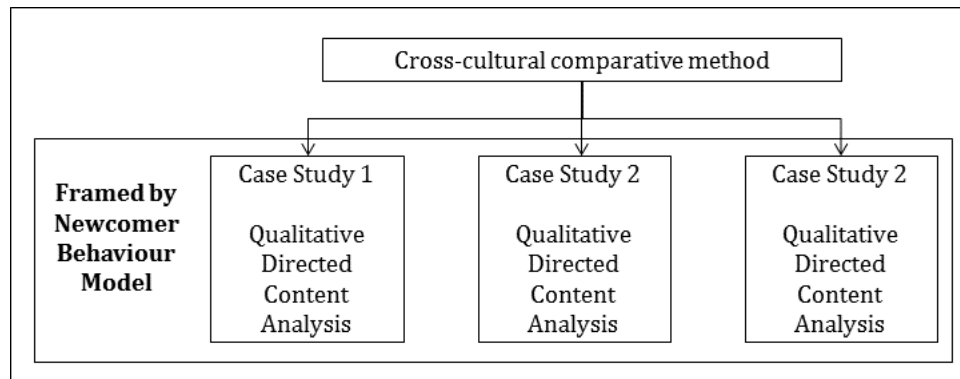
3.4. Identifying the Methods

As described in section 3.3, there were five key requirements necessary to successfully answer the research questions. These five requirements guided the methodology and method selection. In addition to these requirements, the author's personal statement and epistemological viewpoint, the types of data available, the suitability of the method, the research aims and design, and the methods used by previous literature were also used to guide the method selection. Each of these factors was examined in turn and the case study methodology using a cross-cultural directed content method was selected.

- The case study methodology was selected as three separate 'cases' were being analysed (i.e. the three online communities being compared), it supported the comparative research process and was deemed useful for research design (see section 3.2.1).
- The cross-cultural comparative method was selected as it was inherently the method of best fit for the research. This method compares data from multiple cultures to explain social phenomena, such as newcomer behaviour. It is obvious that this method supports exactly what this research is aiming to do, namely explore cultural similarities and differences in newcomer behaviour. In addition, the literature review of online community cross-cultural analyses also supported this selection, as all of the research literature reviewed employed this method in some form (see section 3.2.2).
- The directed content analysis method also supports the requirements of the research by allowing for both inductive and deductive model creation, structuring the data in a systematic way, facilitating the analysis of multiple theoretical conceptions of newcomer behaviour in one place, and maintaining rigour within the comparative analysis.

Figure 9 describes how these three methodological elements will be used in the research. It is important to note that each method was intertwined with another and were not just used in isolation. The cross-cultural comparative method uses data from the directed content analysis of online community multiple case studies, framed by the NBM, to compare newcomer behaviour across three different cultures.

Figure 9: Summary of the methodological elements



The following sections describe the methodology and methods, how they were implemented and their application to the methodological requirements.

3.4.1. Case Study Methodology

The methodology used in this research was the multiple case study methodology²². The following section gives an overview of this methodology, how it will be used for the comparative cross-cultural analysis, its design, and the rationale behind using it to answer the research questions.

At the simplest level a case study is an investigation into a phenomenon within its real life context. It is a useful method when the boundaries between phenomenon and context are unclear. It can also be helpful when a ‘how’ or ‘why’ question is being asked about a set of events over which the investigator has little or no control (Yin, 2009). Case study research can be particularly well suited to new research areas (such as online communities), in research areas for which existing theory seems inadequate (Eisenhardt, 1989), or to give insights into human behaviour. In effect, it is the study of a small number of naturally occurring cases, by using, most commonly, qualitative analysis (Gomm, Hammersley, & Foster, 2000). This definition supports the exploratory research aims, in particular, because data from three online communities (cases) will be analysed using qualitative directed content analysis. At first glance, the case study can present itself as a simple, one-dimensional methodology. However, there are many complex issues that need to be addressed when a case study is being designed to ensure that the research maintains its rigour and validity.

²² Briefly, the literature review found that 16 of the previous papers reviewed used a multiple case study methodology, demonstrating that it is a common method for cross-cultural comparative online community research.

A key emphasis that needs to be made at the outset is whether the case study will be exploratory, explanatory or descriptive (Yin, 2009). This is a significant first step; setting out the direction and focus of the research is vital for research clarity and comprehensibility further down the line. Exploratory research aims to 'explore' a research case, gain insights into its nuances and clarify hypotheses. It is particularly useful for cases where not much is known about the topic. It differs from explanatory research, which is looking to 'explain' a concept and find casual relationships between variables (Malhotra & Grover, 1998). Although similar to exploratory research, descriptive research (e.g. (Watson-Thompson, Fawcett, & Schultz, 2008)) focuses on documenting rather than investigating concepts.

This research project will be an exploratory case study. It is not intended to explain a particular theory, or document a phenomenon, but rather to explore the behaviour of online community newcomers (RA1). This exploration will aim to answer the research questions in a way that descriptive and explanatory analyses cannot accomplish. Description fails to give enough insight into the actual interactions of community members, and explanatory research is irrelevant as the research questions are looking to explore newcomers rather than to explain their existence.

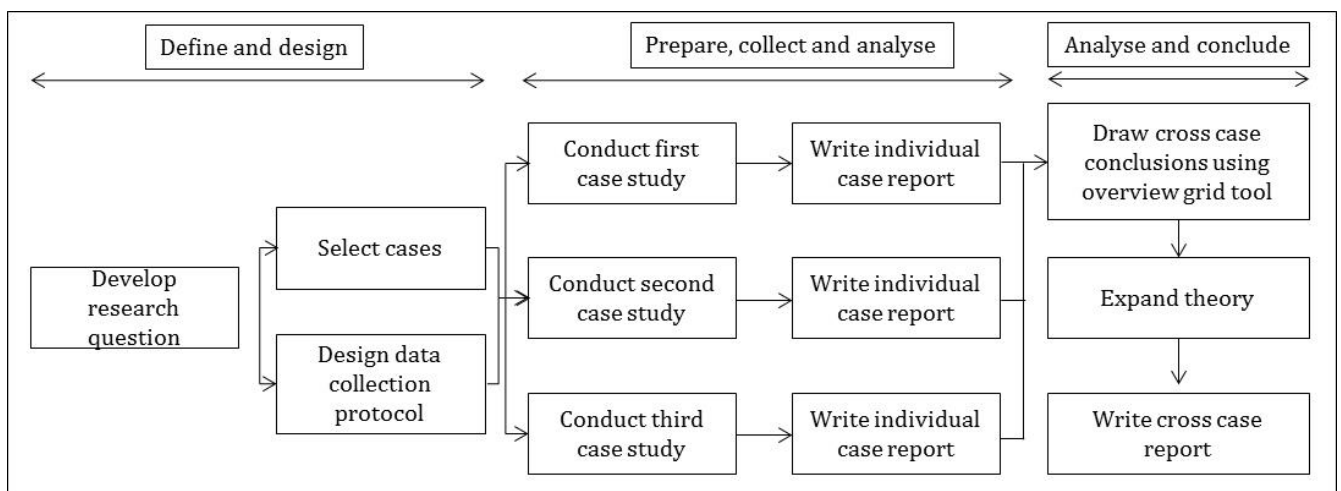
Another design categorisation that has been used in case study development is deciding whether the study will be instrumental or intrinsic. 'Instrumental' refers to a type of case study which looks to refine a theory or provide insight into a particular issue (Stake, 1995). The case itself plays a supportive role that helps to understand a concept or issue within (Baxter & Jack, 2008). It differs from the 'intrinsic' type, which focuses on understanding the case itself, rather than explaining an abstract concept or build on a theory. With intrinsic case studies, generalisation to other cases is less relevant and the focus is on the individual case narrative (Shekedi, 2005). Stake (1995) also mentions a third case study category 'collective', (multiple case study) which is analogous to deciding whether to select multiple cases. This is most commonly used with instrumental case studies. An instrumental case study is most relevant to this research project, as the research questions are not looking to understand the online community (the case), but rather to look at issues within the case (newcomers).

Having decided that the case study will be exploratory and instrumental, the next step is to focus on the practicalities of the research. Does the study need many different cases for comparative analysis (e.g. (Campbell & Ahrens, 1998)), or would one single case (e.g. (Gao, 2013)) suffice? As previously mentioned, collective or multiple case studies are most commonly used by instrumental case study designs. Multiple case studies are used when comparison is necessary, when patterns across cases are being investigated, and when the addition of cases can give better insight into a phenomenon. It also aims to strengthen generalisability and

validity of research outcomes by replicating methodological patterns over multiples cases (Galloway & Sheridan, 1994). In multiple case designs, each case is viewed as if it were a separate experiment rather than a single sampling unit, which maintains replicating logic (Yin, 2009). The ultimate aim for a multiple case study is to increase theory confidence and robustness (Tellis, 1997).

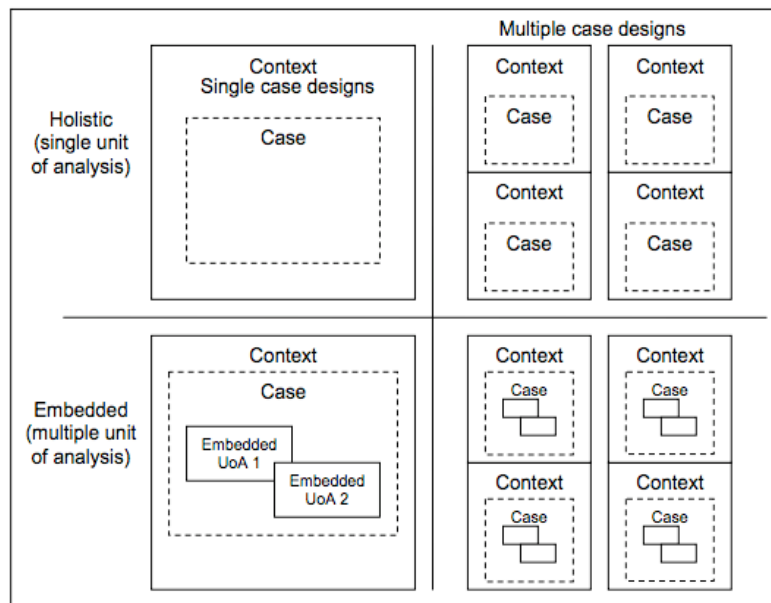
In this research, a multi-instrumental case study design will be used. The main rationale for this is that a comparative analysis is needed to answer the research question. Multiple online communities from different cultures are needed to show the similarities and differences between newcomers. This can only be done using multiple cases. Additionally, it increases the research breadth and validity by using more than one case. Planning the multiple case study analysis needs to be rigorous in order to ensure that the analysis is uniform between each case being investigated. A modified version of Yin's (2009) model will be used as a framework for implementing the multiple case study design.

Figure 10: Modified multiple case study method (Yin, 2009)



Another fundamental issue for case study design is defining what type of case is being investigated. Cases can be holistic (a single case that considers the overall entity) or embedded (multiple cases that consider sub-measurements within the entity) (see Figure 11). This is directly related to the “unit of analysis”. In qualitative analysis, the unit of analysis refers to the major object being investigated in the research. In this research, the unit of analysis is online text postings from newcomers from online communities. The design used is a multiple holistic approach, as the research will study multiple cases (online communities) and a single unit of analysis within (newcomers).

Figure 11: Basic types of case study design (Yin, 2009)



However, within comparative research, the unit of analysis has additional structures, namely observational units and explanatory units. Observational units are those within the data collection and analysis section, and the explanatory units are those that are used to explain the results obtained from the analysis (Ragin, 1989). So, within this multiple holistic case study approach, the observational units are the postings from newcomers in online communities and the explanatory units are elements from cultural theory that attempt to explain the differences between the behaviour of online community newcomers.

Having ascertained that the methodology to be used will be the case study, the following sections describe the methods that will be used under this methodology to address the research questions practically.

3.4.2. Cross-cultural Comparative Method

As described in detail in Chapter 2, the cross-cultural method is an approach which is used to explain, identify and analyse differences between different cultures and for determining whether shared phenomena can be explained by the same causes (Hantrais, 1995). In this research, newcomer data from three online communities in different cultures were compared qualitatively using themes derived from the NBM.

Comparing qualitative analyses is somewhat complex method, due to the potentially great number of themes generated and the difficulty in comparing concepts from different cases. However, ample research has employed this technique, lending validity, support and strength to

using qualitative comparative analysis in this research (Allan, Hoddinott, & Avenell, 2011; Hoewer, 2013; Torsch & Ma, 2000). Many researchers have conceptualised the comparative method in broad general terms, rather than a specific measured technique. This is supported by the lack of a rigorous comparative methodology in the literature (Porter, 1970). Some explain this absence by highlighting the difficulties in establishing control over the causes of social phenomena when a small number of relevant cases, common in comparative studies, is used (Smelser, 1973). There has been much discussion as to whether comparison is a method in itself or simply an approach, or even if it should be considered separately to cross-cultural research. Some theorists in the literature of comparative politics believe that not only is it a method, but it is one of the basic scientific methods (Lijphart, 1971), while others refer to comparison as an 'approach' because it lacks the preciseness to call it a method (Goldschmidt, 1966).

In contrast, Durkheim (1982) believed that that all social science methods are comparative and that the comparative method is not in itself an independent method. In effect "Thinking without comparison is unthinkable. And in the absence of comparison, so is all scientific thought and scientific research." (Swanson, 1971, p. 171). However, others have noted the differences between qualitative and quantitative comparative methods, which could point to a more complex and multifaceted method than previously thought. For example, qualitative research tends to take cases as wholes and compares combinations of characteristics with one another. This somewhat holistic approach deviates from the highly analytical and structured approach used by quantitative researchers (Ragin, 1989).

Another dichotomy within comparative research is whether research employs a case-orientated or a variable-orientated strategy. Case-orientated comparative strategies are generally used in qualitative research when, for example, a small number of countries are studied taking into account all factors and conditions associated with that country. This strategy uses thick description rather than statistics, and is best suited to looking for patterns in small sets of cases. Theory is used to guide interpretation and identify causal factors. In contrast, the variable-orientated strategy aims to test hypothesis derived from theory with a large number of countries. These investigations focus on quantitative statistical analysis on a limited number of variables which are abstracted from the context of the countries being studied. Rather than having a somewhat messy and complex approach which is common in qualitative analyses, variable-orientated strategies use strict measurements aligned with the positivist outlook (Levi-Faur, 2014; Lor, 2011).

Ultimately, the key output of the comparative method is to seek similarities or differences between two social processes through the interpretation of macro-social variation (Ragin,

1989), and to produce models of newcomer behaviour derived from these results. The first step in comparative research is to determine what cases will be used for comparison (see 3.4). Once this has been decided, the second step is to examine the variables to be compared (see Chapter 4: Newcomer Behaviour Model).

3.4.2.1. Implementation of Cross-cultural Comparative Method Using Multiple Case Studies

The cross-cultural comparative method was applied to the three online communities (i.e. Irish, Spanish and Australian communities) through using a case-orientated strategy. A case-orientated strategy was employed as only a small number of cases using a qualitative methodology was being analysed, and theory is used to guide the analysis rather than deductively constructing theory (again it is important to note here that this research is not theory generating but is model generating). The cross case analysis method was then used starting with a within-case analysis and moving to a cross-case comparison. A within-case analysis investigates each case individually before comparing the cases with one another. By immersing within a single case prior to comparing cases, unique patterns of each case emerge before generalising between cases (Eisenhardt, 1989). This can improve authenticity and focus in the analysis (Ayres, Kavanaugh, & Knafl, 2003) and preserve the contextual origins of each case (Khan & Van Wynsberghe, 2008). In effect, within-case analysis allows the researcher to become familiar with each case before comparing the data together.

The cross case analysis method can then be implemented through the decontextualisation and recontextualisation of cases (Tesch, 1990). Decontextualisation is implemented by separating case study data into units of meaning (i.e. separated from the individual case) and then recontextualised when these units are clustered into themes. This thematic analysis aids the analysis of relationships between cases. A pertinent example of this process is provided by Knafl and Deatricks' (1990) analysis of chronic childhood illnesses. First they read the individual interviews creating themes and categories and narrative summaries of these interviews (within-case). These results were then compared using a grid or matrix facilitated by a database manager (cross case).

A similar process was used in this research. The within-case analysis was implemented through using the NBM as a framework for qualitative thematic analysis within each case individually, followed by the creation of narrative summaries of each theme. The cross case comparison was then facilitated using overview grids or matrices (see 3.6.4), where results from the qualitative thematic analysis across the three communities were described, summarised and sorted into a large grid or matrix.

Table 5: Within and cross case comparative methods (adapted from Knafl and Deatrlick (1990))

Method	Purpose	Strategy	Output
Within case: Within each online community	To support existing theoretical conceptions of newcomer theory. To identify any additional emergent newcomer theory categories.	Close reading of the data. Coding and theming data according to the NBM framework. Summarising the themes.	Coding and theming of existing theory. Coding and theming of emergent theory. Narrative summaries.
Cross case: Across the online communities	To identify any similarities and differences in newcomer behaviour.	Using overview grids and matrices to identify similarities and differences in newcomer behaviour across the online communities.	Identification of similarities and differences of newcomer behaviour between online communities from different cultures. Cultural-specific models of newcomer theory.

Initially developed by Knodel (1993) for focus group analysis, overview grids are a very useful method of understanding large amounts of information, and help researchers to look at themes and relationships that could be missed when data is coded into smaller portions (Wiederman & Whitley, 2001). These grids are a helpful way of systematically investigating similarities and differences between cases, and allow for easy comparison of themes that had emerged from the qualitative directed content analysis (Parker-Rees & Willan, 2006). Rather than being in any way quantitative, overview grids are a tool for making the analysis more accountable to the data (Knodel, 1995). Although more commonly used in focus groups, the structure and nature of online community data can also be facilitated by these grids. Data from focus groups is most commonly interactions between participants in text format, which is similar to the data from online communities used in this research.

This technique has been used in cross-cultural research to investigate focus group results across multiple cases (Knodel, 1995), and in scientific investigations using the focus group methodology (Ackers & Dwyer, 2002; Ostwald, Runge, Lees, & Patterson; Robinson, 1999). Much care needs to be taken when constructing the descriptive summaries to ensure that they

contain both sufficient information for comparison but not too much information that may overly complicate the comparison.

This use of grids and matrices in drawing and verifying conclusions has been widely used by qualitative researchers (Miles & Huberman, 1994; Strauss & Corbin, 1998). Miles and Huberman (1994) detail two types of qualitative matrices, descriptive and explanatory. The overview grids or matrices in this research were constructed in a similar fashion with the initial grid being descriptive, followed by additional explanatory text related to cultural theory and other reflections, subsequently augmented to the overview grids.

In this research, the grid headings were the different communities analysed, the cells contained the descriptions and the first column identified which theme had been summarised (see section 4.5 and 4.6 for details of these categories and Appendix G for a grid example).

The following section describes the qualitative content analysis method, which was used to analyse the cases in the cross-cultural comparative analysis.

3.4.2.2. Implementation of Qualitative Content Analysis Method Using Multiple Case Studies

Having detailed the cross-cultural comparative case study method above, the second key method used in this research to compare the behaviour of online community newcomers is qualitative content analysis²³. This method has been used within each online parenting community to structure, analyse and compare the behaviour of newcomers. This section describes qualitative content analysis, its use in previous cross-cultural projects and the rationale for using it in this research.

In this research, directed content analysis was performed on text from online community postings from three case studies, Magic Mum, Essential Baby and Ser Padres, and two pilot communities, Coursera and NSMB. This method was used to compare newcomer behaviour in three online communities of differing cultural backgrounds. The following studies, among others, have used a similar qualitative cross-cultural approach within online community research (Chou et al., 2009; Morio & Buchholz, 2009; Pfeil et al., 2006).

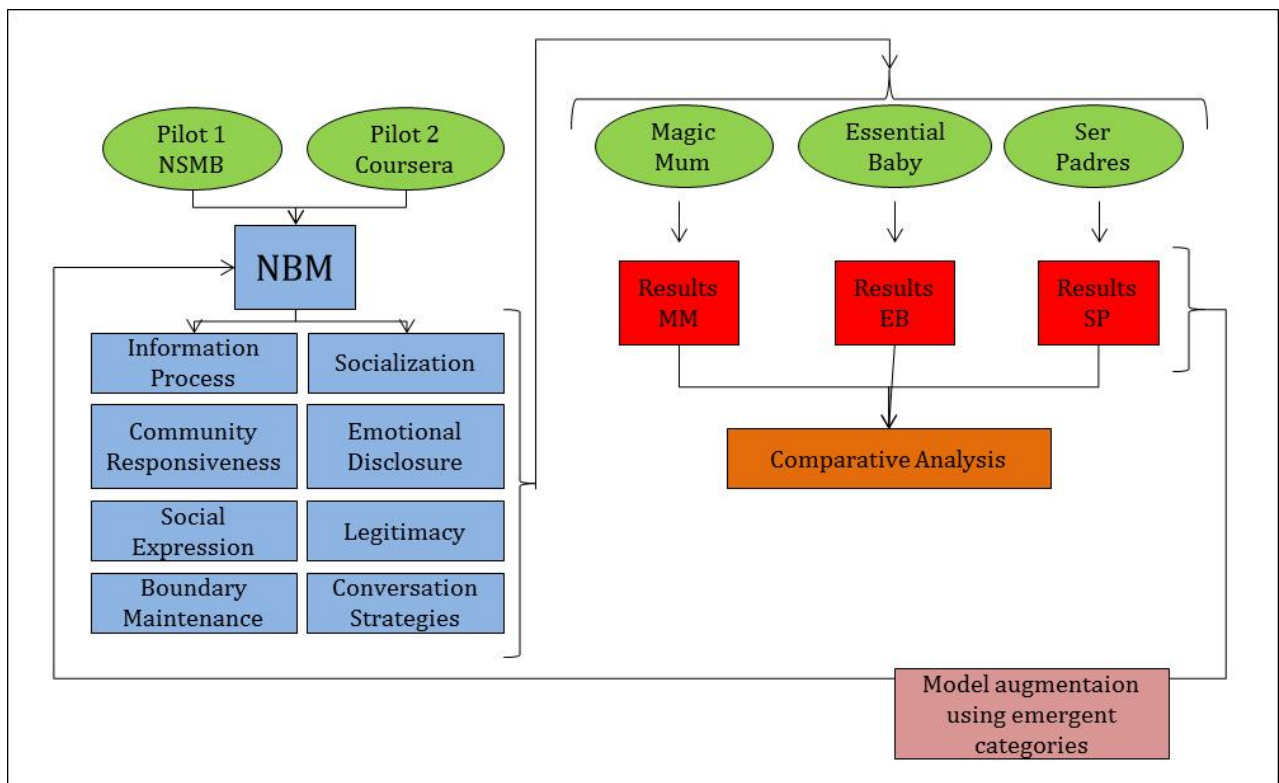
The first goal of content analysis was to develop a model of newcomer behaviour (NBM) in order to structure the comparative cross-cultural analysis of three parenting communities. This

²³ The use of discourse analysis was also considered for this research, however, the inherent nature of discourse analysis (e.g. power politics, open social systems etc... (Hopf, 2004)) did not conform to the directed nature of the analysis and the types of outputs required.

was done using the two pilot communities and augmented with results from the parenting communities. The second goal was to use this NBM to frame the analysis of the three case studies to allow for cross-cultural comparability²⁴.

The rationale for using a cross-cultural comparative method with directed content analysis is intrinsic to the research question itself. In order to determine any potential similarities and differences, comparing data from different cultures using a structured framework is necessary. Figure 12 provides a high level overview of this process.

Figure 12: High level overview of the directed content analysis process

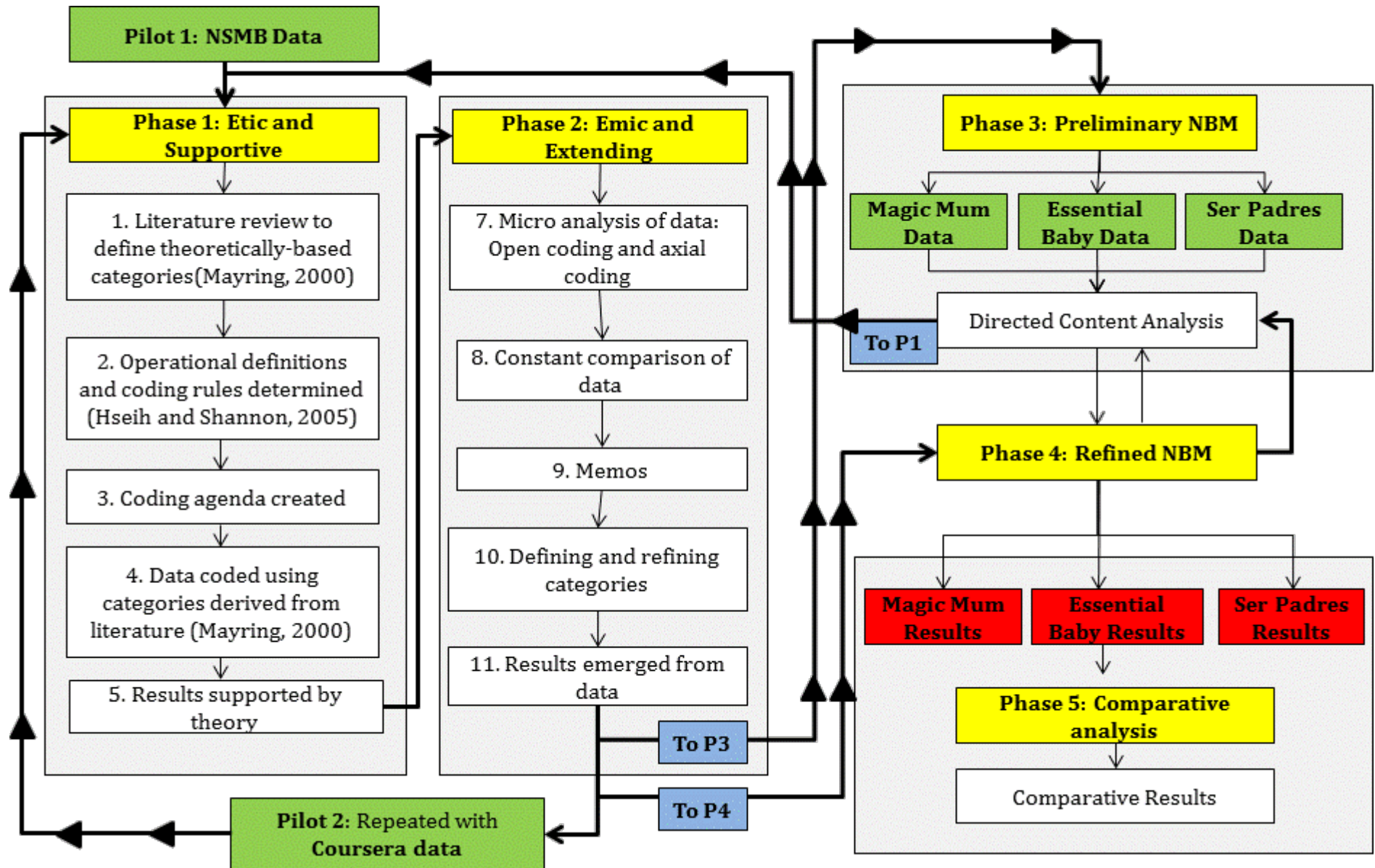


Although the pilot communities were used to construct the initial NBM, the model was also expanded through the individual results from the three parenting communities. As is common in qualitative research, this was a somewhat messy and complex process. The outputs of this content analysis method were twofold: first a NBM validated by five online communities, and secondly, individual results from the content analysis of three parenting communities of differing cultural origins, framed by the categories of the NBM.

²⁴ Full details of the rationale, method and implementation of this are presented in Chapter 4 – Newcomer Behaviour Model.

Figure 13 provides a more detailed illustration of the directed content analysis process used for building the NBM. Chapter 4 describes the full details of this, and the methodology behind the construction of the NBM and its relevance to the implementation of the content analysis method using multiple case studies.

Figure 13: Directed content analysis process



3.4.3. Summary of Methods

In summary, this research uses the case study methodology using two distinct methods to answer the research question namely the comparative cross-cultural method and the qualitative content analysis method. Table 6 relates back to the methodological requirements of the research and explains how these methods address these requirements.

Table 6: Selecting the methodology and methods in terms of the methodological requirements

Methodological requirement	Case Study	Cross-cultural Comparative	Directed Content Analysis
Understand, explore, expand, validate and support the behaviour of online community newcomers in a cross-cultural context.	Suited to exploratory research areas.	Allows for comparative analysis across cultures to explore newcomer behaviour.	Facilitates cross-cultural analysis. Allows for behavioural data to be comparatively explored both inductively and reflexively.
Facilitate the creation and application of a NBM for comparing multiple theoretical conceptions of newcomer behaviour in one place.	Allows for in depth analysis to facilitate development of NBM.	Cross-cultural comparative research will strengthen the NBM.	Directed content analysis will generate themes and categories to be used to create the NBM.
Construct a sampling framework for sampling national culture specific online communities.	Necessary for case study.	Necessary for cross-cultural specific comparison.	Necessary for sampling data for the content analysis.
Compare qualitative newcomer behaviour data from different cultures.	Multiple case study approaches allow comparability across multiple cases.	Allows for single analysis of each community followed by comparison maintaining rigour and structure.	Categorises, organises, structures and analyses newcomer behaviour data which will facilitate comparability.
Support the development of conceptual models of online community newcomer behaviour derived from the analysis.	Multiple case studies allow for greater generalisability and analysis in model generation and validation.	Allows for culturally specific models to be developed. Allows for greater generalisability and model validity.	Facilitates the creation of a model for comparative analysis through using previous theory to direct the content analysis.

The rationale for using these methods has been justified by reflecting on the method selection, the background methodological approach, the author's epistemological outlook and the methodological requirements. Table 7 summarises the link between these important methodological considerations and the methods being used.

Table 7: Summary of methodological considerations and justifications of method

Methodological consideration	Method used	Justification
1. Background methodological approach	Inductive	New research field Exploratory research Allows for emergent themes to arise
2. Epistemological outlook	Post-positivist	Personal background Allows for both existing and emergent theory to be used

The following section, describes the logical structure of the inquiry which facilitates the research methodology.

3.5. Research Design

Research design is an integral part of any research project. Although it is sometimes confused with the research method, this research step is a logical rather than a logistical one, and is the logic that links the data to be collected, to the initial questions of study (Yin, 2009). Essentially, "the function of a research design is to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible" (De Vaus, 2001, p. 9). In its most basic form, it is the rationale behind why the research will be carried out in a particular way.

In order to describe the somewhat complex research design of this thesis, Figure 14 connects the research aims and questions with the logical steps taken to address them.

The first step in the research design was the **literature review** (addressing SA1), which included the cross-cultural online community literature analysis and the social role analysis. This provided background knowledge and theory to formulate the **research problem**.

Following this, the research design forks into two steps; first, the creation of the **sampling framework** for online community sampling (addressing SA2) guiding the **data collection** of two pilot communities and three parenting communities, and secondly the development of the

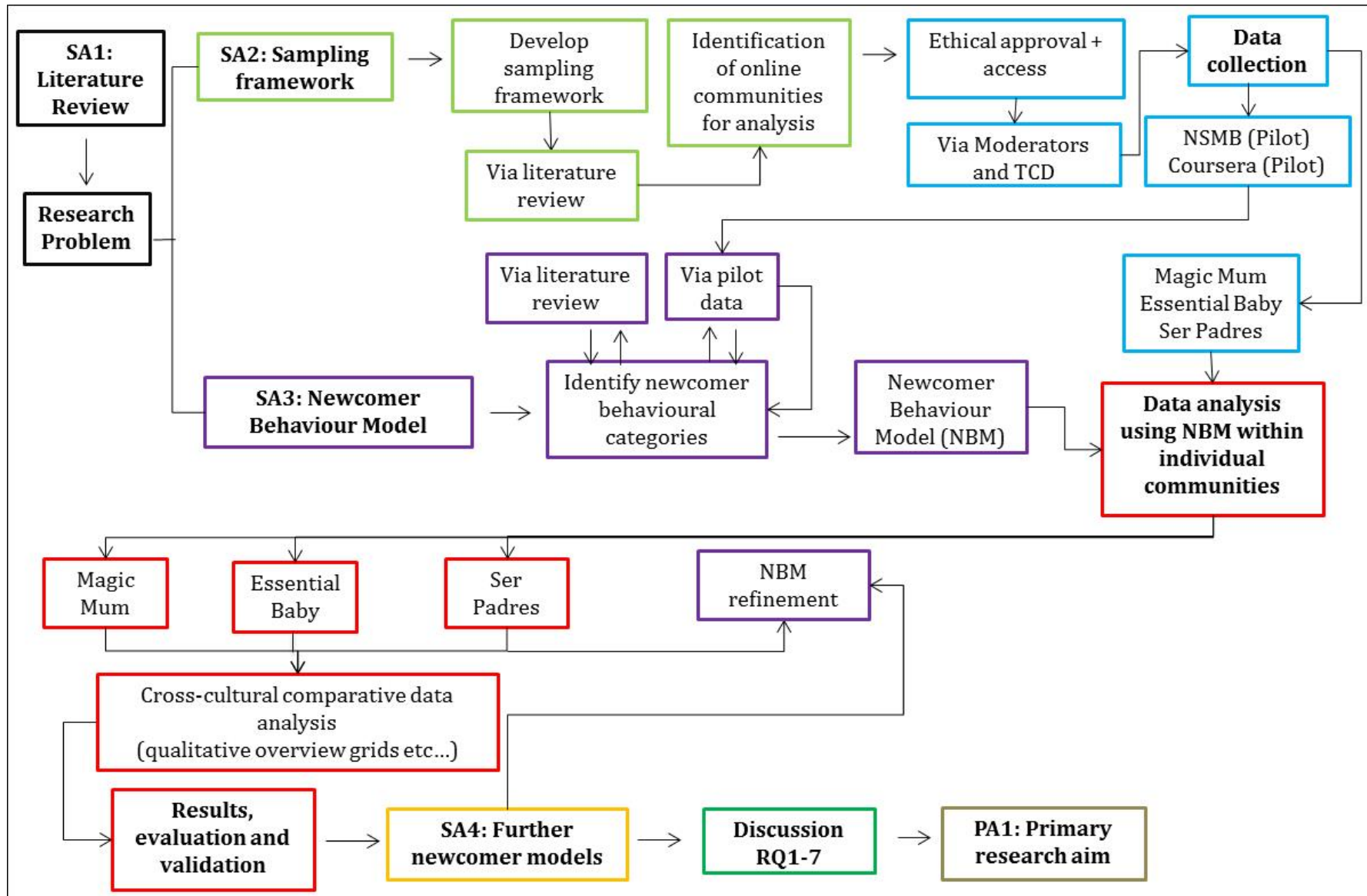
NBM using literature review and content analysis of pilot data from two communities (addressing SA3). It is important to note that although the NBM was developed using this pilot data, some refinements were made to the model when it was used with the three parenting communities.

Having collected the data and determined the NBM to frame and structure the analysis of newcomers in the three communities, the next step, **data analysis**, begins with an analysis of each community individually using the NBM, followed by a **comparative cross-cultural analysis** of this data.

The **results** of this analysis are then detailed, followed by a **discussion** of the results in line with cultural theory. This discussion addresses the eight key research questions, and facilitates the creation of **culturally specific newcomer models** (addressing SA4) using the refined NBM. The logic of this research design finally enables the research aim:

“To explore the effect of national culture on the behaviour of the online community newcomer”

Figure 14: Research design



3.6. Sampling

The following section describes the sampling process of the online communities for cross-cultural analysis. It is imperative that there is procedure, structure and support for this process. If the online communities are not sampled correctly, it could have a major impact on the results of the analysis. It is important to note that there was no previous sampling framework for online community cross-cultural analyses.

3.6.1. Sampling in Cross-cultural Research

Sampling in cross-cultural research can be difficult and complex because multiple populations are used, and problematic issues such as self-identification and hidden populations (Woolf & Hulsizer, 2011). The literature review (Chapter 2), found a divergent mix of sampling methods within online community cross-cultural literature including convenience, maximum variation, snowball, probability, judgment and random sampling. Other common sampling methods included using online communities with similar users across different cultures (e.g. university students), and using communities with high activity and interaction rates for observation-based research. For example, over one third of the opinion-based studies used university students as their sample population. This particular population was used, in general, for convenience (Kim, Sohn, & Choi, 2011), or as it represents the largest portion of social networking users (Choi et al., 2011). However, by using this particular population, the potential generalisability and representativeness of the study to the public at large can be put into question.

Many studies selected their sample based on ad hoc or on convenience sampling. Accordingly, some comparatives between countries may not have been representative of the user population as a whole (Wang, Norice, & Cranor, 2011), which can put into question the methodological validity of certain cross-cultural research into online communities. Other studies used maximum variation sampling, which can also bring about problematic elements. When cultures are widely dissimilar (e.g. US and China), explaining their differences can be difficult due to the high number of uncontrolled variables. Manaster and Havighurst (1972, p. 158) explain that “investigating (...) Germany and Nigeria would produce a multitude of differences. Relating and comparing the differences by social class, tribe, geographical mobility, social mobility (...) could explain some of the differences between the countries but would be extremely difficult and expensive.” As such, selecting countries that are not vastly dissimilar would be beneficial, as differences that are potentially unrelated to the research question are minimised. This would then allow easier identification and analysis of cultural differences and relationships.

The review also identified the use of student populations in many studies. Berry et al (2011) warn against using these types of samples. They believe that 'unless there are reasons to assume cultural homogeneity, the representation of a culture by a select sample (e.g. students at one or a few university departments) is likely to lead to a distorted view of cross-cultural differences' (Berry 2011:pp22). They believe that it is virtually impossible to select a sub group of one cultural population and compare it with another. Their objections are rooted in the notion that matching on one variable leads to mismatching on another. Taking the example of university students in Brazil compared with those in the US; the Brazilian students would be more likely to come from families of high income and social status compared to the US students.

The review also identified patterns in country selection, with a high number of Chinese and US online communities used in the literature. European, African and Oceanian countries have been somewhat neglected. Online usage in European countries such as Spain and Ireland is high, and cross-cultural comparative research using these countries would rebalance the current emphasis on specific countries. Community selection for some studies has also been based on online community activity, in that large active communities were more likely to be selected than smaller communities. Large communities, such as Cyworld and Facebook are excellent data sources for research. However, smaller, more insular communities can bring about further insight into user interaction, particularly for cross-cultural research where large communities may have a higher mix of different cultures.

The number of cultures chosen can also have an effect on the results generated from research. Cross-cultural theorists advocate that researchers should use more than two cultures in comparative analyses. In the review, many of the studies tended to compare only two cultures. Matsumoto and Van der Vijver (2011) describe that "the researcher is tempted to overemphasize – or in rare cases – underemphasize – differences that were found, because nothing is known about the size of the difference between cultures A and B compared with the size of the differences between each of the two cultures and third culture, C" (2011:pp122). Manaster and Havighurst (1972) also explain that three or more studies should be used, as it is the only way to truly test relationships across cultures in order to gain the broadest predictability and inferential analysis.

Another issue highlighted by the review was the composition differences of the sample populations. In one study, Internet users in Germany were being compared with those from India. However, as noted in the study, Germany has very high overall Internet usage compared to India. The sample selected from India would not be representative of the Indian population as a whole, whereas the German sample would be (Pflug, 2011). In another example, US,

Bangladeshi and Venezuelan community sites were compared. Although there were a large number of US community sites to sample, the study was limited by the smaller number of Bangladeshi and Venezuelan sites available (Talukder & Joham, 2009).

Other sampling and methodological issues identified included an unbalanced gender ratio (Chen et al., 2008; Kim et al., 2011), small sample sizes (Grace-Farfaglia et al., 2006; Madupu & Cooley, 2010), lack of a response rate (Marshall et al., 2008) and the inability to ascertain the real nationality of the participants in the boards (Fong & Burton, 2008). Some of the studies used different recruitment methods between the cultures (Chu & Choi, 2011), and others gave incentives to one culture (such as college credit) but not to others (Karl et al., 2010). All of these issues that emerged from the literature review have been taken into account for the development on the sampling procedure and subsequent framework. These sampling issues identified from the literature review are of key importance as the type and the number of cultures chosen dictate the limits of analysis and interpretation in cross-cultural research (Manaster & Havighurst, 1972). Summarising these results to the formulation of a sampling framework, the following elements were key to ensuring a methodologically sound sampling procedure:

- Refrain from using ad hoc, convenience or maximum variation sampling.
- Sample communities from cultures that have not been as commonly researched.
- Sample smaller, more insular communities.
- Select three or more sources for cross-cultural analysis.
- Be sensitive to cultural bias during comparative research.
- Attempt to ascertain the nationality of the majority of online community users.

The communities used in this research were not sampled using ad hoc, convenience or maximum variation sampling, nor were they from countries that are commonly researched such as the US or Asian countries. In addition, they were smaller communities which allowed for more in-depth analysis, and cultural biases were addressed (see 3.7).

3.6.1.1. Defining National Culture in Online Community Cross Cultural Sampling

However, another issue that has been neglected by the cross cultural literature on online communities is whether the communities sampled were in fact only sampling participants from the countries defined in the study. For those studies that used surveys, participants self-identified as from being from a particular culture. However, with those that used qualitative analyses from online communities or website data, there is a difficulty in whether the participants were in fact from those cultures.

Jawecki, Fuller and Gebauer (Jawecki et al., 2011) used search engines to look for communities from a particular national culture, and also used user profile information to determine that they were from the national culture defined by the community (i.e. Chinese Streetball). Chiou and Lee (Chiou & Lee, 2008) were even less strict about the criteria defining national culture within their cross cultural community analysis, and noted that the community that they identified as American could in fact have members from different cultures; they comment "After inspection, it was concluded this would not present major problems, for the following reasons: first, people of nationalities other than the United States constituted only an insignificant minority that rarely affected the data as a whole. Second, since the discussions were conducted in English, the majority of the people were proficient in conversing in the language on that message board. This indicated the minorities had some degree of westernization, or may have come from a country culturally similar in background to the United States." (p. 1181). Morio and Buchholz (2009) simply selected 'Japanese' and 'US' Slashdot communities without describing how they determined these as being Japanese or from the US. Siau, Erickson and Nah (2010) address this issue by commenting that it is "possible that a US or European native might be able to use Chinese to get involved in a Chinese online community or vice-versa. However, these are likely to be very rare instances. We believe that the vast majority of members in Chinese virtual communities have a Chinese cultural background. In addition, since our data involves a large volume of messages, even if there are messages posted by people with a non-Chinese cultural background, their impact should be minimal."(p. 291). What is apparent in all of these studies is the absence of rigorous sampling procedures to maintain that the members were in fact from those national cultures in the comparison.

Given the relatively loose definition of national culture in these cross cultural qualitative studies, a sampling framework for investigating nationally specific online communities was developed. This was done in order to improve the validity of the online communities being sampled, in that participants were more likely to be from one national culture.

3.6.2. Sampling Procedure and Framework

Sampling in qualitative research requires specific boundaries in order to limit the data being investigated, and provide a defined research focus. The use of a multiple case study methodology requires that the cases are selected carefully so that the researcher can observe similar results across cases, or develop theory based on contrasting results while also mitigating bias and improving validity. This research aims to compare three online communities from differing cultures, and a sampling framework was created to select the appropriate online communities (Appendix E). No existing cross-cultural online community sampling framework

was available, and this framework was developed by investigating common culture specific variables in online communities and consulting previous literature (e.g. Kozinets (2002)).

At the heart of this framework, the sampled communities need to fulfil three key requirements; be from a defined national culture, be an active community, and have similar content / aims.

1. Be from a defined national culture type e.g. Irish / Australian / Spanish.

This means that the majority of the user population could be characterised as from a single national culture type. These have been identified in the literature as “communities from a geographic base” (Burnett et al., 2003), or “communities created specifically for the needs of the people in a country” (Talukder & Joham, 2009, p. 407), initially demonstrated by Hampton and Wellman’s (1999) study of a Toronto online community. These communities can be determined by:

- a) Online community purpose: In general, the purpose of an online community can usually be identified in the ‘FAQ’ or ‘About Us’ section (i.e. An Irish parenting community). This purpose statement usually describes not only contextual elements (i.e. parenting), but also geographical or cultural elements (i.e. Ireland).
- b) Web domain: Is it a country specific top level domain (TLD) (e.g. .ie or .co.uk)? Country specific TLD’s are generally tied in with national culture specific websites, and have more stringent rules for applicants²⁵. The hosting domain for the website can also provide evidence of this.
- c) Internet traffic analytics: Websites such as Alexa.com provide statistics on where visitors originate from. It is important that a significant percentage of users come from the culture to ensure that the community is not made up of a mixture of users from many different cultures.
- d) Location field: Another useful measure of national culture is by analysing the ‘location’ field in community user pages. Many online communities show this field beside members’ usernames with their geographical location. If a significant proportion of users come from the same location, it can be assumed that the community is composed of culture specific users.
- e) Content of the community discussion: Content analysis of the text can determine the general nature of the community discussion. A community that is discussing national

²⁵ For example, to receive an “.ie” TLD: “All applicants applying for an .ie domain name who are not situated in the 32 counties of Ireland, must demonstrate a real and substantive connection with Ireland” (Ireland’s Domain Registry, 2012).

culture specific topics is more than likely to have members from that national culture (e.g. discussion of Dublin maternity hospitals).

- f) Forum titles: Many of the forum titles relate to national culture specific issues (e.g. Dublin mothers March 2013). This is a good indicator of culture specificity within an online community.
- g) Language, colloquialisms and slang used in the text: Content analysis of the text can identify language particularities to a certain culture. This is particularly common in abbreviations and acronyms that are commonly used in some cultures.

2. Be an active online community.

An active online community needs to have daily new postings and threads, a substantial number of community members encompassing different social roles, and have healthy traffic statistics.

These communities can be determined by:

- a) Internal community statistics:
 - Statistics for new and total postings and threads can be identified in the community itself. In most vBulletin style online communities there is a section with total number of users, currently active users, total number of threads, and total number of posts. It is these statistics that can be used to measure the activity in an online community.
 - Community members can be identified by a content analysis of the user list and member page. This will show how many users are in the community, their activity levels, and whether they've a community determined social role i.e. Moderator, senior member, newcomer.
 - These metrics can show that the community has a degree of sustained membership, which is a key factor for identifying whether the community is, in fact, a community (Jones, 1997).
- b) External community statistics: Alexa rankings or statistics sites such as Big-Boards.com can be used for traffic statistics. These websites provide excellent resources for determining the size, traffic and temporal growth/decline of a community.
- c) The online community should also contain a range of social roles. These are usually denoted by user types listed under usernames e.g. Long-time member, newbie, senior member

3. Be related to similar content / aims

The communities selected for this cross-cultural study should have similar content (i.e. Sports related / parenting etc...) The rationale for this is that communities with similar purposes generally attract similar members (i.e. parenting communities attract parents) which is important for comparability. Comparing online communities that have similar purpose and content will make comparative exercises and content analysis more focussed.²⁶

- a) Identifying the main content of the online community can be determined by examining the name of the community, the forum titles, the FAQ section, and through a general content analysis of the forums.

3.6.3. Rationale and Description of Online Communities Sampled

The following sections describe the rationale behind community type and country selection.

3.6.3.1. Rationale for Online Community Type Selection

Online communities are available on a myriad of different topics, therefore, reflection on what type of online community should be selected for the comparative analysis was needed. First, the online community needed to be geographically or culturally specific, in order to fulfil the necessity of the research question investigating whether cross cultural difference in online community newcomers. The sampling framework detailed in 3.4.2 is an attempt to address this. However, the topic of the online community also needed to be selected. The subject matter of parenting was selected for a variety of reasons.

- These communities are known for their abundant activity, good social interactivity, and high information dissemination (Niela-Vilen, Axelin, Salanterä, & Melender, 2014).
- The author had a previous interest in parenting communities due to their lively discussion, good member interaction, and topics that were of personal interest.
- Many of the topics discussed by community members were geographically or culturally specific including parenting techniques, labour process, schooling, and medical facilities. For example, many of the newcomers would discuss a particular hospital, doctor, procedure or experience that was isolated to that particular geographical or cultural space.
- Other community topics were considered including cycling, general interest and politics (the pilot communities were cycling orientated). These topics were also of personal

²⁶ Although it could be argued that this makes the results less generalisable to online communities as a whole, it makes comparing social roles more manageable. In addition, the use of two pilot communities improves the generalisability of the research.

interest to the author and would also have been suitable due to the content of the community being cultural or geographically specific. However, ultimately parenting was selected as:

- Culturally and geographical specific topics were particularly evident within and easily identifiable in coding,
- Abundant activity within the community
- Approval was given by the moderators to use the data
- It was of particular interest to the author.

In addition, parenting communities tend to be culture specific, due to the cultural specificity of parenting, and this supports the sampling of culture specific communities.

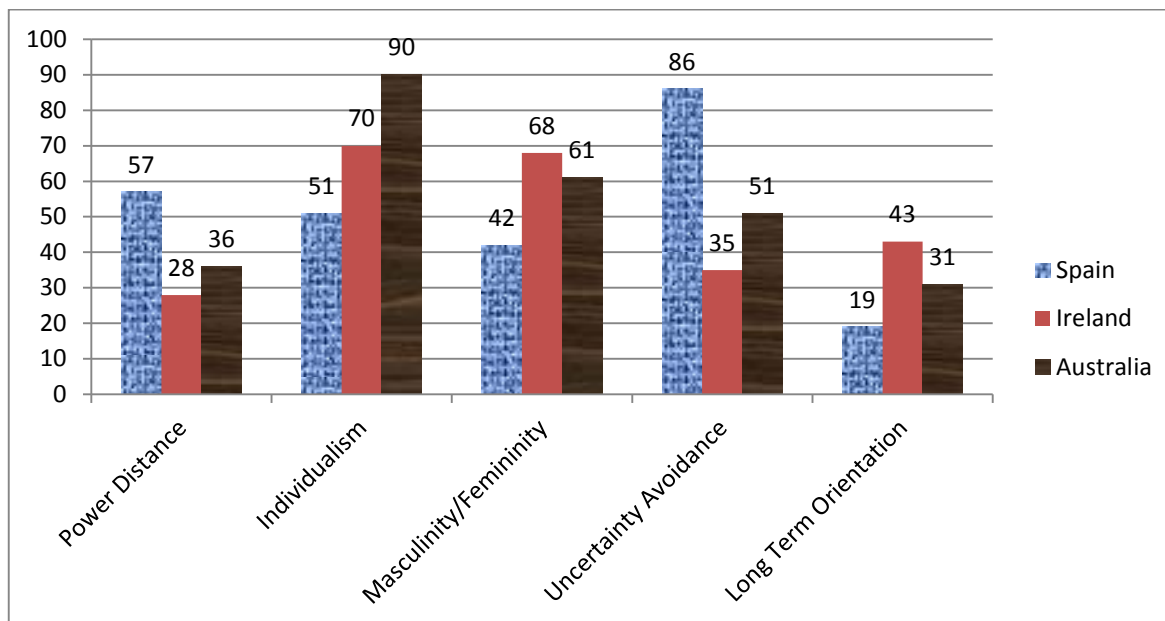
3.6.3.2. Rationale for Online Community National Culture Type Selection

Online parenting communities were selected from three national cultures; Ireland, Spain and Australia.

The Irish and Spanish online communities were selected first because of my personal connection to the Irish and Spanish cultures (I come from a half Irish half Spanish heritage). This aided my understanding of both the language of the text and the cultural context of many of the newcomer postings. Secondly, the communities that were identified via the sampling framework 3.4.2 were from these national cultures, and were best practice examples of online parenting communities. In effect, a dual rationale of a personal connection to the Spanish and Irish national cultures, and an adherence to the sampling framework was the rationale for selecting these particular national cultures.

The Australian online community was selected because of its large size, highly active user-base, ease of data extraction, and English language. It was decided to select an Australian community because of its somewhat centrality between the Irish and Spanish communities. Although according to Hofstede scales it is relatively similar to the Irish culture, it has some differences. This allowed for contrast, comparison and additional validation of newcomer behaviours.

Figure 15: Differences in Hofstede scores for Ireland, Spain and Australia (The Hofstede Center, 2013)



In addition, the results from the methodological literature review of the cross-cultural online community studies (Chapter 2) highlighted five areas to note; refrain from using ad hoc, convenience or maximum variation sampling; sample communities from cultures that have not been as commonly researched; sample smaller, more insular communities; select three or more sources for cross-cultural analysis; and be sensitive to cultural bias during comparative research. These five areas have been taken into account and the communities sampled abide by these conclusions.

3.6.3.3. Details of Online Communities Selected

A range of different online parenting communities were considered for selection. First, Google was used to search for parenting communities within the countries selected. Then the sampling framework (Appendix E) was used to ascertain which communities would be the best to sample data from. A range of other websites were also identified including bubhub.com.au, rollercoaster.ie and netmums.co.uk, and the sampling framework was used to investigate their community. However, the results from the sampling framework determined that three communities satisfied these sampling requirements (see Appendix D); Magic Mum from Ireland, Essential Baby from Australia and Ser Padres from Spain. These three online communities were from a defined national culture type, were active online communities, and were all related to similar content (i.e. parenting).

3.6.3.4. Magic Mum

Magic Mum is a long established Irish parenting website focusing on mothers and expectant mothers. With almost 50,000 members and over 5 million posts, the community is an active and vibrant online space for Irish mothers to communicate over a wide range of parenting focused

topics. According to Alexa.com, over 79% of visitors originate from Ireland. The forum is divided up into five sub-forums (Magic Mum Info, Parenting, Communities, Buy and Sell and General Topics), and uses vBulletin forum software.

3.6.3.5. Essential Baby

Essential Baby is touted as the largest online parenting community in Australia. This large-scale community has over 30 moderators, almost 250,000 members, and 15 million posts. The community uses IP Board forum software to host its 21 highly active sub-forums (e.g. Conception, Pregnancy, Birth, Day Care, and Hobbies). Over 55% of visitors originate from Australia according to Alexa.com.

3.6.3.6. Ser Padres

Ser Padres (Translation: Being Parents), is a parenting community located in Spain with over 45% of visitors originating from Spain according to Alexa.com. The community has over 8,000 members with over 120,000 posts. Although not as large as the previous two communities, this online space is a very active with a good spread of newcomers and long-term members. The community has 11 sub-forums including Buscando un Bebe (translation: Searching for a Baby) and Embarazo y Parto (translation: Pregnancy and Birth). There was strong feeling of community, collective identity and collaboration in this community.

3.7. Data Collection

There are a wide variety of data collection methods that qualitative researchers use including collecting field notes, interview transcripts, survey response data, focus group responses, text from document analysis, text analysis and reflexive notes and memos (Creswell, 1994). In the case of this research, data was already available in the form of user generated content in online communities. It was this data that was collected for analysis alongside additional data (e.g. reflexive notes, memos, data reports, and statistical figures) subsequently generated from the analysis. The following section explains in more detail what online community data was collected, how it was collected and how it was organised for data analysis.

3.7.1. Types of Data Collected

In this research, the data collected was text from online community forums including threads, posts and public user profile information. "Posts" are pieces of text, attributed to an online community user, that have been sent to an online community via the online community software. "Threads" are collections of user generated "posts" grouped under a particular topic. At its most basic level, an online community functions through threads being contributed by

members, and other community members posting underneath these threads. This forms a conversation between these different contributing members.

The data collected from the three online communities was each post and/or thread a newcomer had posted on the forum three months²⁷ from their registration date (i.e. not their date of first posting but the date they registered an account with the online community). The rationale for using time from registration date, rather time from first posting, was because it was suggested by Sonnenbicher (2009), and other investigations into newcomers had used this variable (Choi et al., 2010; Singh et al., 2011).

In addition, as many newcomers tend to lurk for different time periods prior to posting their first post, it would be difficult and overly complex to collect newcomer data with the same lurking periods to ensure a valid level of data standardisation. Data was collected from public sub-forums within the general umbrella of parenting subject matter (i.e. Buy and Sell type forums were omitted from the analysis). This was done to attempt to standardise the data across the three communities.

Figure 16: Threads, posts and user profile information in the Magic Mum online community

The figure displays two screenshots from the Magic Mum online community. The left screenshot shows the 'Forum Home Page' with a table of threads. The right screenshot shows a 'Thread' view for a post titled 'Have you flown during pregnancy?'. Annotations with arrows point to various elements:

- Forum Home Page**: Points to the top navigation bar.
- Thread**: Points to the top navigation bar of the thread view.
- Thread title**: Points to the title of the thread.
- Username of thread/post author**: Points to the author's name 'Peashy'.
- Body of posts**: Points to the main content of the thread.
- # of thread views**: Points to the 'Views' column in the forum table.
- # of thread replies**: Points to the 'Replies' column in the forum table.

Topic	Author	Replies	Views	Last post
Announcements				
Forum rules: updated				
Maternity Leave	MaryB	4	12641	Thu Oct 24, 2013 2:59 pm medicatie-C
Hospital List		55	24558	Sun Jul 21, 2013 9:50 pm LaryHedone-C
Online Maternity Bra Guide	MaryB	3	3774	Thu May 27, 2013 9:00 am Laraine-C
Severe nausea and vomiting/hyperemesis		6	6900	Sun May 01, 2011 1:55 pm carrie-C
Baby movement during pregnancy		6	9839	Wed Apr 10, 2013 12:37 pm MaryB-C
What age is 'old' to be pregnant?		55	3540	Tue Dec 11, 2011 11:23 am red-C
Can u claim for ultrasounds on your health insurance?	multnur	16	347	Sun Dec 15, 2013 9:43 am surfinia-C
Any advice welcome- in so much pain:(brilite	14	598	Sat Dec 14, 2013 11:59 pm red-C
Gestational Diabetes	Obelien-kenobi	605	26271	Sat Dec 14, 2013 9:03 am mummy-C
Could this be m/c? Worried	FluffPancake	12	617	Wed Dec 11, 2013 10:49 pm Ally-C
Very faint line on 2 clearblue tests	meashmon	11	707	Tue Dec 10, 2013 11:09 pm meashmon-C
What does SPD feel like?	mikeymas	27	718	Tue Dec 10, 2013 10:09 am Janet-C

²⁷ Three months was selected as the time period to extract newcomer posts as it was felt that this was an appropriate time period where users could be defined as newcomers. It is understood that some newcomers would post more regularly than others in this time, and would not believe themselves to be newcomers because of their more regular postings. However, a fixed time period was needed for sampling and three months was decided as being appropriate. This was also substantiated through the content analysis whereby newcomer behaviour tapered off after this period.

In addition to collecting raw data from these sources, other important data not derived from the online community itself was collected during the analysis. This included personal reflexive notes and memos (see Appendix K), a chronological log and task list of data analysis (Appendix F), coding agendas and schema (see Appendices I and J), search records, query results, NVivo reporting data (see Appendix L) and data matrices (see Appendix G).

Figure 17: Example of personal reflexive memos and data analysis log

1	Essential Baby Data Analysis Task List	Completed?	Notes	Date
2	Go back over no response threads	Yes		26/11/2013
3	Can I join posts	Yes		26/11/2013
4	Go back over threads that might have a response	Yes	Is this relevant - are we looking at a snapshot or of a contium?	29/11/2013
5	Go back over threads that people say they are a newcomer	Yes		26/11/2013
6	Cross-tab themes with other themes	Ongoing		Ongoing
7	Information process	Yes	Look over this again from homedad99# This is done	26/11/2013
8	Community responsiveness	Yes		27/11/2013
9	Socialization	Yes		27/11/2013
10	Legitimacy	Yes		28/11/2013
11	Questioning and help seeking	Yes		27/11/2013
12	Domain knowledge sharing	Yes		02/12/2013
13	Social expression	Yes		28/11/2013

I think a dress should suit first, and you like it is impotent, too! Also, if it is cheap that is best. :) You can have a look at: <http://www.dressfirst.com/> <http://www.dressfirst.com/17026072-g26072> I think you will like this!! <@Tabothas>

Not only does this support their information giving but it also shows to the community that they know how to use some of the more technical aspects of the forum technology.

Doesn't get better - my siblings and I are 33, 31, 25 & 23 add to that Partners and we all fight all the time!! We love each other to bits but just get sick of each other. Do your children have Grandparents they could visit? <@MrsDigi>

If the mold has grown too much and damaged the area or room then the landlord needs to contact the insurance company who would pay for the damage and help to get rid of it but if its just the starting of the mold you can remove it by yourself by rubbing it with sandpaper, keeping the place dry, letting the sun light reach the affected area. Go here <@peterkeith>

Two major types of information giving were identified; There is a marked difference between giving information to the community in response to a query, and giving personal information about themselves to the community. Sometimes these two types of information giving can overlap when newcomers give personal information in response to a query.

Socialization

What was interesting about the socialization of newcomers in the Essential Baby community was the presence of politeness and courtesy in their language. There was a great deal of thanking, acknowledgement and politeness that was presented prior to posting. This seemed to be a key element for socialization of newcomers. See the community admonishing newcomer section for an example of a newcomer who did not use politeness and the reaction of the community to her.

Resource acknowledgment

Most newcomers acknowledged resources or replies from existing members which was a good indication of how they were socializing with the existing members. As they had not already formed bonds or friendships with any users, this acknowledgement was very important. It showed the community that the newcomer was willing to engage with the community and also showed community members that the newcomer was approachable and conforming to community norms. Among existing members there was much less acknowledgement as they had already been socialized into the community, and politeness and acknowledgement was not as necessary. They used 'Thanks' style responses or individual replies to each poster using their username e.g. @silvo82

Thank you to all who took the time to give your thoughts and experiences! <@MrX>

DanaOC - I know what you mean, you'd rather get turned up early if it's going to anyway, to save yourself from getting excited, we've all been there. Good luck! <@CherryMumtoBe>

These acknowledgements were almost always positive, and showed the community gratitude, politeness and courteous behaviour.

These additional data sources were imperative for generating meaning from the data, constructing and testing theoretical constructs, and as a basis for the content in the overview grid.

3.7.2. Data Collection Technique

Data collection was executed by copying and pasting data from the online communities into an excel file which was then imported into NVivo. A preliminary data scraper was developed but it was determined that it would take less time to simply copy and paste the data rather than having to align the data scraper to the different technical structures of the three communities. The simple copying and pasting technique also allowed for additional reading, analysis and reflection during this period which would not have been possible if a data scraper would have had been used. There were three separate data collection periods for each of the three communities (Table 8).

Table 8: Data collection periods for each online community sampled

Online Community Name	Data Collection Dates	Dates of Newcomer Registration
Magic Mum	10/09/2013 - 13/09/2013	01/05/2013 – 01/09/2013
Essential Baby	02/10/2013 - 05/10/2013	01/06/2013 – 01/10/2013
Ser Padres	20/01/2014 – 27/01/2014	01/09/2013 – 01/12/2013

The personal reflexive memos were created using Microsoft Word, and Microsoft Excel was used to create the data logs. The memos were all saved in folders that were labelled with the community name to prevent mixing up memos from different communities.

3.7.3. Data Organisation and Collection

The data was extracted from each online community and imported into NVivo where the majority of the data analysis was conducted. Each separate thread was imported as a separate source into the NVivo file and named under the newcomer who had authored (i.e. posted the thread) or contributed to the thread (i.e. submitted a post). The number of threads and posts extracted from the online community depended on the number of newcomers present within the three month period sampled.²⁸

At the beginning of the data collection, each community had its own separate NVivo project file. This was to attempt to focus the analysis on each community separately before comparing the communities with each other. In essence, it was simpler to have three smaller, more focused files during the initial data analysis, rather than one large file with multiple sources, nodes and categories overlapping and potentially confusing matters. However, as the analysis continued, and in particular during the cross-cultural comparative analysis, these three NVivo files were merged together. This was done for ease of comparison with the large number of nodes, categories and memos within each file. In addition, NVivo technical reports which included data from all three communities were facilitated by this merge.

Table 9: Threads and posts collected for each online community sampled

²⁸ Previous studies, including Siau et al's (2010) examination of national culture on knowledge sharing in online communities, and Chiou and Lee's (2008) study of cross-cultural communication in an online discussion forum, have collected and organised online community data in the same way.

Community Name	No. of Newcomers Analysed	No. of Threads Analysed	Total Posts	Total Words
Magic Mum	59	173	1,422	99,651
Essential Baby	71	111	645	47,778
Ser Padres	69	110	708	64,557
Total	264	455	2,959	223,216

3.8. Data Analysis

Planning how data will be analysed to answer the research questions and support data validation is of great importance for successful research outcomes. This section explains how the data from online community posts and threads were analysed in the three online communities. As described in section 1.1, this research uses a hybrid approach to content analysis in that both inductive (emergent categories) and deductive (existing theory) approaches were used. In brief, the content analysis was in two phases; Phase 1 used theoretically derived coding using existing newcomer theory, and Phase 2 used open and axial coding to tease out emergent categories. First a description of the analytical strategies and tools used are given followed by the practical implementation of these strategies and tools within the NVivo supported qualitative content analysis. A full description of the content analysis methods used is described in Chapter 4 – Newcomer Behaviour Model²⁹.

3.8.1. Qualitative Software Tools: NVivo

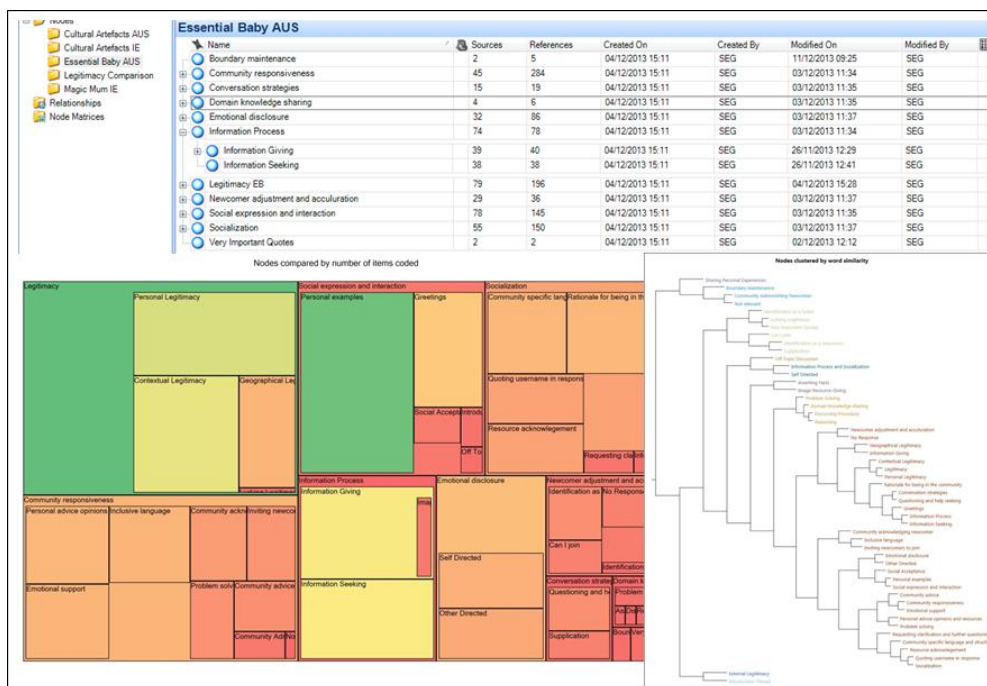
NVivo software has been established as a successful facilitator of qualitative content analysis in many research projects (Agosto & Hughes-Hassell, 2006; Lingard, Reznick, DeVito, & Espin, 2002; Zapata-Sepúlveda, López-Sánchez, & Sánchez-Gómez, 2012) including research on online communities (Barney, Griffiths, & Banfield, 2011; Maor, 2007; Smith & Stewart, 2012). Disadvantages to using this type of software have been noted including the potential lengthy time to software proficiency and the tendency for researchers to take shortcuts facilitated by the technology (Weitzman, 2000). Concerns on whether the software distances researchers from the data, potentially distorting the qualitative process (Bergin, 2011), and whether the software “guides” researchers in a particular direction have also been noted.

²⁹ The content analysis method is not included here for reasons of chapter length and because it was decided that it was better presented within the framework of the NBM.

However, the ability of programs such as NVivo to efficiently store, organise, and manage large amounts of text have made them a popular choice for modern qualitative researchers. NVivo can be a very useful tool for simplifying the often complex structure of qualitative research. One way of ensuring that the software is not directing the research (as opposed to the researcher), is to use a mix of both electronic and manual methods. For example, using manual methods (e.g. taking reflexive notes) to weave NVivo coding and text based memos together (Welsh, 2002). This was a strategy used with this research in order to safeguard the validity of the research when using qualitative software.

NVivo 10 was used for this data analysis. Its most basic functionality was used to code sections of text with either predetermined or emergent theoretical categories and carry out inter rater reliability analysis. This version of the software also had an array of useful and interesting reports, tools, graphs and query functionality that can be used to make sense of large amounts of data. These are very useful for data reflection, exploring relationships between theoretical propositions, and identifying similarities and differences in the data. Matrix coding tools, a form of cross-tabulation, were also very valuable to compare different codes and categories and identify potential relationships. NVivo 10 also provides a useful audit trail of the analysis where temporal changes in categorical interpretation and coding can be seen. More detail about how NVivo was practically used with the data is shown in the results section.

Figure 18: An example of NVivo codes, reports and visualisations



This next section explains how these data analysis strategies and tools were used within the context of case study data.

3.8.2. Analysis of Online Community Case Study Data

In a recent literature review by Li et al (2009), researchers most commonly used case studies as a method of answering research questions related to online communities. In effect, analysing online community data via a case study methodology is strongly supported from the literature. However, understanding how to analyse data strategically from these case studies in a way that systematically organises, describes and explains the data can be difficult. Yin (2009) describes four general strategies for analysing case studies; reliance on theoretical propositions, developing a case description, using both qualitative and quantitative data, and examining rival explanations. At the onset of case study research, where there is a lack of a defined research question, developing a case description is very useful to frame, focus and encapsulate the case. It is a descriptive framework for structuring and managing the case study and is used when there are large amounts of data without a particular focus or linked to a research question. It is also a valuable tool for identifying causal links between concepts.

Reliance on theoretical propositions is another strategy that is very useful for guiding case study analysis and focusing attention on the data. In this research, the literature review, research questions, research models and research design have all been framed with theories of online community newcomer behaviour through the NBM (see Chapter 4), and it makes sense to continue to use this strategy for data analysis.

Following from this, Yin (2009) describes five analysis techniques that are to be used in conjunction with whichever strategy is chosen; pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis. Immediately it is clear that one such technique, cross-case synthesis, is directly relevant for this data analysis. As the research is comparing three online communities, cross-case synthesis tools such as word tables, are extremely helpful for identifying patterns across multiple cases. These tables display the data from the cases over a particular framework in order to identify patterns across the cases that have emerged from the data. In this research, overview grids, a type of word table, was used (see Appendix G and section 3.2.2.1). The concept of word tables was used in the analysis of the three online communities, whereby the newcomer behaviour categories that had been coded in each community were compared by using NVivo reports and excel spreadsheets. It is important to note that this type of analysis technique uses argumentative interpretation of data rather

than numeric data aggregations to compare cases. However, some quantitative results are presented in the results section for visibility of research outputs.

Another prominent case study researcher Stake (1995) suggests four forms of data analysis; categorical aggregation, direct interpretation, establish patterns and develop naturalistic generalisations. The first two forms, categorical aggregation and direct interpretation, are used to form new meanings from data by interpreting either individual data instances or aggregating instances of case study data together. As this case study is instrumental (i.e. attempting to understand a phenomena), categorical aggregation is of particular importance for teasing out concepts and relationships in the data. Direct interpretation is more useful for intrinsic case studies (i.e. attempting to understand the case itself), and was not as relevant for this particular research project. In practice, content analysis of the online community data used categorical aggregation in the form of aggregating codes together to form emergent patterns. This was very useful as a systematic process for establishing patterns (the third form of Stake's data analysis) to understand and answer the key research questions. For example, the categories 'questioning' and 'help seeking' were aggregated together during the analysis as they were deemed to have very similar constructions, and previous theory had also aggregated them together.

Evidently, a variety of different data analysis tools and strategies were used during the analysis process which reflects the exploratory and emergent nature of the research Table 10. More detail on how these were practically applied in the research can be seen in Chapter – 4 Newcomer Behaviour Model and Chapter – 5 Results.

Table 10: Summary of data analysis tools used

Strategies	Tools
Reliance on theoretical propositions	Newcomer behaviour model
Developing a case description	Data analysis logs and case descriptions
Categorical aggregation	NVivo and newcomer behaviour model
Cross case synthesis	Overview grids
Qualitative data analysis (content analysis)	Establishing patterns
Cross-cultural comparative data analysis	Overview grids

3.8.3. Cross-cultural Comparative Data Analysis

As described in section 3.2.2.1, overview grids were used for the cross-cultural comparative analysis. The cross-cultural comparative data analysis compared five different areas:

- Comparison of themes and categories
- Comparison of quotations
- Comparison of summaries
- Comparison of selected users
- Comparison of communities as a whole

Themes and categories were compared in order to determine the similarities and differences between the data extracted from the online communities. These themes and categories were determined both by previous research and by categories that emerged from the directed content analysis. By comparing the themes and categories, comparison of quotations was also inherent. However, this became a lengthy process and in order to streamline and direct these quotations, summaries were created and these were also compared. In some cases, the users themselves were compared with one another. These users were selected on the basis of their importance to the research; for example, a user who displayed strong emotional disclosure or boundary maintenance. These comparisons lead to the comparative analysis of communities as a whole.

3.8.4. Using Observation Notes and Overview Grids

Data from each individual community was coded using the NBM and NVivo, but the key to understanding the intricacies of each community was through detailed observation notes and memos. Task lists were also developed to keep the analysis on track (see Appendix F). These observation notes were also used in the cross-cultural comparison. As discussed in 3.2.2.1 a large overview grid (see Appendix G) was constructed. In his analysis of Asian elderly focus groups, Knodel (1995) used overview grids as a way of summarising the content of discussions by topic and by group to aid interpretation and minimise personal bias. His grids had topic headings on one axis, focus group sessions on the other, and cells containing brief descriptions of the discussions of each group about that topic. This same methodology was used for the observation notes; each community was put on the horizontal axis with the category headings on the vertical, with summarised details from the observation notes in each cell.

3.9. Validation in Case Study, Cross-cultural and Content Analysis Methods

Having developed the case study, cross-cultural and content analysis research design and determined the reasoning behind using these methods for the research, the next step is to ensure that the research will have sufficient quality controls in place to ensure that the research is representative, rigorous and correct. It is imperative that in order for model development, theoretical abstraction and theme exploration from qualitative case study research that the design and methods for gathering and analysing data pay attention to validity, reliability and triangulation (Falk & Guenther, 2006). Although the use of three methods in this research can be somewhat dense and complex, it has the benefit of having multiple validation techniques originating from these methods.

The first set of validation techniques that have been used in this research originate from Yin's (2009) design tests for judging case study research design, namely construct validity, internal validity, external validity and reliability.

Construct validity concerns the extent to which a variable reflects the concept it is intended to measure (Hantrais & Mangen, 1996). For example, a study looking at the relative power of husband and wife in a Japanese family had to change a survey item 'Who decides about what type of car to get' to 'a major purchase'. If the item was left with 'car' it may not have been measuring power in the way the researchers wanted to measure it (van Raaij, 1978). In essence, the key concepts being investigated in this thesis include newcomer behaviour and national culture through the NBM. It is imperative that the methodology is created so that the constructs being explored are understood correctly. Various tactics (Yin, 2009) have been suggested to ensure that construct validity is maintained in a case study research project. These include:

- Using multiple sources of evidence: To prevent researcher bias, multiple sources of evidence should be used. For example, triangulating interview tapes, documents, content analysis data, theories and quantitative data (Riege, 2003; Tellis, 1997).
- Establishing a chain of evidence: It is important to keep a log of all research activity to allow for cross checking results throughout the data collection phase e.g. notes, observations.

The second validation technique described by Yin (2009) refers to internal validity. Internal validity tests are measures given to show how valid the inference from data to research findings is. Although more commonly used in explanatory analyses, they are also somewhat applicable to exploratory research. Five tactics are set out by Yin including pattern matching, explanation building, addressing rival explanations, logic models and cross case synthesis. Of these, pattern matching and cross case synthesis are the only really relevant tactics applicable to this research. Pattern matching involves comparing two patterns (an observed pattern from the data with an

expected pattern from the theory) to see if they match in order to test theory (Hak & Dul, 2009). Pattern matching is used in the data analysis through the application of the NBM set out prior to data analysis. It was expected that the data from the online communities would match the behaviours set out in this model. Cross case synthesis is a tactic used to identify similarities and differences between cases and make generalisations about data by analysing multiple cases with tools such as word tables and overview grids.

The third validation technique, external validity, relates directly to the issue of generalisability (see sections 2.5.2, and 6.4.1.2). Yin suggests the tactic of replication logic to ensure external validity in multiple case studies; that is, each case study must be selected so that they will predict similar (literal replication) or contrasting (theoretical replication) results. This has been used by other research projects employing a multiple case study design (Mankelow, 2008; Zach, 2006). The tactic for replication involves “a literal replication stage, in which cases are selected (as far as possible) to obtain similar results, and a theoretical replication stage, in which cases are selected to explore and confirm or disprove the patterns identified in the initial cases”(Zach, 2006, p. 9). By implementing this tactic, results are more generalisable.

The fourth validation tactic, reliability, refers to the preventing random error that can occur in research if the same steps were repeated. Two tactics, using a case study guide / protocol, and a case study database are recommended. A case study protocol helps maintain standardisation between each case study by giving guidelines that are observed to during the research process. A case study database is a tool for organising and warehousing various types of case study data (e.g. notes, descriptive narratives, coding schema)(Mills, Durepos, & Wiebe, 2010).

In addition to the case study validity, theorists have also developed validation techniques specifically for cross-cultural research. Some of these overlap with the validation techniques used in case studies, however, they are important to discuss because of the various unique problems that cross-cultural research presents. A range of different validation methods were used by the cross-cultural online community studies examined in the literature review to address issues such as equivalence and bias, which can have a severe impact on research validity. These included back translation (Choi et al., 2011; Chou et al., 2009; Chu & Choi, 2011; Ishii & Ogasahara, 2007), factor analysis (Grace-Farfaglia et al., 2006; Madupu & Cooley, 2010), using multiple researchers to extract categories (Pfeil et al., 2006), and using inter-coder reliability statistics (Hara et al., 2010; Stvilia et al., 2009). Within those studies that used content analysis across multiple cultural cases, inter coder reliability statistics were the most common validation tool used.

Aside from the issues identified from previous literature, there are two pressing issues that need to be addressed to ensure quality and validity during cross-cultural analysis; bias and equivalence. Interpreting cross-cultural differences can be complex, and cultural biases and a lack of equivalence can be problematic elements (Matsumoto & Vijver, 2011). Cross-cultural inequivalences exist if respondents from both cultures and languages have different understandings of measurement items (Posey et al., 2010), and cultural bias exists when nuisance factors challenge comparability between the samples. Although in this case, as content analysis was used, certain issues common to survey and psychological scales such as measurement equivalences and item bias were not applicable. However, other equivalences such as construct equivalence and method bias were deemed important to be addressed.

The most basic issue for determining validity in cross-cultural research is to ensure construct equivalence. This means that the constructs being examined are equivalent in all of the cultures under investigation. As He and Van de Vijver (2012, p. 8) succinctly explain “Without construct equivalence, there is no basis for any cross-cultural comparison; it amounts to comparing apples and oranges”. So, any instrument used in the analysis must be measuring the same construct in all of the cultures under investigation and must be generalisable across-cultural groups (Ponterotto, 2001).

This is of great importance to cross-cultural validity as the researcher cannot be guaranteed that the variances explained by the analysis are due to inter-cultural differences, rather they could be due to inequivalence between constructs. Many tests for cross-cultural construct equivalence relate to survey instruments and psychological scales and use factor analysis to determine similarities in factor loadings between the samples being investigated (Hsueh, Phillips, Cheng, & Picot, 2005). However in the case of this research, the content analysis is being framed by NBM categories and it is pertinent to comment on its applicability to the NBM categories. Each of the categories in the NBM have been either derived from theory, or emerged from the content analysis. However, it must be discussed whether these categories can be applied across the three communities without involving construct bias.

The categories used to code the online community data were derived from the literature and emerged from the analysis. However, when coding, great care must be taken to ensure that each category is coding the same elements over the three communities; for example, that the category “information seeking” is indeed coding the definition of this category in the same way in the Irish, Spanish and Australian communities. Although the construct validity techniques from the case study method have been used to mitigate some bias, it was also deemed important that potential cultural biases were also addressed.

This was done by coding each community in isolation using the NBM categories and allowing categories to emerge within each community individually. It became evident that the same categories were emerging across all three communities and these theoretical constructs (i.e. legitimacy) had the same understanding over the three cultures. For example, the Spanish translation of legitimacy 'legitimar' has the same understanding as in the English language. This was determined by the similarities of the text being coded, the content of the text and keywords used in all three communities for this category, and the final category was then determined. This convergence approach is a common method for dealing with construct bias and was useful to maintain rigour and validity when using the NBM and subsequent data analysis (van de Vijver & Tanzer, 2004).

The second cross-cultural validation technique used in this research was to alleviate method bias. In the case of this research, sample bias was the most important issue to plan for and reflect upon. Sample bias occurs when there is cross-cultural variation in sample characteristics that have a bearing on the research question (van de Vijver & Tanzer, 2004). For example, using college students from countries where there are differing entry requirements (i.e. free education Vs paid education) could have an impact on the research outputs. A strategy for minimising sample bias is to guide the sampling through using the research goals (Boehnke, Lietz, Schreier, & Wilhelm, 2011). In this case, the use of a sampling framework derived from the research goals aimed to mitigate this sampling bias. Each community sampled had to strictly adhere to multiple culture related variables (e.g. culturally specific forum titles and traffic analytics).

Van de Vijver and Tanzer (2004) provide a useful overview of bias and equivalence in cross-cultural studies and have produced a tool for identifying and dealing with bias in cross-cultural assessment. This tool was used in the research to ensure that cross-cultural bias and equivalence was dealt with in a structured and measured manner. Table 11 summarises these validation techniques.

Table 11: Validation techniques used in this research (adapted from van de Vijver (2004))

Validity Type	Validity Test	Operationalisation
Construct validity	Multiple sources of evidence	Three online communities are used in the analysis.
Construct validity	Chain of evidence	A research log was maintained throughout the process accompanied with memos, summary reports and observations.

Internal validity	Pattern matching	Via the NBM
Internal validity	Cross case synthesis	Via overview grids
External validity	Replication logic	<p>Via case study guide for data analysis (see Appendix D).</p> <p>Via sampling framework for data collection.</p> <p>The NBM categories were inputted into NVivo and used across the three communities.</p> <p>The research log headings were used across the three communities.</p> <p>Each NBM category was operationalised and these operationalisations were used across the three communities.</p> <p>Interrater reliability analysis was carried out</p>
Reliability	Case study database	Via NVivo
Reliability	Case study protocol	This was used prior to each case study analysis (see Appendix D).
Construct Bias	Convergence approach	During the development of the emergent NBM categories, great care was taken that the new categories were not specific to one culture. The emergent categories were developed within each community in isolation followed by careful reflection on the merging of the categories.
Sampling Bias	Derive sampling from research goals	Via the sampling framework (see Appendix E).

3.10. Ethics

A crucial part of the research process is to investigate, understand, critically reflect on, and implement ethical considerations and guidelines. Four key ethical issues have been prescribed by the British Psychological Society to consider when implementing a study using 'internet-mediated research', namely: respect for the autonomy and dignity of persons, scientific value, social responsibility, and maximising benefits and minimising harm. The following table has been reproduced from Hewson and Buchanan's (2013) study, and consideration of these issues relative to this thesis has been presented within the table.

Table 12: Ethical considerations from Hewson and Buchanan (2013)

Principle	Considerations	Discussion and reflection with regards to this current study
Respect for the autonomy and dignity of persons	<p>Public/Private Distinction</p> <p>Confidentiality</p> <p>Copyright</p> <p>Valid Consent</p> <p>Withdrawal</p> <p>Debriefing</p>	<p>Each of the three communities are within the public space. All comments are fully accessible to the public. In addition, consent has been given by the owners of the communities to use the data.</p> <p>In order to respect the autonomy and dignity of individuals, any comments published have been fully anonymised.</p> <p>A consideration on where harm may be caused to participants has been conducted. From this, all user data has been anonymised, and postings within this thesis with potentially traceable information (e.g. place names, family names etc...) have been paraphrased or changed. In addition, all of the data has been securely stored in password protected hardware.</p> <p>Permission has been granted by each community to use the community data.</p> <p>In all three communities, members are provided information by the community owners that their data can be used for marketing or research purposes. Members have an awareness of the use of their data.</p> <p>Contact with community moderators has been made to give them the option to withdraw at any stage.</p> <p>Contact with community moderators has been made to update them on the status of the research.</p>
Scientific value	Levels of control	<p>Data has been extracted in an unobtrusive fashion. This has been defined by Hewson and Buchanan as being less likely to be subject to lack of control issues.</p>
Social responsibility	Disruption of social structures	<p>Although unlikely, it is possible that the analysis of member comments could disrupt the community</p>

		from which they originated from. Although full consent has been given by moderators, each published comment has been fully anonymised and is not traceable to its original commenter. This weakens the possibility of disruption.
Maximising benefits and reducing harm	Maximising benefits Minimising harm	It is noted that in an ideal research environment, each member who commented and is used in the analysis would be contacted and asked for their consent to use their data within this study. However, in the interests of scope, this is not possible. Contact with the online community moderators has been made, and consent has been granted through them. The main issue that could cause harm with this research is the identification of community members. However, each comment has been anonymised, and full consent has been given by the community.

The following section expands on some of the key issues related to the ethics of using online community data via a literature review.

3.10.1. Additional Literature Review

A literature review was conducted to find the position of academic institutions, research bodies and published research related to the ethical use of online community data. This was an important research activity to ensure that adequate ethical structures were adhered to during data collection, analysis and reporting. Online search engines were used to find any ethics documentation related to online community research in academic institutions, and search engines such as Scopus and Google Scholar were used to search for the keywords 'ethics', 'online community' and 'informed consent'.

Six academic institutions were found to have ethics documentation and guidance for online data or online community data specific topics (Bard College New York, 2012; City University of New York, 2012; Marian University Wisconsin, 2012; Penn State University, 2012; Queens University, 2008; University of Connecticut Institutional Review Board, 2012). These documents were

analysed for any relevant issues pertaining to this PhD research. A document of particular importance was also retrieved from the Association of Internet Researchers which outlines the main issues related to ethical treatment of online subjects, and gives guidelines for researchers (Markham & Buchanan, 2012). In looking at these documents, two key issues arose, namely whether online communities are considered public or private spaces, and what constitutes online informed consent (Kozinets, 2002).

3.10.1.1. Public vs. Private Online Spaces

A debate that rages within online community research circles is whether user data posted online can be considered public or private. If it is considered private, then it would not be ethically sound to perform analysis without informed consent. Eysenbach and Till (2001) describe three measures that should be used to estimate the perceived level of privacy in an online community. First, if the community requires a subscription to gain access, it is likely that the members regard the group as a private space. Secondly, the number of community users can determine how public the space can be. Posting to a very large mailing list is different to one with a very small list whose members are personally known to each other. Thirdly, the community norms and purpose can depict how public or private the members perceive the community; for example, a sexual abuse survivor community that has a policy to discourage non-survivors from joining the group would be deemed a private group.

In reviewing the literature it was found that most research institutions and published research literature follow these key online community ethical considerations related to public vs private online spaces:

- Is data posted available in a publicly viewable online space (Sudweeks & Rafaeli, 1996)?
- Can data be accessed without community membership (Queens University, 2008)?
- Is the data on an open forum that welcomes all users?
- Is the data related to sensitive issues (e.g. mental health)(Eysenbach & Till, 2001; Watson, Jones, & Burns, 2007)?

If these considerations are met then the data can be used without informing each individual user in the community. Instead, contact should be made with administrators (see section 3.8.1.2).

To estimate the level of privacy and the likelihood of the community content being sensitive, two measures have been used, Eysenbach and Till's (2001) measures, and Watson, Jones and Burns's (2007) model. Watson et al's (2007) model uses an eight step process to determine whether the community content is sensitive and what type of informed consent is needed. This

is a very useful practical model to help researchers question the ethical stance of their research using online communities. In addition, Eysenbach and Till (2001) proposed seven considerations for researchers studying an online community including intrusiveness, perceived privacy, vulnerability, potential harm, informed consent, confidentiality, and intellectual property rights. Each of these considerations were examined in turn, and it was determined that none of the proposed online communities for this thesis showed sensitivity or privacy issues. The following table and figure describe a consideration of each of these models.

Figure 19: Watson , Jones and Burns’s (2007) ethical model for studying online archived content

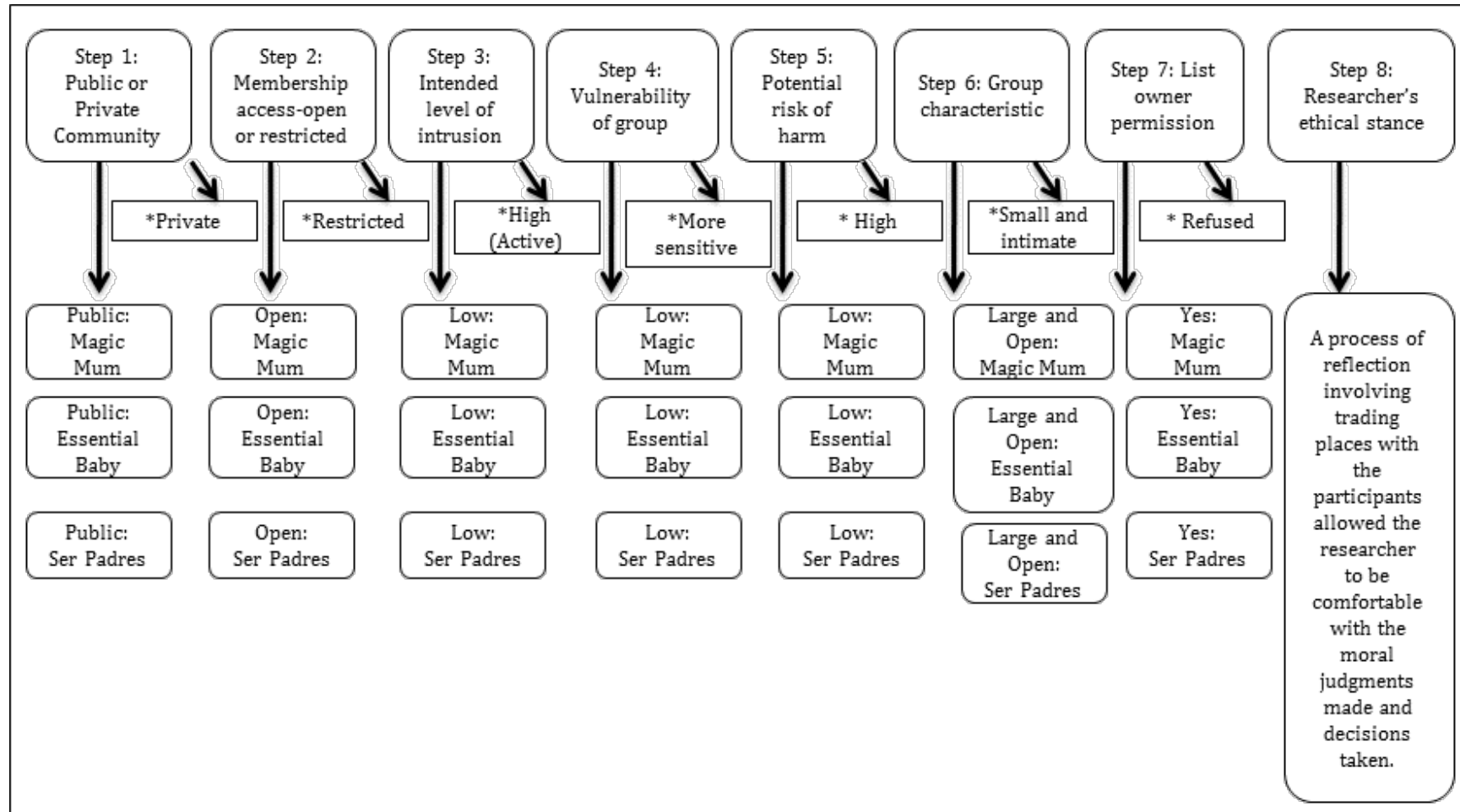


Table 13: Eysenbach and Till's (2001) seven considerations for researchers studying an online community

Eysenbach's Measures	Magic Mum	Essential Baby	Ser Padres
Intrusiveness—Discuss to what degree the research conducted is intrusive (“passive” analysis of internet postings versus active involvement in the community by participating in communications)	Passive analysis	Passive analysis	Passive analysis
Perceived privacy—Discuss (preferably in consultation with members of the community) the level of perceived privacy of the community (Is it a closed group requiring registration? What is the membership size? What are the group norms?)	Open group Large membership Flexible group norms	Open group Large membership Flexible group norms	Open group Large membership Flexible group norms
Vulnerability—Discuss how vulnerable the community is: for example, a mailing list for victims of sexual abuse or AIDS patients will be a highly vulnerable community	Low vulnerability	Low vulnerability	Low vulnerability
Potential harm—As a result of the above considerations, discuss whether the intrusion of the researcher or publication of results has the potential to harm individuals or the community as a whole	Low potential for harm	Low potential for harm	Low potential for harm
Informed consent—Discuss whether informed consent is required or can be waived (If it is required how will it be obtained?)	Access gained through moderators	Access gained through moderators	Access gained through moderators
Confidentiality—How can the anonymity of participants be protected (if verbatim quotes are given originators can be identified easily using search engines, thus informed consent is always required)	All users anonymised	All users anonymised	All users anonymised
Intellectual property rights—In some cases, participants may not seek anonymity, but publicity, so that use of postings without attribution may not be appropriate	All posts anonymised	All posts anonymised	All posts anonymised

3.10.1.2. Informed Consent

Informed consent is the process by which a researcher alerts research participants to the nature of the study and formally solicits their participation (Yin, 2009). Sudweels and Rafaeli (1996) believe that informed consent is implicit in the act of posting a message to a public area. However others believe that community users and moderators should be notified that their content is being used for research purposes. There are ways that informed consent can be gained in an online community; by announcing the research to the community, by contacting individual users, and by contacting community administrators. However, if done incorrectly, they can bring negative or even hostile reactions from members (Jones, 1999; King, 1996; Scharf, 1999).

“It is critical, therefore, to form partnerships with online community moderators by not only asking their permission to post the request, but eliciting their feedback and support.” (Barratt & Lenton, 2010).

All of the institutions investigated in the literature review recommend contacting the administrators of the community rather than the individuals themselves (Barratt & Lenton, 2010; City University of New York, 2012; Eysenbach & Till, 2001), and to follow policy and administration guidelines determined by the community administrators (see Table 14).

Table 14: Response from research institutions to informed consent issues

Reference	Response to informed consent issues
City University of New York (2012)	“If informed consent is required, researchers face the logistical challenges of the Internet. Virtual communities can include several hundreds of participants, either actively involved as long term members or as one time participants. Contacting each member is problematical. In this case, the community leader can serve as the initial contact to discuss the proposed research study and the informed consent process. At a very minimum, informed consent should be obtained from the core members of the community. Email seems to be an acceptable medium for the informed consent document.”
Queens University (2008)	“Researchers may believe that harvesting user content for their project without users’ knowledge or consent poses no risk to anyone. But this may not be true. When identifying information is published outside of its original context, users may feel exposed or threatened and stop participating in sites they once enjoyed.” This university provides four criterion as to whether the research can be exempt from an ethical review.

Bard College New York (2012)	"It is the role of the researcher to ensure that participants are fully aware of their rights, risks, and responsibilities as they contribute to increased understanding of social and scientific knowledge"
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Watson et al's (2007) model for decision making process for obtaining informed consent in online communities was again used to determine the levels of informed consent necessary for this research. Although no problematic informed consent issues were identified from using this model, informed consent was gained to ensure rigorousness by contacting the online community administrators and following the community's own privacy and consent policies.

3.10.1.3. Additional Ethical Reflections

Online communities lack verifiability of users, and it is unknown whether the subjects within are actually who they say they are. This causes concern for online community research, in that there could be potentially users under 18 being sampled. If there were users under 18, it is the responsibility of the research to minimise harm, and ensure confidentiality. Hewson and Buchanan (2013) address this issue and suggest two solutions; consider face to face rather than online research for sensitive topics, or taking age details from participants. Reflecting on this, the topic of the communities was not understood as sensitive given its main topic of discussion, and age details of participants were unavailable from the data. In order to address this problematic element:

- Passive analysis of community postings was conducted rather than 'active' contact with community members. This mitigates 'harm' coming to potential participants under the age of 18.
- All of the samples used have been anonymised, and the data stored in secure online folders. This ensures the confidentiality of any community members under 18/
- Neither real names nor IP addresses were taken from the sample.
- Use of the data, wholly anonymised and extracted with the consent of the community owners, is such that it is unlikely to cause ethical concern with children.
- No contact was made with the individual community members.

3.10.2. Ethical Approval

Having considered both the "public vs private" and informed consent issues, ethical approval was sought and given by the Trinity College Ethics Board to use and access public data from online communities once approval was given from the online community administrators.

Contact was made with the online community administrators and approval was subsequently granted.

The following chapter will examine in greater detail the development and application of the NBM, using the processes as determined by this methodology chapter.

4. Model Building

4.1. Introduction

Cross-cultural qualitative research must be situated within a theoretical framework or model in order to guide researchers through a potentially difficult, complicated and multifaceted data analysis (Liamputtong, 2010). This chapter describes the method and analysis used to develop the Newcomer Behaviour Model (NBM). It also presents the final model used to compare online community newcomer behaviour, the results of which are described in Chapter 5 - Results.

The chapter is structured by examining what this model is, why it was developed and the rationale for using it in this thesis. A discussion of model creation in scientific investigations and their use in the online community field is then presented. Subsequently, the model creation methodology is described, followed by a detailed description of the modelling process using directed content analysis. Finally, the completed model with both predetermined and emergent theoretical categories is explained and related back to the research questions and aims.

4.2. Chapter Summary

Describes what the NBM is, and the rationale for its creation.

- Examines the method and procedures for developing the model.
- Identifies the predetermined theoretical categories and how they were selected using a literature review.
- Explains the directed content analysis procedure using pilot and parenting community data.
- Identifies the emergent categories and how they were selected.
- Describes how the method and model were validated.
- Presents the final Newcomer Behaviour Model.

4.3. Research Aims and Questions

Referring back to the research aims and questions in Chapter 1, this chapter addresses the secondary research aim SA3:

- Develop a model of online community newcomer behaviour for structuring comparative cross-cultural analysis of newcomer behaviour in online communities.

The NBM provides a framework used in the qualitative content analysis to answer the following research questions:

- RQ1: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?
- RQ2: Are there **similarities** in newcomer behaviour across online communities from different national cultural origins?
- RQ3: Can existing cultural theories **explain the similarities and differences in newcomer behaviour** found in online communities from different national cultural origins?
- RQ7: Does national culture have an **impact** on the behaviour of online community newcomers?

4.4. Model Rationale and Overview

The NBM is a set of theoretical categories³⁰ of newcomer behaviour derived, using directed content analysis, from the literature and emergent from the data. Previous research has suggested that there is a strong need to synthesise theories to examine online community behaviour (Li, 2004). This model is used as a comparative tool to explain and illustrate differences in newcomer behaviour between cultures. It can also be used as a tool for non-cultural specific comparative research, or in-depth research into newcomer behaviour.

The rationale for developing this model was fivefold:

- To create theoretical categories for cultural comparison of online community newcomer behaviour using the content analysis method.
- To simplify the cultural comparison process by limiting categories for comparative analysis.
- To ensure that a rigorous method was implemented to select newcomer behaviour categories for comparison.
- To contribute a model to the online community research field that could explain and frame newcomer user behaviour.
- To help clarify large amounts of text contained within the online communities being analysed using content analysis.

³⁰ The term 'theoretical categories' is used here as some of the categories used in the model are developed through using prior theory derived from the literature.

At the onset, it is important to clarify why the term ‘model’ is used. On reflection, the term ‘model’ was used instead of ‘framework’ because of the definition of a model as a semantic interpretation of theory, rather than a “framework” which is more representative of empirical relationships and connections between theories. The final output is a simplified representation of theoretical newcomer behaviour categories used to generate explanations and encourage comparisons of cultural behaviour. This reflects standard definitions of what a research model is (Harrison & Treagust, 2000; Schwarz et al., 2009).

The purpose of this model is not to illustrate the relationships between theories but rather to show how theory is represented within newcomer content, and how this may differ between online communities.

4.5. Phase 1: Theoretically Directed Content Analysis

The following section describes the directed content analysis deductive phase (Phase 1).

This phase was repeated in all five communities (i.e. two pilot and three parenting). However, the pilot communities developed the majority of the operationalisation and structuring of the categories within this analysis.

4.5.1. Theoretically-based Definition of Aspects of Analysis

The first step in directed content analysis is to define and identify the theory to be used in the NBM. Theories of newcomer behaviour were identified via a literature review. As this field is relatively new and specific, all literature pertaining to online community newcomer behaviour was examined. Online academic databases were used to identify relevant articles. These included ISI Web of Science, Science Direct, Scopus, Google Scholar, SpringerLink and the Association for Computing Machinery. The search was limited to English language, peer-reviewed articles published between 2000 to the end of 2012. The following search terms were used both singularly and in combination in the searches: “online community”, “virtual community”, “social networking”, “newcomer”, “new”, “new user”, and “newbie”. These terms were searched for during November, December and January of 2011 / 2012. The bibliography of each article that was initially identified in the electronic search was subsequently searched to find any further papers for inclusion.

In total, 24 articles relevant to newcomer behaviour were identified, and eight high level categories were proposed; information process, socialization, legitimacy, community responsiveness, conversation strategies, emotional disclosure, social expression and boundary maintenance. These categories were labelled using the theory name or key concept that the

theory was guiding or generalising, and were defined through using definitions from the literature. This was decided as the most straightforward and systematic way of defining the categories. Additional literature reviews were conducted in cases where definitions were unclear from primary literature sources. Operational Definitions and Coding Rules Determined

The aim of this second step in Phase 1 is to give explicit instruction for how each category and sub-category can be coded within the data. Each of the categories and sub-categories were operationalised using a description of the types of online community newcomer behaviour that would be coded under that category. The categories were operationalised through examining the literature of each category and determining how the authors operationalised the theories in their research. Coding rules and keywords were also established through examining the literature. This operationalisation was tested using the pilot communities to ensure that it was concise, clear and in-depth enough, however some refinements were made after this initial testing using the parenting communities (e.g. keywords specific to the parenting communities).

It is important to note that the operationalisation of existing theory was framed by the literature itself to ensure that data coding was correct and did not abstract from the theory. Some categories also had sub-categories derived from the literature that were of importance; for example, "Category = Information seeking; Sub-category = Questioning". These sub-categories were gleaned from the literature.

4.5.2. Coding Agendas Created

Coding agendas (also known as coding schema) for asynchronous online discussions are used to identify critical thinking, describe social interactions, or characterise online discussion (Weltzer-Ward, 2011). These instruments for content analysis should be accurate, precise, objective, reliable, replicable, and valid (De Wever, Schellens, Valcke, & Van Keer, 2006). Two coding agendas were developed; directed and emergent. These agendas included the category derived from the literature, sub-categories, examples, keywords, operationalisation and references. Through using the information derived from the literature review, a directed coding agenda was created to use as a coding guide (see Table 15 for an extract of the agenda. A complete table is provided in Appendix I). A second coding agenda was created for the emergent analysis (see Table 16 for an extract of the agenda. A complete table is provided in Appendix J).

Table 15: Extract of coding agenda for Phase 1 deductive content analysis (adapted from Mayring (2000)) (full agenda in Appendix I)

Category	Sub category	Keywords ³¹	Examples	Operationalisation
Information process Ahuja and Galvin (2003) Burke et al. (2010) E. Morrison (2002)	Information seeking	Question, looking, advice, “?”, wondering	My son will be 15 months when this baby is born please god and I'm wondering if I would be able to manage without having to buy a double buggy as it is another expense he has been walking confidently since 11 months.	Posts requesting information from the community.
	Information giving	My son, my DD, I, me, suggest, recommend, helps	Iv a much bigger age gap and def rely on double buggy when 2nd was due we bought a Phil and ted was expensive but well worth it I live in the country so its ideal for the lanes!!!	Posts that provided information based on posts seeking information from other users.

At the completion of Phase 1, the Phase 2 analysis now commenced.

³¹ The keywords were translated into Spanish for the coding of the Ser Padres community. All examples given here are from the Essential Baby and Magic Mum communities due to lack of space for inserting Spanish translation.

4.6. Phase 2: Emergent Content Analysis

The following section describes the directed content analysis inductive phase (Phase 2).

The results from Phase 1 validated the theoretical categories within the online community data; Phase 2 now looked for new categories or sub-categories, to arise from the data. The rationale for this additional element to the content analysis was to identify any categories that were not recognised through previous theory, or to extend existing theory with new information or sub-categories. Content analysis was again used but this time no categories were used to frame the data, and an emergent approach was used.

Looking back to the sequencing of this process, Phase 2 was repeated in all five communities (i.e. two pilot and three parenting). However, most of the emergent categories arose from the content analysis of the three parenting communities rather than the two pilot communities. These emergent categories were added to the final NBM.

This emergent approach to model generation used open coding; this is a method where the researcher microanalyses data by coding it with as many codes as possible. This type of coding is commonly used during the grounded theory approach to inductively build theory. Grounded theory is a qualitative research method that uses a set of systematic procedures (including open coding and constant comparison) to inductively derive theory about a phenomenon (Glaser & Strauss, 1967). Rather than using the more common hypothetic-deductive method of generating theory, grounded theory avoids using existing theoretical constructs and collects data by the needs of emergent theory rather than a predetermined research plan (Luckerhoff & Guillemette, 2011).

It is evident that the method being used in this thesis is not grounded theory because of the use of predetermined theory in Phase 1. As open coding was conducted after the directed coding, it is obvious that there would have been preconceived categories and sub-categories influenced by the predetermined theory. This is the very antithesis of grounded theory which derives theory “grounded” from the data and not from existing theories. This was an inevitable result of using the directed content analysis method. Although it is difficult to address this common problematical issue, techniques suggested by Strauss and Corbin (1998) such as keeping a research journal and extensive memos were adhered to. By acknowledging this problem prior to commencing the open coding, an awareness of bias was continually referred to, and tools, such as the memos, were very useful in addressing this issue. It was important to be aware of

the methodological background of Phase 2 and how the practical research methods used in a grounded theory approach can be applied to a different methodology with successful results³².

4.6.1. Micro Analysis of Data: Open coding

Open coding was now carried out on the data with attention to text that had not been previously coded with predetermined categories. Open coding is the process of breaking down the data into distinct units of meaning by analysing words and phrases and connecting them to the issue under investigation (Goulding, Wolverhampton, & Centre, 1999). What is important to note at this stage, is the iterative and sometimes disordered practicalities associated with open coding.

After coding certain text with a category, it was found that that category would have already been listed in one of the eight Phase 1 category descriptions. For example, 'Introductions' was a category that arose out of the open coding, but after further analysis, it was determined that this would have already been covered by the Social Expression category operationalisation. The use of memos, iterative feedback and constant comparison were critical for refining and reducing codes, generating structured and valid codes, accounting for bias, and maintaining a basic analytical structure.

4.6.1.1. Constant Comparison / Memos / Defining and Refining Categories

The following three steps have been merged into one section here because of their interrelatedness and the difficulty in addressing one without the other. These steps can be broadly described as the procedural tools for open coding, and this section will explain how they have been used during the second phase of directed content analysis.

The goal of constant comparison is to find conceptual similarities and patterns within categories, and to help refine categories (Tesch, 1990). Constant comparison has been used in previous studies using directed content analysis including Humble (2009) study of wedding planning and Whittaker, Aufdenkamp, and Tinley (2009) study of nurses' perceptions of electronic health records. It is a useful way of finding out what data labelled with the same category have in common or differ, and to find out new information about a category.

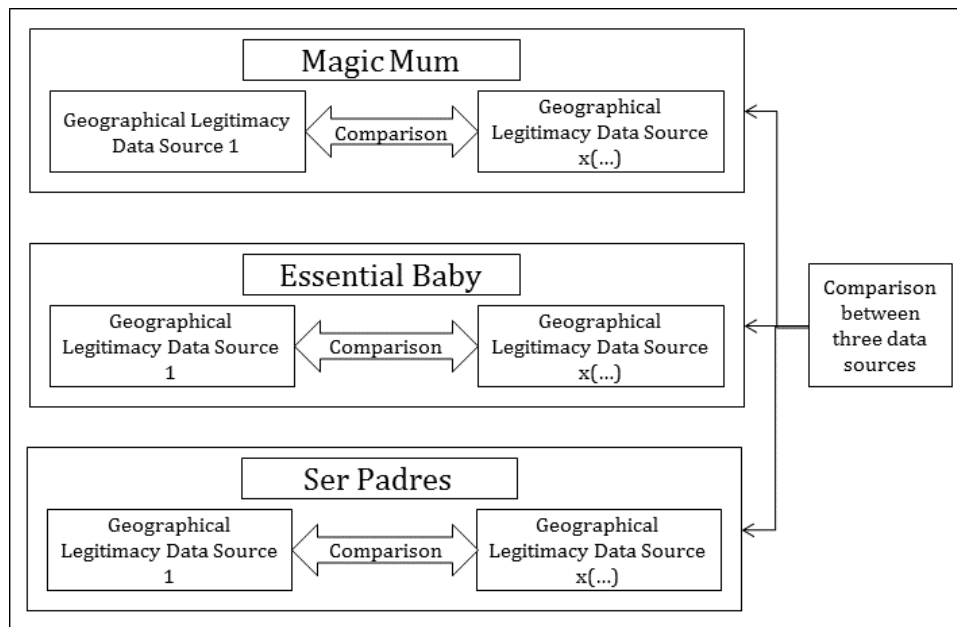
³² It could be argued that it would have been a better process to reverse the phased approach i.e. conduct the open coding first, followed by the directed coding, as the potential for bias could have been reduced. However, this research followed the directed content analysis methodology which uses theory first followed by open coding. On reflection, it could be interesting to reverse the coding procedure and see whether more categories would have emerged if open coding would have been conducted first; in effect a re-directed content analysis approach. This is an area for future research.

In the case of the development of the NBM, constant comparison was iteratively implemented both within a single community data sample (i.e. within each community), and between the three parenting communities during the comparative analysis (see Chapter 5 – Results).

4.6.1.2. Example of Coding Comparison

As an example of this coding comparison, in the first data sample of the parenting communities (MagicMum) every data source that was coded during open coding was compared and reflected upon with any other that had also be labelled with that code. Memos and additional codes, when applicable, were created. When all three communities had been coded, each data source coded with a particular code was compared with data with the same code from the other two communities. Evidently, the analysis was a iterative, complex and messy process, but it ensured thoroughness, and that the correct categories were developed. This process of comparison, reflection and refinement was continued until a saturation point. A saturation point has been defined as the point at which no additional data are being found whereby the researcher can develop properties of the category (i.e. similar instances are repeatedly identified which gives indication of data saturation) (Glaser & Strauss, 1967).

Figure 20: Example of constant comparison process for the geographical legitimacy category



Throughout the open coding process written memos were recorded which often led to the construction of codes. The dual process of coding and memoing lead to patterns emerging for category defining and refining. Figure 21 gives an example of how geographical legitimacy was determined to be an important category of note.

Figure 21: An example of a geographical legitimacy memo written during the open coding process

There appears to be a great number of references to geographic location in the newcomer threads, and in particular in their first posts. Why would they be doing this? Perhaps it could have something to do with how they are legitimating themselves to the community. It seems that introductions are very important for legitimating their presence and within these, geographical location is present. In particular, given the cultural specificity of the online communities sampled could providing geographical location be an important area for legitimacy. Could this be termed geographical legitimacy?

4.6.2. Results Emerging From Data

The Phase 2 content analysis allowed for new categories and subcategories to arise out of the data. Seven additional sub-categories were identified from the open coding of five different communities and are presented below. In particular, the category 'legitimacy' provided some important emergent categories. As discussed in section 0, legitimacy has been understood as a social object consistent with cultural beliefs, norms and values that are presumed to be shared by others in that situation. It is a highly significant behavioural category for newcomer integration, and six sub-categories arose both from existing theory and emergent from the data; geographical legitimacy, cultural legitimacy, testimonial legitimacy, contextual legitimacy, lurking legitimacy, and external legitimacy.

4.6.2.1. Geographical Legitimacy

In analysing the broad category legitimacy, it was noted that newcomers tended to mention both geographical and culturally specific content in their primary interactions with the community. In the data, many newcomers mentioned place names (i.e. Brisbane, Sydney) or gave details of the names of local hospitals, crèches or medical practices. This gave the community information as to the location of the user, demonstrated that they had a common geographical interest, and provided a clearer understanding of their offline identity. By sharing this information, the newcomer is showing that 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 three communities and was almost a prerequisite for initial interactions. This emergent category was termed geographical legitimacy because of the strictly geographical nature of the content (i.e. place names).

4.6.2.2. Cultural Legitimacy

In addition, it was found that newcomers mentioned non-geographical cultural artefacts during their initial community interactions such as culturally specific abbreviations and acronyms (i.e. Para, ECCE, 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).

Newcomers presenting these types of explicit cultural artefacts showed that they had cultural commonalities with the community which in turn legitimated their community membership.

This type of legitimacy was termed cultural legitimacy.

4.6.2.3. External Legitimacy

A less common but still relevant form of legitimacy that emerged from the data was external legitimacy. This was the use of external sources to legitimate a newcomer's identity, and hence, their community presence. 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. By presenting these external sources to the community, existing members could verify the identity of the newcomer thus providing legitimacy to their community presence.

Three further types of legitimacy arose from the data, however unlike the previously mentioned categories (i.e. geographical legitimacy, cultural legitimacy and external legitimacy) these were guided by predetermined theory. Although these categories had not been coded previously in the data, it must be noted that they were directed by theory rather than being strictly emergent.

4.6.2.4. Contextual Legitimacy

Previous research has earmarked the importance of writing about legitimate topics to create newcomer legitimacy in an online community (Galegher et al., 1998). This type of legitimacy was codified as contextual legitimacy in the data. Evidently, this categorisation was classified as such because this legitimacy was tied to the context of the community. For example, in the three parenting communities analysed, the context of the community and the interactions within were motherhood, pregnancy, childrearing, for example. In order for newcomers to legitimate their presence, they needed to post content relative to this context. Contextual legitimacy was exhibited by newcomers in all three parenting communities through context-specific content in their postings.

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 that they are aware of the community discussion, and their post becomes grounded and legitimate in the eyes of others. Each posting categorised as contextual legitimacy was replied to by other community members, showing that contextual legitimacy elicited community-newcomer engagement.

4.6.2.5. Testimonial Legitimacy

A highly common behaviour exhibited by the newcomers was giving personal testimonials to legitimate their community presence, categorised as testimonial legitimacy. This was seen through personal pronoun use, and giving personal information about themselves prior to making their community contribution. Both Galegher et al. (1998) and Arguello et al. (2006) identified this behaviour as being successful for receiving community responses, and thus increasing legitimacy. 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.

By presenting this information to the community, the newcomers not only demonstrated their knowledge of the topic being discussed, but have also shared personal information about themselves to the community. By sharing this personal information, the newcomer is indicating to the community that 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 (i.e. the newcomers would give testimonial information about parenting). Clearly it is important that newcomers present contextual testimonials rather than off topic content for community legitimacy.

4.6.2.6. Lurking Legitimacy

Galegher et al. (1998) described how newcomers presented legitimacy through referencing types of 'lurking' behavioural statements. In most active and established communities, newcomers can lurk for periods of time prior to interacting with the community. It is in these periods of lurking that newcomers learn the norms, values, language and structure of a community. 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 up their own content.

Admissions of de-lurking were also common whereby newcomers would refer to 'finally' joining after they had become a mother. This showed how they felt that being pregnant 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. Without this, the newcomer does not post, and it is only when they feel they can post context-specific posts do they de-lurk and attempt to present legitimacy.

By presenting this information to the community, existing members are made aware that the newcomer has already researched community norms and values, which lends legitimacy to their community postings. This finding supports previous research on lurking legitimacy in online community newcomers.

4.6.2.7. Joining Request

Previous research has found that online community members join a community to exchange information, talk about problems, give or receive advice, friendship and for enjoyment (Ridings & Gefen, 2004). However, there has been little research into whether these reasons for joining are apparent within their actual interactions, or whether newcomers are explicitly requesting to join a community.

A phrase that was seen to be repeated throughout many newcomer posts was the request to join the community. Similar to supplication, a joining request was a form of politeness and courtesy before entering into a thread. These requests were particularly common in 'Trying to Conceive' threads (see 5.4 for more detail on these types of threads). It is interesting that many newcomers felt that they should provide a joining request before entering these threads, as well as entering the community as a whole. It could describe a boundary that is present within these particular threads that is not present in the community, which could warrant further discussion of this theme.

Table 16 provides an extract of the coding agenda of the categories and sub-categories that emerged from the Phase 2 open coding of the three communities.

Table 16: Coding agenda for Phase 2 inductive analysis (full agenda in Appendix J)

Category	Sub category	Keywords	Examples	Operationalisation
Legitimacy (category from Phase 1)	Geographical legitimacy	Geographical location, geographically- specific places	Hi there, I'm pregnant with Number 2 (due 18 May) and live in North Brisbane. Got my next doctor's appointment tomorrow to talk through my options, so I'm hoping that will make things a bit clearer. Hoping for the birthing centre at RBH.	Posts that contain geographically specific place names, buildings or locations. Posts that contain geographically specific events, slang or experiences.

4.7. Phase 3: Preliminary NBM used with Parenting Community Data

The analysis now used the coding agenda with the preliminary NBM to code and theme the online community data³³ using NVivo 10. Each of the eight categories and their subcategories were taken in turn and any text that was found to have a category keyword or satisfied one of the conditions of category operationalisation was coded in that category. After the higher level category was coded, the text was then re-analysed to code any sub-categories.

4.7.1. Coding Summary and Results Supported by Theory

The coding of the NBM categories was conducted using NVivo 10, and Table 17 describes the frequencies of coding for each of the primary level categories, and within each of these categories the sub-categories were also coded. The rationale for including this table is not for quantitative analysis, but serves to highlight the complexity of the coding, to summarise the categories being coded and to provide an insight into the coding analysis.

Table 17: NVivo report of Phase 3 number of sources and references coded with the three online community samples over the eight higher level categories³⁴

NBM Category	Essential Baby		Magic Mum		Ser Padres	
	Sources ³⁵	References ³⁶	Sources	References	Sources	References
Community Responsiveness: 6 sub-categories	41	327	66	208	47	259
Conversation Strategies: 3 sub-categories	50	98	53	59	58	113
Emotional Disclosure: 2 sub-categories	32	98	33	70	45	118
Information Process: 2 sub-categories	68	84	99	195	81	100
Legitimacy: 1 sub-category (Phase 1)	81	235	58	163	85	281

³³ See Chapter 3 - Methodology for full details on the type of data used.

³⁴ Only the higher level categories are provided here for brevity. See Appendix L for full details of count.

³⁵ "Sources" denotes a newcomer thread. There can be multiple threads from one newcomer.

³⁶ "References" denotes the aggregate number of selections within that node that have been coded to a source. For example, in the Essential Baby Social Expression category, there were 212 different selections of text referring to Social Expression over the 90 sources coded.

Social Expression: 5 sub-categories	90	212	96	285	83	399
Boundary Maintenance: 1 sub-category	6	34	8	49	0	0
Socialisation : 7 sub-categories	68	227	77	249	65	235
Total items coded	436	1315	490	1278	464	1505
Total sources from all communities	1390					
Total references from all communities	4098					

The column 'Sources' refers to the newcomer thread (i.e. 32 newcomer threads in Essential Baby were coded with Emotional Disclosure categories and sub-categories), whereas 'References' refers to the text segments coded. In total 1390 newcomer sources were coded using 4098 references.

At this stage, the data had been coded using the predetermined categories and sub-categories derived from the pilot analysis. These results were reported upon using NVivo reporting functionality, and a comprehensive description of each including examples of the text and personal reflexive notes were documented (see Appendix K). All of the eight categories that were selected for directed content analysis from the literature review, and the emergent categories identified from the parenting and pilot communities, were present both in the pilot data and within data from each online parenting community (Phase 3).

4.8. Phase 4: Model Refinement

It is important to note that qualitative content analysis is a relatively messy process whereby categories and codes can be merged or removed throughout the analysis. Two higher level categories that were initially coded separately were subsequently merged with other categories as the analysis moved forward. These two categories were derived from theoretical elements, but it was decided that in one case the sub-categories within the categorisation "Newcomer Adjustment" were very similar to another categorisation ("Socialisation"), and the sub-categories were merged into this other categorisation for ease of understanding.

In the second case, the category "Domain Knowledge Sharing" was initially coded in the three communities. This category was derived from online community theory from Chua and Balkunje

(2013), Wijekumar and Spielvogel (2006) and Hou, Sung, and Chang (2009) which describes the process by which knowledge is transferred from the individual to the collective in an online community. Rather than relating to newcomers specifically, this theory encompassed all online community users. However, after some initial coding had been conducted, it was determined that this category should be merged with the “Information Process” category as in both cases, the codes were categorising the same concept. In addition, the sub-categories role clarity and self-efficacy that were derived from organisational theory were originally inputted into the NBM. However these were removed as they did not have any relevance to the research question, nor were they explicitly present within the text.

Two sets of results arose from Phases 1/2 and Phase 3/4 of the data, namely the analysis of the two pilot communities and the analysis of the three parenting communities. These were combined to form the final NBM, to provide structured content analysis results and to structure a cross-cultural comparative analysis of newcomer behaviour between the three online communities sampled.

4.9. Final Model for Cultural Comparison

The final NBM, including its categories and subcategories derived from the directed content analysis are detailed in Table 18.

Table 18: Newcomer Behaviour Model

Category Type	NBM Category
High level category	Information Process
Sub category	Information Seeking
Sub category	Information Giving
High level category	Conversation Strategies
Sub category	Supplication
Sub category	Questioning and Help Seeking
Emergent sub category (Emic)	Joining request
High level category	Emotional Disclosure
Sub category	Other-directed
Sub category	Self-directed
High level category	Socialisation

Sub category	Community Specific Language, Structure and Norms
Sub category	Resource Acknowledgement
Sub category	Clarification and Further Questioning
Sub category	Politeness
Sub category	Identification as a Newcomer
Sub category	No Response Threads
High level category	Boundary Maintenance
High level category	Legitimacy
Emergent sub category (Emic)	Testimonial Legitimacy
Emergent sub category (Emic)	Geographical Legitimacy
Emergent sub category (Emic)	Cultural Legitimacy
Emergent sub category (Emic)	Contextual Legitimacy
Emergent sub category (Emic)	Lurking Legitimacy
Emergent sub category (Emic)	External Legitimacy
High level category	Social Expression
Sub category	Introduction Threads
Sub category	Greetings
Sub category	Sharing Personal Experiences and Examples
High level category	Community Responsiveness
Sub category	Inclusion Strategies
Sub category	Personal Opinions, Advice and Problem Solving
Sub category	Emotional Support

The results from the comparative analysis from the three online parenting communities are presented in Chapter 5.

4.10. Validation

As with any model, it is important to comment on its validity. A previous discussion on the validity techniques used by this research has been discussed in 3.7, however determining the validity of the model itself is an important endeavour. The goal of model validation is to ensure

that the model is addressing what it has set out to do, that it is giving accurate and relevant information about what it is modelling, and to give credibility on formulation and use of the model. Although it is commonly perceived that quantitative methods are used for model validity, research has found that this is not necessarily the case, with almost half of all empirical validation techniques being qualitative (Lorentzen & Fravel, 2013). Two issues need to be examined here; firstly validating the qualitative method used (directed content analysis), and secondly validating the model itself.

4.10.1. Validating the Method

In qualitative directed content analysis, researchers consider different analytical approaches to validation, both deductive and inductive, and must also take into account internal and external validity. Internal validity refers to the extent by which there is a cause and effect relationship between variables, by using methods such as triangulation, member checking, and participant involvement. In contrast, external validity refers to the generalisability and reliability of applying results to other data (Creswell, 1994)³⁷.

In addressing internal validity within directed content analysis, triangulation techniques have been used to demonstrate validity including constant comparison, rank order comparison and visual tools (Humble, 2009). In this phased approach to model development, the NBM has used constant comparison, NVivo visualisations and memoing during its development. This demonstrates good validity in its construction. In addition, as open coding is derived from raw data, this process itself ensures the validity of the work because of the direct connection between theoretical development and data origination. The case of external validity is somewhat straightforward in that the model was tested and refined through using data from five online communities. This shows that the model has used varied data and is generalisable to data from different sources.

In addition to these elements of validity, inter-rater reliability analysis was also undertaken using a subset of comments to ascertain the reliability of the NBM coding. Many studies using the content analysis method employ a number of coders to code data, and run comparison analyses to validate the coding. Krippendorff (2011, p. 93) purports that there should be “at least two, ideally many” coders to ensure data validity and reliability. A subset of comments (10%) was extracted from each online community for further thematic analysis by a second coder. This sample was extracted randomly, and the categories from the NBM and operationalization

³⁷ Krippendorff (2013) explains that internal validity is akin to ‘reliability’ and external as ‘validity’ proper.

instructions were given to the second coder to ascertain whether there was continuity between the two coders. A kappa coefficient was then calculated using NVivo for each theme within each online community. Kappa coefficients have been widely discussed in the literature, with researchers deviating on the exact values that should be attributed as poor or good inter-rater agreement. However, in essence, a Kappa score over 0.4 has been determined by multiple authors as having moderate to excellent agreement (Landis & Koch, 1977).

An issue that appeared during the inter rater reliability analysis of the NBM data was the low frequency of certain codes, for example, supplication, external legitimacy and joining request. These codes were derived and operationalized both from open coding and from the directed coding, however, did not appear to a large amount in the samples extracted. Given that there was a subset of comments extracted, this was a likely outcome. Low frequency codes have been found to be problematic for interrater reliability analysis (Burla et al., 2008), which was the case for some of the NBM themes. However, even though Kappa coefficients were not able to be calculated for these themes, a validation strategy for these codes and low Kappa scoring codes was developed.

In these cases, samples of text themed with these categories were extracted and shown to the second coder, and an interview on the categorization and theming of these themes was conducted with the second coder (denoted as 'consultation' in Table 18). This action was also taken with those themes that had Kappa scores of 0.4. After this interview, modifications to the operationalization instructions, and recoding of certain text elements resulted in satisfactory coding agreement between both coders. Although quantitative measures were not available for some themes because of the sample, this process of iterative reflection between the coders resulted in recoding certain comments, and supported the validation process of the NBM.

Table 18 describes the Kappa coefficients for categories within each of the three communities. Where no Kappa coefficients were available due to the sampling process, samples were extracted and the process mentioned above was conducted. Changes to the operationalization instructions were made and items were recoded based on this process. In addition, with the cases where there was low Kappa scores, research has found that this can be usual for rare observations, which was the case for these themes, in particular because of the sample selected (Viera & Garrett, 2005). However, the interview with the second coder, and subsequent modification of codes supported the coding validity.

Table 19: Kappa coefficients for NMB categories

Newcomer Behaviour Model Categories	Magic Mum	Essential Baby	Ser Padres
Information Process			
Information Seeking	0.4	0.6	0.4
Information Giving	0.5	0.5	0.8
Conversation Strategies			
Supplication	Consultation	Consultation	Consultation
Questioning and Help Seeking	0.4	0.6	Consultation
Joining request	Consultation	Consultation	Consultation
Emotional Disclosure			
Other-directed	0.7	0.7	0.4
Self-directed	0.9	0.8	0.7
Socialisation			
Community Specific Language, Structure and Norms	0.9	0.8	0.7
Resource Acknowledgement	Consultation	Consultation	Consultation
Clarification and Further Questioning	0.4	0.6	Consultation
Politeness	0.7	0.7	Consultation
Identification as a Newcomer	Consultation	Consultation	Consultation
No Response Threads	0.7	0.9	0.9
Boundary Maintenance	0.8	Consultation	N/A
Legitimacy	0.8	0.5	0.9
Testimonial Legitimacy	0.7	0.8	0.6
Geographical Legitimacy	0.6	0.7	0.9
Cultural Legitimacy	Consultation	Consultation	Consultation
Contextual Legitimacy	Consultation	0.6	0.7
Lurking Legitimacy	Consultation	Consultation	Consultation
External Legitimacy	Consultation	Consultation	Consultation
Social Expression			
Introduction Threads	0.9	0.9	0.8
Greetings	0.4	0.9	0.7
Sharing Personal Experiences and Examples	0.4	0.5	0.6
Community Responsiveness			
Inclusion Strategies	Consultation	Consultation	Consultation
Personal Opinions, Advice and Problem Solving	0.7	0.6	0.8

Emotional Support	0.9	0.8	0.7
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4.10.2. Validating the Model

A key point to ascertain the validity of a model is to see whether it has met its initial aims; in this case, that it has created theoretical categories for comparative research on newcomer behaviour, that it has used a rigorous method for selecting newcomer behaviour for analysis, and to contribute a model that could explain and frame newcomer behaviour. Each of these three aims have been successfully addressed. However, to further safeguard that the model is going to do what it set out to do, we refer back to Morris (1968) criteria of a well-constructed model:

- **Its relatedness to other models and techniques:** Through using directed content analysis, the model is 'directly' related to other models and theory.
- **Its transparency or ease of interpretation:** The model categories have been described in detail with operationalised examples provided with each. This facilitates transparency, and allows simple interpretation when using it with data.
- **Its robustness or sensitivity to the assumptions made:** The model can be described as robust and sensitive because of the linear and defined phased directed process which is used in its development.
- **Its fertility or richness in deductive possibilities:** The model has excellent deductive possibilities because of the broad range of categories within, the detailed description of category operationalisation, and its derivation from existing literature on online community newcomers.
- **Its ease of enrichment or ability to modify and expand the model:** There is much potential to modify and expand the model as online community newcomer theory becomes more developed, or if it is used with other datasets. It will be seen in Chapter 6 – Further Model Development how this has come to pass in this research.

Although only qualitative methods have been used to validate this model, the presence of a strict process, theoretical triangulation, claims to generalisability and general achievement of its aims show that this model is valid and can be used as a tool for comparative analysis of newcomer behaviour.

4.11. Conclusion

The NBM has been created through rigorous procedures and serves as an instrument for investigating how newcomers behave in an online community. It is an important contribution to the online community field. It has not only categorised previous theory through a directed content analysis approach, but also classified said theory into a workable model with the addition of emergent theoretical categories. This model can be used as a comparative tool to explain and illustrate differences in newcomer behaviour between cultures. It can also be used as a tool for non-cultural specific comparative research, or in depth research into newcomer behaviour. This model has addressed SA3 and forms the basis of answering RQ1, RQ2, RQ3 and RQ7.

The next chapter describes how the results from the directed content analysis using this model were compared, related to cultural theory and explored to see whether there were cross-cultural similarities and differences in newcomer behaviour.

5. Comparative Case Studies

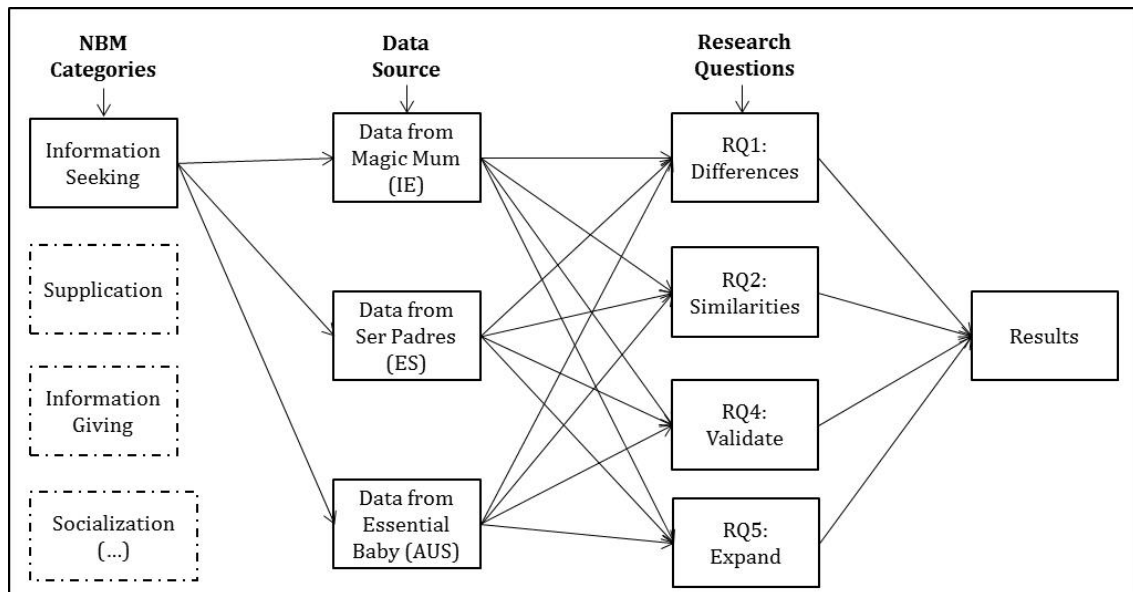
5.1. Introduction

This chapter presents the results of a cross-cultural comparative analysis of online community newcomer behaviour, derived from online community posts and threads, and analysed using qualitative directed content analysis. The analysis compares the behaviour of a sample of newcomers from three culturally diverse online communities with one another, Magic Mum from Ireland (MM), Essential Baby from Australia (EB) and Ser Padres from Spain (SP). This analysis was framed by the newcomer behaviour model (NBM) categories devised in Chapter 4 – Newcomer Behaviour Model to simplify the comparative analysis through the creation of theoretical categories of newcomer behaviour, clarify large amounts of newcomer data, and ensure a rigorous comparative method.

The chapter is structured by presenting the results of the cross-cultural analysis of each NBM category and sub-category in turn. It is important to note that these results are comparing the behaviour of newcomers using the NBM categories between the three communities (i.e. Intra) rather than addressing the relationships between the NBM categories themselves (i.e. Inter: this is discussed in Chapter 6 – Discussion).

Figure 22 below presents a graphical representation of this cross-cultural analysis. On the left hand side are each of the three communities that were analysed using the NBM as a thematic framework. Each NBM thematic category was extracted from each community analysis and inserted into an overview grid or matrix, and compared with the two other communities. The results of this comparison were related back to the research questions, as detailed in the far right of the figure. Four key research questions were addressed in this analysis; whether the data validated existing theory, expanded existing theory, determined cross-cultural similarities and/or determined cross-cultural differences.

Figure 22: Cross-cultural qualitative newcomer behaviour analysis between three communities using the NBM categories



5.2. Chapter Summary

The aims of this chapter are to:

- Describe the results of the cross-cultural comparative analysis of online community newcomer user behaviour using categories gleaned from the NBM.
- Determine whether the NBM categories validate and confirm existing newcomer theory.
- Determine whether the NBM categories expand existing newcomer theory.
- Present cross-cultural similarities and differences between newcomer behaviour.

These aims reflect the primary research aim of the thesis:

PRA: To explore the behaviour of the online community newcomer using a cross-cultural method.

5.3. Research Aims and Questions

In addition to this primary research aim, more detailed research questions related directly to the cross-cultural analysis were used to structure the analysis. These research questions were key to focus and direct the sometimes complex cross-cultural method:

- RQ1: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?

- RQ2: Are there **similarities** in newcomer behaviour across online communities from different national cultural origins?
- RQ4: Does a cross-cultural comparative analysis of online community newcomers **validate** and **support** existing theory?
- RQ5: Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory?

Each of these research questions will be dealt with in turn over each of the 8 primary NBM categories and 26 NBM sub-categories (see Table 19 below for a graphical representation).

5.4. TTC and EDD Threads

Before exploring the cross-cultural comparative results, a note must be made about Trying to Conceive (TTC) and Estimated Due Date (EDD) threads³⁸. These were emotionally charged and inclusive threads where community members posted very personal information about their experiences trying to conceive or of being pregnant. Members would give personal examples, emotional support and advice to one another, and let the community know when they were successful in conceiving or giving birth. The EDD threads were often titled with the month which the members expected to give birth on (e.g. Due February 2014), and both the EDD and TTC threads used various structures for listing personal information about thread participants. For example, a list of members who were participating in the thread with their expected due dates or ovulation dates was continually updated throughout the thread. Newcomers would often ask to be put on this user list and were always welcomed and supported by the existing users.

Extract 1: Example of a newcomer presenting personal information in an EDD thread

<i>Name: Newcomer 1 EDD: 18 April 2014 Location: QLD Baby #: 1 Gender Guess: Girl</i>

What was particularly interesting about these threads was not only that their structure was present across all three communities, but also that they were a key entry point for newcomers beginning their community interaction. During the course of the cross-cultural comparison, the TTC and EDD threads are frequently referred to because of their major importance both for newcomers, and for community development.

³⁸ In Magic Mum the Estimated Due Date threads are called “Mum2B clubs”, in Essential Baby they are called “What month are you due?”, and in Ser Padres they are called “Mamis para (date)” (translation: Mums for (date)), and the Trying to Conceive threads are called “Queiro tener un nino”(translation: I want to have a child).

5.5. Results of Qualitative Comparative Cross-cultural Community Analysis

The following sections describe the results of the cross-cultural comparative analysis following the methodology described in Chapter 3 – Methodology. First, the cross-cultural analysis compared the qualitative content analysis of NBM categories from each individual community with one another using overview grids (see section 3.2.2.1 for more details on this technique), NVivo tools and category codes. The grids were used for comparison, and similarities and differences were noted using extensive descriptive memos and extracted text, and inputted into a comparative results grid.

This cross-cultural comparison aimed to answer seven key research questions, but with a particular focus on RQ1, RQ2, RQ3, RQ4 and RQ5. The following table describes in summary form whether similarities (RQ2) and differences (RQ1) were found in the newcomer data from the cross-cultural analysis using the NBM categories, and whether this analysis validated (RQ4) and/or expanded (RQ5) upon previous theory. Within Table 19, the categories in bold are the higher level categories, with the sub-categories linked to these higher level categories listed below them.

Table 19 describes that:

- Cross cultural similarities in newcomer behaviour were identified in 8 higher level NBM categories and in 25 NBM sub-categories. This addresses RQ2: Are there **similarities** in newcomer behaviour across different online community national cultural origins?
- Cross cultural differences in newcomer behaviour were identified in 8 higher level NBM categories and in 13 NBM sub-categories. This addresses RQ1: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?
- All of the NBM higher level categories (8) and sub-categories (18) derived from theory³⁹ were present in the content analysis of community data. This means that these theoretically-derived categories (i.e. non-emergent categories) were present in the content analysis of all three communities. This addresses RQ4: Does a cross-cultural comparative analysis of online community newcomers **validate** and **support** existing theory? The presence of these theoretical elements in all three communities further validates existing newcomer theory both singularly and in a cross-cultural context.

³⁹ As derived from the literature review in Chapter 4.

- 8 NBM higher level categories and 20 NBM sub-categories, developed by existing and emergent newcomer behaviour theory, were **expanded** upon either by refining or re-categorising existing theory or expanding theory in a cross-cultural context. This addresses RQ5: Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory? In addition, all of the emergent categories (7) (i.e. not derived from previous theory) present within the data also expanded on the theoretical understanding of newcomer behaviour.

5.5.1. A note on theoretical interpretation of data

Although similarities and differences will be presented in the following sections, it must be noted, that due to the exploratory nature of the research, any explanations given, such as those from Hofstede, Schwartz or other theorists are tentative. This is not a controlled study, and many other interpretations from historical colonial experiences to language use to other cultural theories could also be of importance for understanding these cultural similarities and differences. This research is the first step into investigating potential cross cultural differences in newcomer behaviour, and an exploratory analysis using existing theory is needed to frame this novel research space. However, given that the scope of online community cross cultural comparative literature has often used dimensions of individualism and collectivism, for example, it was decided that these same theories of culture would be used to interpret the data within this section, within the context of the newcomer social role. A further discussion of this is available in sections 6.3.1.1, 6.3.2, 6.3.3 and 6.3.5.

As no previous research into the cross cultural similarities and differences of newcomer behaviour had been previously carried out, some boundaries were necessary to contextualise the comparative analysis. Hence, theorists from cross cultural online community literature were used. However, further exploration of the possibilities of these differences is discussed in the discussion chapter.

Table 20: Summary of findings of a cross-cultural comparative analysis of newcomer behaviour using the NBM across three online communities of differing cultural origin

Newcomer Behaviour Model Category	From theory or emergent?	RQ4: Validate Theory	RQ5: Expand Theory	RQ2: Cross- Cultural Similarities	RQ1: Cross-Cultural Differences
Information Process	Theory	X	X	X	X
Information Seeking	Theory	X	X	X	X
Information Giving	Theory	X	X	X	
Conversation Strategies	Theory/Emergent	X	X	X	X
Supplication	Theory	X	X	X	X
Questioning and Help Seeking	Theory	X	X	X	
Joining Request	Emergent	N/A	X	X	X
Emotional Disclosure	Theory	X	X	X	X
Other-directed	Theory	X	X	X	X
Self-directed	Theory	X	X	X	X
Socialisation	Theory	X	X	X	X
Community Specific Language, Structure and Norms	Theory	X	X	X	X
Resource Acknowledgement	Theory	X		X	X
Clarification and Further Questioning	Theory	X	X	X	

Newcomer Behaviour Model Category	From theory or emergent?	RQ4: Validate Theory	RQ5: Expand Theory	RQ2: Cross- Cultural Similarities	RQ1: Cross-Cultural Differences
Politeness	Theory	X	X	X	X
Identification as a Newcomer	Theory	X	X	X	
No Response Threads	Theory	X	X	X	
Boundary Maintenance	Theory	X	X	X	X
Legitimacy	Theory / Emergent	X	X	X	X
Testimonial Legitimacy	Emergent	X	X	X	X
Geographical Legitimacy	Emergent	N/A	X	X	X
Cultural Legitimacy	Emergent	N/A	X	X	X
Contextual Legitimacy	Emergent	X	X	X	
Lurking Legitimacy	Emergent	X		X	
External Legitimacy	Emergent	N/A	X	X	
Social Expression	Theory	X	X	X	X
Introduction Threads	Theory	X	X	X	X
Greetings	Theory	X	X	X	
Sharing Personal Experiences and Examples	Theory	X		X	
Community Responsiveness	Theory	X	X	X	X
Inclusion Strategies	Theory	X	X	X	X

Newcomer Behaviour Model Category	From theory or emergent?	RQ4: Validate Theory	RQ5: Expand Theory	RQ2: Cross- Cultural Similarities	RQ1: Cross-Cultural Differences
Personal Opinions, Advice and Problem Solving	Theory	X		X	
Emotional Support	Theory	X		X	

The following sections explain, describe and support these findings using examples from newcomer data and theory from cultural theorists, such as Hofstede and Hall, where applicable. Each NBM categories and sub-categories are addressed in turn using a comparative analysis of the three communities. Examples from the data are provided to clearly see the relationship between the data and the interpretation of data (Anderson, 2010). These examples are suffixed by a pseudonym of the user who posted the content, and the name of the community the newcomer originated from (i.e. <Newcomer 24; EB>). Full explanations of acronyms are always provided and denoted in parenthesis (i.e. DD = Dear Daughter)). To provide additional clarity, each sub-category is suffixed with a table linking the results to the research questions for ease of understanding. A full description of all coded categories is available in Appendix L.

5.5.2. Information Process

Information process refers to how newcomers seek and give information in an online community, and in general, previous theory has described newcomers as information seekers. This category was divided into two sub-categories, information seeking and information giving, as derived from previous research (Ahuja & Galvin, 2003; Burke et al., 2007; E. Morrison, 2002). The following sections describe the results from the cross-cultural analysis, under these two sub-categories, over the three online communities. These results **validated** and **expanded** upon existing theory, and suggested likely **similarities** and **differences** between newcomer behaviour from different cultural origins.

5.5.2.1. Information Seeking

According to previous research, one of the most common behaviours exhibited by newcomers is information seeking (Ahuja & Galvin, 2003; Bauer et al., 2007; Devan & Di Tullio, 2008; Golder & Donath, 2004), and this was positively supported by the data. In comparing the three parenting communities, there were obvious similarities in the context of the information sought, evidently because of the common community theme of parenting. Information sought included personal advice on pregnancy (e.g. home birth, post-pregnancy advice, pregnancy tests, ovulation and conception), personal medical advice, parenting skills, professional advice, relationship issues, childhood illnesses, behavioural problems, social skills, schooling and general issues such as appropriate online community behaviour and technical IT questions. Out of context information was rarely, if ever sought by newcomers.

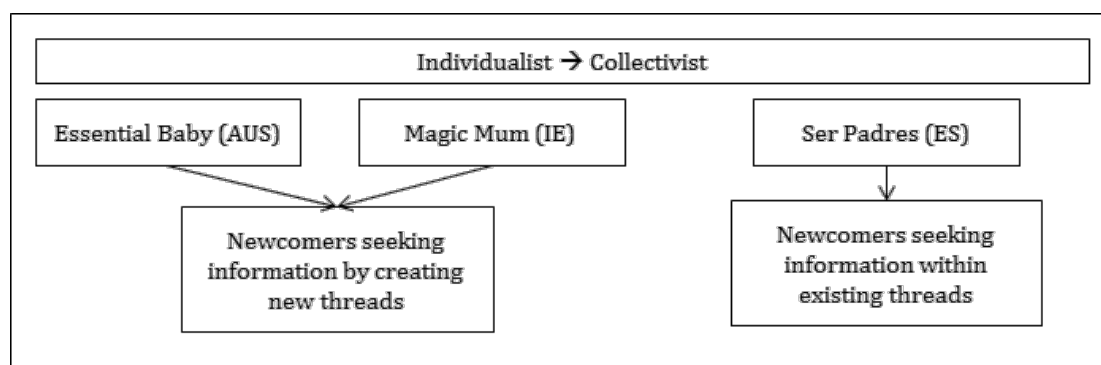
Extract 2: Example of information seeking in Essential Baby

I'm a 32 year old mum to a beautiful 5 month old baby boy. It is my first child and am loving every moment of motherhood. I developed cervical dystonia 2 years ago and was officially diagnosed in August 2013. (...) Wondering if anyone else here has dystonia and what treatments have worked for them, and to share your experience. <Newcomer 1: EB>

It was notable that over the three communities very similar questions were being asked by newcomers and there was little difference in context. This suggests that during their initial interactions newcomers seek information related to the community topic rather than seeking off-topic information. This finding **expands** on current research on newcomer behaviour by suggesting that newcomers tend to provide on-topic contributions during initial newcomer interactions. In addition, the cross-cultural analysis further supports this finding by showing that this behaviour occurs across newcomers from differing countries of origin.

Although there were similarities in the context and form of the information sought, there were **differences** observed in the location of where it was sought. In EB and MM, the information sought was mainly via newcomer created threads i.e. the newcomer creates a new thread. However, in the SP community, the information seeking behaviour was more commonly sought within existing community threads. This is an interesting discovery as it suggests that SP newcomers feel comfortable to enter into existing community threads and ask questions rather than having to create new separate threads as the EB and MM newcomers do. In effect, they are entering into the community environment more rapidly than the EB and MM communities. This is a new finding not previously identified in the literature.

Figure 23: Differences in information seeking location



This finding was retrospectively analysed with regard to existing cultural theory in order to answer RQ3 and RQ5. This difference in information seeking location could be supported by Hofstede's (2001) individualism / collectivism distinction. As determined from the sampling

methodology, the majority of newcomers from the SP community originate from Spain, a noted collectivist country (Goodwin & Plaza, 2000; Gouveia, de Albuquerque, Clemente, & Espinosa, 2002; Tafarodi & Walters, 1999). Their positioning of information seeking requests deep within the community shows that it is likely that collectivist behaviour is being exhibited by Spanish newcomers. Conversely, this finding shows that individualistic behaviour is possibly exhibited by EB and MM newcomers by seeking information in self-created threads. This finding **expands** on current information seeking research literature.

Information sought was commonly supplemented with personal information about the newcomer, including number of children, personal medical conditions, contextual information, length of pregnancy, geographical location, culture specific resource (e.g. local hospitals) and/or relationship status. By providing this type of personal information, the newcomer is giving information in order to receive information in a reciprocal way (Arguello et al., 2006). This self-disclosing behaviour through using personal histories has been previously identified by Arguello et al. (2006), Galegher et al. (1998) and McQuillen (2003), amongst others. To clarify, existing community members have previous posts to support their information seeking; however, newcomers lack this historical personal information and supplement their posts with personal information to be more likely to receive a response⁴⁰. The cross-cultural analysis of the online parenting communities **validated** this existing research on the provision of personal information during information seeking.

Extract 3: Example of personal information provision during information seeking

Porfis, si alguien pudiera contestarme... ¿Es normal tener dolores los días siguientes al de la Ovulación? Es decir, mi día de ovulación fue el sábado y ayer y hoy he tenido dolores como de reglis... ¡¡ayuda!!<Newcomer 1:SP>

Translation: Please, can someone answer me? Is it normal to have pains days after ovulation? So, my ovulation date was Saturday and yesterday and today I had pains like period pains? Help!!

In addition, the analysis gave evidence of cultural specific information during information seeking. It was found that newcomers tended to mention culturally specific locations, actions or items and would often supplement this with location-specific information⁴¹. Although it is unknown if this is confined to culturally specific communities such as the three that were

⁴⁰ See the section 5.5.6.1 for more information.

⁴¹ See section 4.8.2.2 and 5.5.6.4 for more information on cultural legitimacy.

sampled, it is an interesting finding nonetheless to see the potential importance of cultural identity during information seeking. This is a new finding that **expands** on current conceptions of information seeking.

Extract 4: Example of geographical and cultural information provision during information seeking

I have my breast clinic appointment in 2 weeks . I am really worried.....I moved to Australia a year back and hardly know the health care system here .<Newcomer 2: EB>

It is clear from the data that information seeking by newcomers in all three communities **validated** previous theory (RQ4). Across all three online communities, newcomers were information seekers using questioning behaviour with common contextual, personal, cultural and practical elements. This supports cultural **similarities** between the three communities. Existing theory on information seeking has been **expanded** through the cross-cultural comparative analysis by demonstrating cultural **differences** in information seeking location.

Table 21: Summary of findings relative to research questions from information seeking sub-category

NBM Sub-category: Information seeking	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.2.2. Information Giving

In addition to the common newcomer behaviour of information seeking, it was also found in the data that newcomers also gave information. This **validated** research from Singh, Johri and Mitra (2011) which found that a small amount of newcomers were ‘experts’ or ‘help givers’, and provided information to the community. Newcomers gave information by providing resources on baby and pregnancy issues, sharing in-context personal information, giving advice or experiences of childbirth and child rearing, giving information on where to find resources online or offline, and providing recommendations on products or activities. This information was provided in the form of comments reinforced with URL’s, images and offline addresses. Often the information was supported by positive or negative experiences of the resource. Singh, Johri

and Mitra (2011) had only investigated information giving behaviour in knowledge-creation communities, and this finding shows that information giving is present in non-knowledge creation communities.

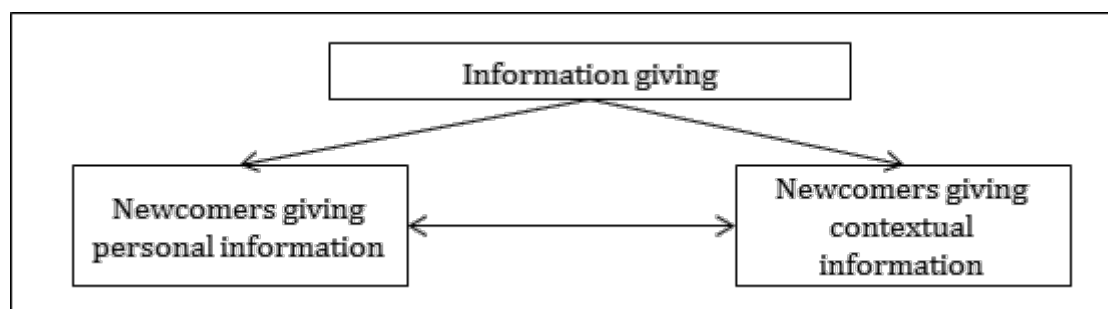
In addition, the analysis has also identified a possible new conceptualisation of information giving in online community newcomers. In all three communities newcomers gave information about contextual issues (i.e. parenting, childcare etc...), but in addition they also gave personal information about themselves. Interestingly, newcomers would often structure their contextual information giving within a framework of personal information giving.

Extract 5: Example of personal information provision during information giving

"I would suggest having easy pants to pull up and down as kids very frustrated with jeans/buttons etc.. I found with my DD (DD = Dear Daughter) now 3 if I put on those pull Ups it would just encourage her to be lazy, (I had to use them for play school from jan-Jun, but when she goes back in Sep no training pants, they can like it or lump it now)..." <Newcomer 2: MM>

Expanding on previous theoretical insights on information giving, the analysis showed that information giving is not a linear category focused on contextual elements; rather it can be separated into personal and contextual information giving. Previous research mentioned above had only investigated information giving in newcomers in a contextual manner, and this finding **expands** on this previous literature. Rather than just theorising information giving within the context of the community (i.e. through providing resources, support or knowledge on the community context), the cross-cultural analysis has shown that information giving is also within the personal domain of the newcomer. It is suggested that newcomer information giving should not just be limited to the provision of contextual information but also to the provision of personal information.

Figure 24: Sub-categorisation of information giving



An interesting example of how this difference can be seen is in the EDD (estimated due date) lists. Here newcomers give personal information about themselves and their due date, in

addition to giving information relating to community queries later on in the thread. This finding supports RQ5 (Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory?) and shows that information giving is not just contextual but also personal. The cross-cultural analysis has demonstrated that newcomers appear to give both contextual and personal information during their information giving.

Extract 6: Example of contextual and personal information giving

Name : Newcomer 3 : 27 May Location : Gold Coast Baby : # 4 (crazy huh!) Gender Guess : ? Just hoping for a healthy, happy baby!!! But would love a little girl :)

The cross-cultural analysis of newcomer information giving also **validated** existing research that newcomers sought information more than gave information (Golder & Donath, 2004) (RQ4).

The analysis **expanded** on existing theory (RQ5) by classifying information giving into two sub-categories; giving contextual information and giving personal information. It also **expanded** existing research by identifying that information giving in newcomers is present in non-knowledge creation communities (i.e. in discussion communities). There were no cross-cultural differences of note identified in information giving newcomer behaviour.

Table 22: Summary of findings relative to research questions from information giving sub-category

NBM Sub-category: Information giving	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.2.3. Additional Discussion on Information Process

It was noted that some of the results did not reflect existing theory on online community users. According to Fong and Burton (2008), collectivist countries such as China, are more likely to exhibit information seeking in online communities. Members from individualistic countries, such as the US, were more likely to exhibit information giving. It was hypothesised that newcomers from SP would present more information seeking behaviour than EB and MM newcomers. This finding can be explained as Fong and Burton's work looked at online

community users generally, not specifically newcomers. The newcomer role is a very specific selection of users conceptualised by their position in the community, and their analysis did not extend to the newcomer social role.

5.5.3. Conversation Strategies

Researchers have identified common newcomer conversation strategies which are used to elicit responses from existing community members (Golder & Donath, 2004). This section presents the results of a cross-cultural comparison of both existing and emergent newcomer conversation strategies. Three important newcomer conversation strategies were focused upon, supplication, questioning and help seeking, and joining requests. These particular strategies were concentrated upon because of their importance in the literature, recurrence in the thematic analysis, and their significance for eliciting community responses to newcomers. These results **validated** and **expanded** upon existing theory, and suggested likely **similarities** and **differences** between newcomer behaviour from different cultural origins.

5.5.3.1. Supplication

Supplication has been defined as “one’s dependence to solicit help (...) by stressing his inability to fend for himself or emphasising his dependence of others” (Jones & Pittman, 1982, p. 247). In practice, the supplicant (in this case, the newcomer) advertises their weakness or incompetence to gain attention, seek help or sympathy from the community (Lai, Lam, & Liu, 2010). Previous research has identified supplicatory behaviour in online community newcomers (Golder & Donath, 2004), however it is unknown whether this type of behaviour differs between newcomers from different cultures.

The results from the cross-cultural analysis suggest that there were moderate examples coded of supplication behaviour from SP community newcomers, few in EB and almost none in MM. This is a new finding not previously identified in the literature. For example, in the SP community, many newcomers called their posts ‘un rollo’, (translation: ‘a bore’), admitting to being lost or stupid, and apologising for posting (e.g. ‘perdonad’ translation: sorry).

Extract 7: Example of supplicatory behaviour by Ser Padres community newcomers

En fin, perdonad el rollo... <Newcomer 2: SP>

Translation: Sorry for being a bore

Bueno que rollo acabo de soltar!!! <Newcomer 3: SP>

Translation: Wow, I have gone off on one

This analysis has **expanded** the understanding of supplication behaviour in newcomers, and demonstrated cross-cultural **differences** in their behaviour. It is likely that these findings can be explained through Hofstede's collectivist / individualist dimensions. Research into collectivist countries such as China have found high levels of supplicatory behaviour in an organisational environment compared with individualistic countries such as Ireland (Lai et al., 2010). Social norms rooted in Chinese culture make it acceptable for persons needing help to be supported by more senior members in a company. Spain (IDV: 51⁴²) has been described as a collectivist country like China in the literature (Goodwin & Plaza, 2000; Gouveia et al., 2002; Tafarodi & Walters, 1999). In comparison with Ireland (IDV: 70) and Australia (IDV: 90), it has a lower score on the Hofstede Individualism / Collectivism scale.

Reflecting this theoretical difference, the cross-cultural analysis has found likely differences in supplication behaviour between collectivist (SP, Spanish) and individualist (EB, Australian; MM, Irish) newcomers. This **validates** existing research on supplicatory behaviour in collectivist countries, and **expands** theory based on the supplicatory behaviour of online community newcomers. This novel finding indicates possible evidence of **difference** in supplicatory behaviour between newcomers of different cultural origins.

Table 23: Summary of findings relative to research questions from supplication sub-category

NBM Sub-category: Supplication	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.3.2. Questioning and Help Seeking Behaviour

The qualitative analyses confirmed that newcomers from all three communities used questioning and help seeking behaviour. This supported previous research on online community newcomers, that indicated that these behaviours were common in newcomers

⁴² These figures denote scores on Hofstede's individualism/collectivism scale with 100 being a highly individualist country and 0 being a highly collectivist country.

(Arguello et al., 2006; Galegher et al., 1998; Golder & Donath, 2004; Ren et al., 2012; Singh et al., 2011). Although similar to the information seeking category, this category focused on help seeking behaviour and with a particular emphasis on questioning behaviour and how this could be similar or different between the three communities.

Questions would often be suffixed with gratitude such as ‘Thanks’, and prefixed with greetings such as ‘Como estais todas’ (translation: how are you all) and ‘Hola’ (translation: hello). Most of the questioning was in context (i.e. about parenting) with examples of personal information commonly used to support their questioning. Newcomer questions were often directed towards a group of users who identify themselves as being in a particular role, for example, being a mother, being in a relationship or being pregnant.

Extract 8: Example of questioning and help seeking behaviour directed to a particular user

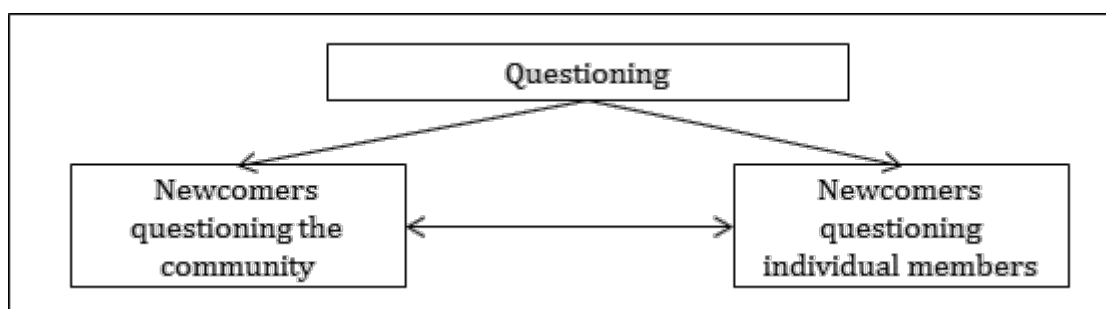
“What Im asking is , is there any other mummies in the same position and if so at what age did your little babies sleep in the cot/bed all night.” <Newcomer 3: MM>

This appears to demonstrate that newcomers directed their questioning to existing members that they believed would give them the most appropriate answer. Rather than leaving their questioning very broad for all community members, by narrowing down their questioning to whom they want a response from, they are more likely to receive a positive and useful response.

No differences were found in the questioning behaviour of newcomers from different cultural origins, however, the cross-cultural analysis **expanded** upon previous questioning theory by identifying two new sub-categories of newcomer questioning behaviour.

- Questioning directed to the community as a group entity (Community-directed questions).
- Questioning directed to the users personally (Personally-directed questions).

Figure 25: Sub-categorisation of questioning



Community-directed questioning used words such as ‘anyone’, ‘anybody’, ‘ye’, ‘ladies’, or phrases such as “I would like to ask the mms” (MMs: MagicMums). By using the plural tense, the newcomer is directing their question to the entire community, demonstrating their openness for replies and showing awareness of their audience. These types of questions were usually present in threads started by newcomers that were looking for answers to a specific query. These were generally successful in eliciting a response from the community and were the most common way of asking a question.

However, the analysis showed that there were also personally directed questions (i.e. questions to individual users) in newcomer questioning and help seeking behaviour. These types of questions refrained from using plural vocabulary, and directed the question to a single user. These were particularly common in the TTC threads where users would post up personal information and seek support from other members. Newcomers would often ask personally directed questions related to these personal details to seek clarification or further information⁴³.

Extract 9: Example of a personally directed question by a Ser Padres newcomer

Bebe3 no te queda nada para tu NLL!! Algún síntoma diferente?? <Newcomer 4: SP>

Translation: Bebe3 not much waiting left for your pregnancy test!! Have you any different symptoms??

This sub-categorisation of newcomer questioning behaviour **expands** on current theory and provides an additional layer of understanding of how newcomers communicate in online communities.

Consistent with previous research (Arguello et al., 2006), the newcomers analysed used help-seeking terms such as ‘advice needed’, ‘ayudar’ (translation: help), and ‘help please’. Many questions were also supported with acknowledgement in advance at the end of the question.

⁴³ It must also be noted that some questioning behaviour by newcomers could have also been exhibited via private messaging. However, the theory behind newcomer questioning behaviour has only been linked to public messages, and the facility for investigating private messages of newcomers is neither within the scope of this project, nor within the ethical parameters as defined in the methodology.

Extract 10: Example of newcomer help seeking with acknowledgement in advance

*“Hi all, Hoping ye can **help**. so excited to be finally moving and will be doing up our new house from builder's finish over the next few months. am based in midlands but don't mind travelling if i think a good deal is to be had!! any tips on places to buy tiles, flooring, beds, couches etc or if ye know of any sales coming up id really appreciate it. on a tight enough budget,. **thanks** so much” <*

Newcomer 4: MM>

This category was common across all three communities and showed that questioning behaviour is common across newcomers from differing origins. This suggests that the cross-cultural analysis **validated** previous research.

The analysis of this sub-category shows a further sub-categorisation within newcomer questioning behaviour that was not previously identified. It shows that newcomers are directing their questioning both to individuals and to the community at large. By directing their questions to individual members it is likely that they are taking into account personal contributions, listening to advice, and demonstrating their awareness of community structures, rules and norms. By directing their questions to the community, it is probable that the newcomers are acknowledging the presence of the community as an entity in itself, which is an important part of newcomer integration. These results have **expanded** upon previous theoretical conceptions of questioning and help-seeking in online community newcomers. The analysis also shows that there are **similarities** in help seeking behaviour across the three communities, which further validates help seeking newcomer theory. There were no cross-cultural differences of note identified in this category.

Table 24: Summary of findings relative to research questions from questioning and help seeking sub-category

NBM Sub-category: Questioning and help seeking	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.3.3. Joining Requests

A third newcomer conversation strategy identified in the data was joining request posts. This was an emergent category which arose from the directed content analysis. Joining request posts were requests from newcomers to join threads and were observed mainly in the TTC and EDD threads. Newcomers would ask whether they could join into the discussion, followed by personal information to legitimate their joining of the thread⁴⁴.

Extract 11: Example of joining requests from Magic Mum newcomers

"Hi! May I join? I used to live in Lucan up to 2 years ago and now coming back from abroad with a 4month old" <Newcomer 5: MM>

"I'll join if thats ok. I'm 4w1d today but got a very strong BFP last friday at 12dpo." <Newcomer 2: MM>

Most of the joining requests either ask whether they can join, or state that they will be joining. It is suggested that joining requests are a form of politeness and supplication prior to posting in these meta-communities⁴⁵. After they have asked to join, these newcomers are always responded to by the community and welcomed into the thread. This response included welcoming, emotional support, community-specific language clarification, inclusive language, resource sharing and personal stories that related to the newcomers experiences. Sometimes they are wished good luck, or asked a further question. This encouraged newcomers to post and integrate themselves into the community.

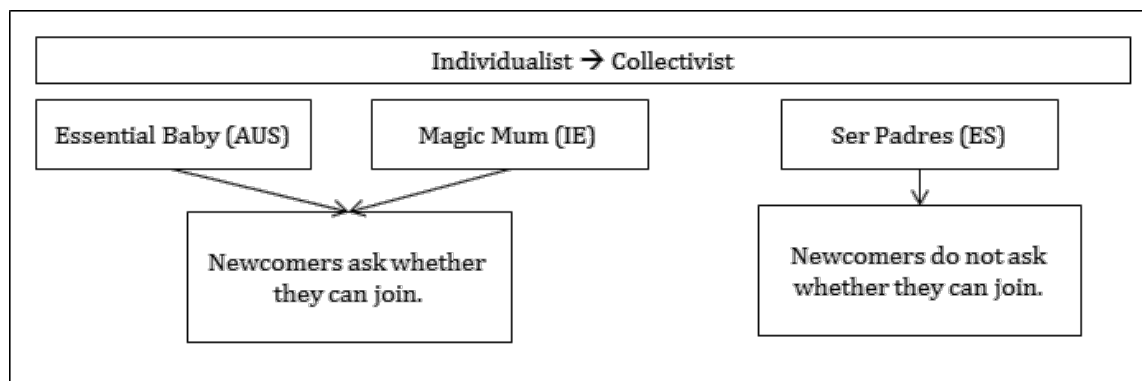
What was interesting about the comparative analysis of this category was that both MM and EB newcomers used joining requests to join threads, but this did not appear to be as relevant for SP newcomers. This was another example of the collectivist/individualist distinction between the three communities. The SP newcomers quickly joined in asking questions and participating in the community, whereas the MM and EB newcomers felt they had to ask to join⁴⁶. Although there were only a small number of newcomers coded with this category (n = 13), it suggests a new finding not previously identified in the literature.

⁴⁴ See 4.8.2.5 for more information on this.

⁴⁵ See 5.5.4.5 for more discussion on this.

⁴⁶ It is evident that there are some similarities between this and the findings from information seeking.

Figure 26: Difference in joining requests



The cross-cultural analysis suggests **similarities** and **differences** in joining request conversation strategies between communities from different cultural origins, and has also **expanded** on previous theory on newcomer behaviour.

Table 25: Summary of findings relative to research questions from joining requests sub-category

NBM Sub-category: Joining Requests	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	
RQ5: Expand theory	x

5.5.4. Emotional Disclosure

One of the most notable NBM categories from which there were likely differences in newcomer behaviour across cultures was in emotional disclosure⁴⁷. This is a new finding not previously

⁴⁷ It must be noted that in online parenting communities, emotionally charged content was common, and is most likely to be in greater amounts than in other less emotionally driven online discussion communities. This is discussed in 7.4.1. It is also understood that the communities used for this research were gender specific and could have had an impact on the results, in particular, in the emotional disclosure category. A full discussion on this is available in 7.4.1.1.

identified in the literature. The analysis used Chua and Balkunje's (2013) categorisations of emotional disclosure of online community users (self-directed and other-directed). Although these were not newcomer specific, they were found to be useful for categorising this type of behaviour. The results **validated** and **expanded** upon existing theory, and suggested likely **similarities** and **differences** between newcomer behaviour from different cultural origins.

The results of the qualitative analysis found that there was greater presentation of emotional disclosure from SP newcomers than MM and EB newcomers. Before examining these differences, some examples of newcomer emotional disclosure using Chua and Balkunje's categorisations are presented.

5.5.4.1. Self-directed

Self-directed emotional disclosure was separated into positive and negative themes. Negative self-directed emotional disclosure mainly related to medical and emotional problems such as pregnancy, child rearing, relationship issues, pain, childhood sicknesses, lack of sleep, losing a baby or most commonly, failing to conceive. Many physical problems were commonly related to mental problems such as worry, stress, and self-doubt, and a lack of contextual knowledge about being a mother.

Extract 12: Example of self-directed negative emotional disclosure from a Magic Mum newcomer

"I'm almost 39 weeks pregnant and I'm swollen stressed and exhausted to say I am counting down to my due date is an understatement and I'm constantly snapping but I've never felt guiltier than when my 6 year old asked for daddy to put him to bed tonight because 'mammy's mean' :(no point to this post really I'm just an emotional guilty wreck since I've Heard those words come out of his mouth :(“ <Newcomer 6: MM>

Positive newcomer self-directed emotional disclosure was expressed in the form of hope, positive mental attitude, and satisfaction with community aided outcomes. In the TTC threads there was a great deal of both positive (and negative) self-directed emotions. Newcomers would describe their personal histories, and give a commentary on how they were feeling coming up to a pregnancy test or giving birth. If they received a positive result they would describe their positive feelings but if not, they would display negative emotions and often request community support. Positive emotions were also displayed for when they described themselves as a mother or as a woman, when they received positive pregnancy results, or when a community member described positive results.

Extract 13: Example of self-directed positive emotional disclosure from a Ser Padres newcomer

jo, que guay es entrar en el foro y ver tantos ++++!! Da un subidon tremendo!! <Newcomer 5: SP>

Translation: Wow its great to come into the forum and see so many ++++ It gives a massive lift!!

5.5.4.2. Other-directed

Other directed emotional disclosure was most commonly identified in TTC and EDD threads, but was also present in newcomer created threads. This type of emotional disclosure was also separated into positive and negative themes. Positive other-directed emotional disclosure was observed through the acknowledgement of community responses, thanking posters, giving sympathy and gratitude, wishing good luck and generally supporting other posters who were going through difficulties. A common example of other directed emotional disclosure was exhibited in 'TTC' and 'Due In' threads where positive pregnancy results were exuberantly supported by newcomers, even though they were not well acquainted with existing members.

Extract 14: Example of other-directed positive emotional disclosure from a Ser Padres newcomer

*Bebe24 amoor! Lo sientooo. Espero q pronto vuelvas a estar preñi y esta vez vaya bien, MUAANK
<Newcomer 6: SP>*

Translation: Bebe24 my love! I am so sorry. I hope that soon you will be pregnant again and that time will go well.

However, what was particularly interesting about the other-directed analysis was that newcomers not only presented positive other-directed emotional disclosure to individual members, but also to the community as a whole. This was identified through the many examples of 'us' and 'we' in other directed emotional disclosure coded text. Newcomers also referred to how the community as a whole had positively supported them, suggesting that they had garnered support via lurking.

Extract 15: Example of community other-directed positive emotional disclosure from a Ser Padres newcomer

Animo chicas todas juntas podemos <Newcomer 7: SP>

Translation: Chin up girls, together we can do it.

Most of the other directed emotions are positive, however, negative other-directed emotional disclosure in newcomers was exhibited in threads where newcomers were arguing with existing members or directing negative emotions towards the community. Nonetheless, this behaviour was not very commonly exhibited in the data.

Extract 16: Example of other-directed negative emotional disclosure from a Magic Mum newcomer

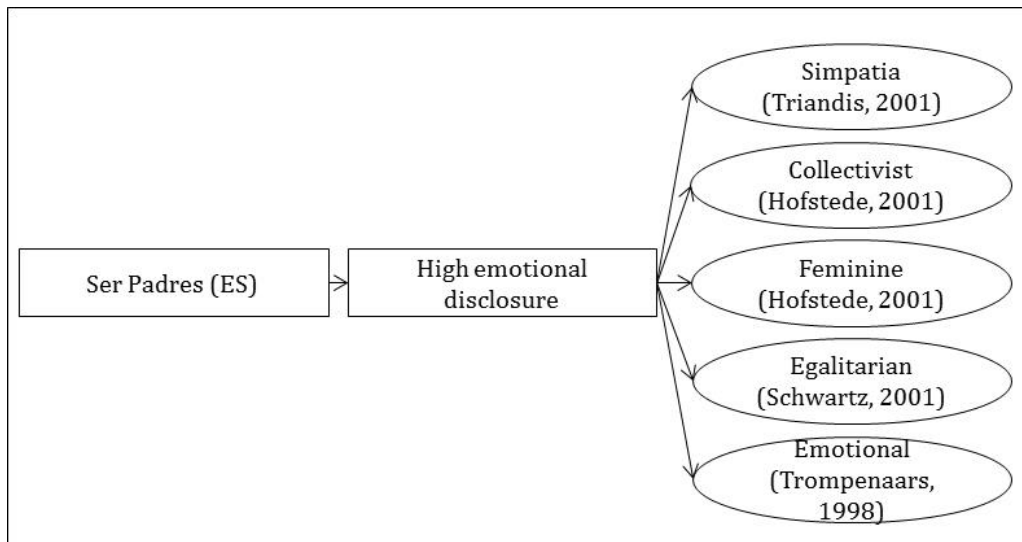
"Its people like you that ruin magicmum for eveyone, from what I have seen on your posts you seem to just post to cause trouble," <Newcomer 8: MM>

5.5.4.3. Comparative Analysis of Emotional Disclosure

The qualitative analysis of newcomer emotional disclosure identified some differences in newcomer behaviour across the three communities. SP newcomer data showed greater emotional disclosure compared with the other two online communities. In addition, SP newcomers also presented emotional states quicker than EB and MM; in their first or second posts they would present emotional and personal information, whereas EB and MM newcomers would take longer to do so. Another area of difference between the SP, EB and MM communities was in negative other-directed emotional disclosure. There were no examples of this in SP newcomers in contrast to the two other communities. In addition, there was a greater tendency towards self-directed emotional disclosure in SP. This **validated** previous research which found an increased propensity for self-disclosure in collectivist countries (Posey et al., 2010).

This difference in emotional disclosure between collectivist and individualist cultures is heavily supported by cross-cultural theory (Hofstede & Hofstede, 2001; Schwartz, 1992; Triandis, 1995; Trompenaars & Hampden-Turner, 1998), but it is the first time that it has been tentatively identified in online community newcomers.

Figure 27: Cultural theorists supporting cultural differences in emotional disclosure



Looking at Hofstede's (2001) Masculinity / Femininity dimension, Spain (MAS=42) scores lower than Ireland (MAS=68) and Australia (MAS=61). This means that in more feminine cultures, people, rather than norms and things, are important. Both men and women place value on relationships and caring rather than work and success (i.e. difference between quantity of life and quality of life). Spain also scores high on Schwartz's (1992) egalitarianism scale, compared with the two other cultures. This scale describes how different cultures are socialised to feel concern for one another's welfare differently (Steenkamp, 2001). It also supports previous research on the cultural script of 'simpatia' which characterises Hispanics as agreeable, friendly and sympathetic (Ramírez-Esparza, Gosling, & Pennebaker, 2008)⁴⁸.

Although these theories are useful for understanding some of the theoretical underpinnings of these differences, it must be noted that other potential theories could also be having an impact. This is further discussed in sections 6.3.5 and 6.4.1.2.

The cross-cultural qualitative comparative analysis has found analogous cultural **differences** within SP and MM/EB newcomer emotional disclosure data and **similarities** between MM and EB data. It has also **validated** and **expanded** upon previous theory.

Table 26: Summary of findings relative to research questions from emotional disclosure category

NBM Category: Emotional disclosure	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x

⁴⁸ See 6.6.1.2 for more details on this.

RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.4.4. Additional Discussion on Emotional Disclosure

What became evident during the analysis of the NBM emotional disclosure category was that the qualitative analysis, supported from the theoretically grounded NBM, could be connected to cultural theory. In effect, a link between existing newcomer theory (from the NBM) and existing cultural theory has been tentatively established. This was an important outcome from the analysis. Not only did this suggest that culture has a likely impact on differences in newcomer behaviour, but it also defined what these differences were relative to cultural theoretical elements. This is discussed in more detail in the discussion chapter.

5.5.5. Socialisation

Socialisation is the term used to describe the adjustment and adaption of individuals to a community environment (Ahuja & Galvin, 2003). The analysis of sub-categories aligned with socialisation demonstrated that the data not only **validated** previous theory but also **expanded** upon previous conceptualisations of newcomer socialisation. In addition the results present likely **similarities** and **differences** between newcomer behaviour from different cultural origins.

5.5.5.1. Community Specific Language, Structure and Norms

A very important indication of how newcomers are socialising themselves into the community is how they are using community specific language and structure (Cooke, Shim, Srinivas, & Wu, 2012). Newcomers must learn the community language and its idiosyncrasies before being able to engage with the community. Across the data from the three communities, newcomers used community-specific acronyms, language, etiquette and structural elements. This behaviour demonstrates to existing users that the newcomer is aware of community norms and traditions, and is a good sign of how newcomers are socialising and integrating into the community.

Members of parenting communities commonly use a large amount of acronyms in their community interactions, and it can take some time before a newcomer understands these linguistic structures. By using these acronyms in their own interactions it shows that the newcomer has studied their definitions, and demonstrates communicative competence. In all three communities, community-specific acronyms were used by members. This also helps in forming a unique community identity (Bucholtz, 1999).

Extract 17: Example of a newcomer using a community specific acronym

"Looking forward to chatting to anyone else who've just got their bfps (BFPS: Big Fat Positive)!"

<Newcomer 7: MM>

Most of the newcomers (probably through lurking), knew what these meant. However some newcomers requested clarification and were always replied by the community with an explanation.

Extract 18: Example of a newcomer asking about the definition of an acronym

Buenos días chicas, me podéis decir que es un TE y un TO, y para que es omifin? (...) Gracias

<Newcomer 9: SP>

Translation: Good day girls, could you tell me what is a TE and a TO, and what omifin is for?

In comparing the three communities, there were some overlap in acronyms used in both MM and EB communities (e.g. MIL (mother in law), BFN (big fat negative)) but no overlap was identified between SP, and MM and EB⁴⁹. However, even with some overlap in the two English speaking communities, in general there were many culture specific acronyms in each community (see Appendix M). In effect, the analysis suggests that there were cross-cultural differences in language construction (i.e. acronyms) between the three communities, even when the English language was a common trait between two of the communities.

Another interesting element noted in the cross-cultural comparison, was that fewer acronyms were used in SP than in EB and MM (see Appendix M). SP had some acronyms related to expected due dates (i.e. FPP – fecha probable de parto; translation: estimated due date), women's periods and conception (i.e. 'la worry', 'la buscada'), but overall had much lesser acronyms used. Acronyms can be a significant barrier for newcomer comprehension, and the SP community, being open, collective and newcomer-friendly, use much less of these linguistic barriers. A possible explanation for the lesser use of acronyms in the SP community could be because of the collectivist nature of the Spanish culture as described in cultural theory. However, this linguistic anomaly has not been previously investigated and it is unclear why there are a greater number of acronyms in the EB and MM communities than the SP community. This is not within the scope of this project, and would be an interesting area for future research. However, at a preliminary level, this cross-cultural difference in online community acronyms has not been previously identified and is a new research finding. Although this difference in

⁴⁹ This was an obvious finding given that there were two different languages used.

acronym use is not directly related to newcomer behaviour (rather it relates to the linguistic structures of the community), it could be posited that the SP community has less linguistic barriers to comprehending community interactions (i.e. less acronyms) because of its collectivist origins.

These results **validate** previous research on newcomer use of community specific language, structure and norms, and tentatively show that there are **differences** in community linguistic constructions which can impact on newcomer behaviour.

Table 27: Summary of findings relative to research questions from community specific language, structure and norms sub-category

NBM Sub-category: Community specific language, structure and norms	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.5.2. Additional Discussion on Community Specific Language, Structure and Norms

It must be noted that the discussion of acronyms differs from many of the other sub-categories. Rather than being derived from behaviour such as those in the other sub-categories, acronyms are derived from internal community structures. It is evident that semantic or conversation analysis could be more suited to analysing linguistic structures such as acronyms. However, in keeping with the analysis of the other sub-categories, it was decided to use the qualitative content analysis approach, through the acronym comparison, for maintaining validity, standards and structure across the comparative analysis.

5.5.5.3. Resource Acknowledgement

Supporting Singh's (2012) findings, resource acknowledgement by newcomers was identified in all three communities. This was most commonly identified when a newcomer 'thanked' resources given by existing members, and was a good indication of newcomer socialisation

Extract 19: Example of a Ser Padres newcomer acknowledging a resource given by an existing member

Muchas gracias. me has resuelto la duda.<Newcomer 10:SP>

Translation: Thanks very much. You have solved my problem.

As newcomers had not already formed any community bonds or friendships within the community, resource acknowledgement was a simple strategy for community integration and socialisation. It showed the community that the newcomer was willing to engage with the community and that the newcomer was approachable and conforming to community norms. In contrast, amongst existing members, there was less resource acknowledgement and more active conversation. It is suggested that as they had already been socialised into the community, this type of acknowledgement was unnecessary.

Newcomers acknowledging resources also contributed to community building and positive community interactions. This behaviour shows that the information being given by existing members is worthy in the eyes of another member and therefore, the value of the community itself grows.

The cross-cultural analysis showed that there were some differences in resource acknowledgement between the MM and the SP and EB communities. The Irish newcomers tended to present more resource acknowledgement than the Spanish and the Australian newcomers. It is unknown why these newcomers presented more resource acknowledgement, and this is a finding that cannot be supported by existing theory. Although it cannot be supported by theory, it is an indication that even communities that may have some cultural similarities such as Ireland and Australia, cultural differences are being exhibited by newcomers. This finding suggests further research into resource acknowledgement in newcomers.

The cross-cultural analysis showed that there were **similarities** and **differences** in newcomer resource acknowledgement behaviour between the three cultures, and this analysis **validated** existing theory from the literature.

Table 28: Summary of findings relative to research questions from resource acknowledgement sub-category

NBM Sub-category: Resource acknowledgement	
RQ1: Differences between cultures	x

RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	

5.5.5.4. Clarification and Further Questioning

During community socialisation, many newcomers asked further questions to clarify responses they had been given by the community. This behaviour was supported in the literature (Joyce & Kraut, 2006). Some of this further questioning involved quoting usernames, asking for more ideas, providing feedback, and asking questions. Similar to the resource acknowledgement category, this category showed the community that the newcomer was somewhat satisfied with the initial community replies, and would like further engagement with members.

Extract 20: Example of clarification and further questioning by an Essential Baby newcomer

*Thanks babymum for getting back. This was my first ultrasound and scared the sh*t out of me. I hope my resulats are negative.the ultrasound report made me feel that they will be. I wish u well with your pregnancy. Any reason u did not do a fine needle aspiration?*

<Newcomer 5:EB>

Further questioning may show that newcomers believe that the initial information being provided is meaningful and valuable. This contributes to community resource building which benefits the community at large. This cross-cultural analysis **validates** previous online community newcomer research on clarification and further questioning (Joyce & Kraut, 2006), and shows that there are **similarities** across all three cultures with regards to this category.

Table 29: Summary of findings relative to research questions from clarification and further questioning sub-category

NBM Sub-category: Clarification and further questioning	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	

5.5.5.5. Politeness

Another behaviour which newcomers in all three communities exhibited in the data was politeness. Politeness has been identified as a behaviour important for newcomer integration in the literature (Burke & Kraut, 2008). Rarely would newcomers present differing viewpoints, aggression or rudeness, and pre-emptive gratitude was very commonly used to suffix information seeking posts.

This importance of presenting politeness for newcomer socialisation was observed in a comparison between two Essential Baby posts. Newcomer 6 is expressing a problem she has with her mother in law, and Newcomer 7 is talking about an unwanted pregnancy. Both are seeking help, and yet the analysis showed the community responding to each user differently.

Extract 21: Comparison between two Essential Baby newcomers and their presentation of politeness

Long story shortened. DH has two younger brothers who have some drug/alcohol issues. They were living together after getting themselves a reasonably nice unit in a nice area. For the past 8 months they had held down their jobs and started acting like responsible adults. It all came apart a few months ago and MIL sent me and DH a text message to say that the brothers had been involved in a serious fight and the (...) Am I being fair in doing this? I felt as though some boundaries needed to be in place. I want to see the guys do well but I cannot rescue them <Newcomer 6: EB>

Hi everybody, Ok so please read our predicament below and give me your thoughts/comments or anything...My fiancé (29yrs old) has just found out that she is pregnant and is probably 6 weeks at a guess. This pregnancy wasn't planned and my fiancé isn't sure she wants kids. (...) As I said I really want to have kid/s and just don't know how I can talk her around. Ultimately it is her decision and regardless of her choice I will be 100% behind her whichever way she goes. Thanks for your time in reading and hope to hear from you. <Newcomer 7: EB>

Looking at the two newcomers, we can see that <Newcomer 7: EB> prefaced his post with 'Hi everybody' and 'please'. He also suffixes his post with 'Thanks for your time in reading and hope to hear from you'. However, <Newcomer 6: EB> shows no politeness, no supplication nor greetings in her post. This suggests the importance of politeness for positive community socialisation. In the case of <Newcomer 6: EB> existing users responded without emotion and somewhat aggressively. In contrast, the community rallies around <Newcomer 7: EB> and gives him compassionate advice and support. Although there are many other variables that could influence community responses to newcomers aside from polite behaviours (e.g. gender, topic being discussed, positive or negative emotions), at a preliminary level, this research **validates**

existing literature that has determined that politeness is important for successful newcomer interaction (Burke & Kraut, 2008).

The cross-cultural analysis showed some behavioural **differences** in politeness between the three communities. Although all of the newcomers in the three communities exhibited high levels of politeness, there were a very small number of impolite newcomers in MM and EB, as can be seen from the results from the Boundary Maintenance category below in 5.5.6. Research into cross-cultural differences in politeness showed that collectivist countries tended to be inclined towards positive politeness (e.g. gaining approval and being appreciated) whereas individualist countries tended towards negative politeness (e.g. being unimpeded by others and showing respect)(Marquez Reiter, 1997; Ogawa, 2003). The results from the boundary maintenance analysis showed that positive politeness was less common in MM and EB compared with SP, as more newcomers from these communities tended to break norms and not show respect towards the community. Relating this result back to cultural theory, it suggests that newcomers from collectivist cultures tend towards greater positive politeness than individualistic cultures. In addition, Hofstede's (2001) research details that countries with high power distance such as Spain, exhibited greater levels of politeness than countries with lower power distance such as Ireland and Australia. While these results are only tentative, additional research on the cross cultural differences in newcomer politeness could be warranted.

Although politeness in newcomers has been previously identified (Weber, 2011), investigating this in the context of cross-cultural comparative research has not been conducted. These findings have not previously been identified in the literature, and **validate** and **expand** on the current understanding of online community newcomer behaviour.

Table 30: Summary of findings relative to research questions from politeness sub-category

NBM Sub-category: Politeness	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.5.6. Identification as a Newcomer

Many newcomers identified themselves as such by using terms such as ‘newbie’, ‘new to EB’, ‘new to using forums’, ‘soy nueva’ (I’m new), and ‘new to this’ during their community socialisation. Alternatively they may post in the ‘Introductions’ forum. This behaviour was also identified in the literature (Bauer et al., 2007). Newcomers identified themselves as such in introduction threads, posts replying to the community, and in threads they had started. When these newcomers identified themselves as such, they also provided personal information, including their age, number of children, estimated due date (EDD) and medical conditions. This was a popular strategy for socialisation to elicit a response from the community. With newcomers personally defining their social role, existing community members are made aware of their presence, and following this, their position, expected needs and behaviour within the community can be addressed.

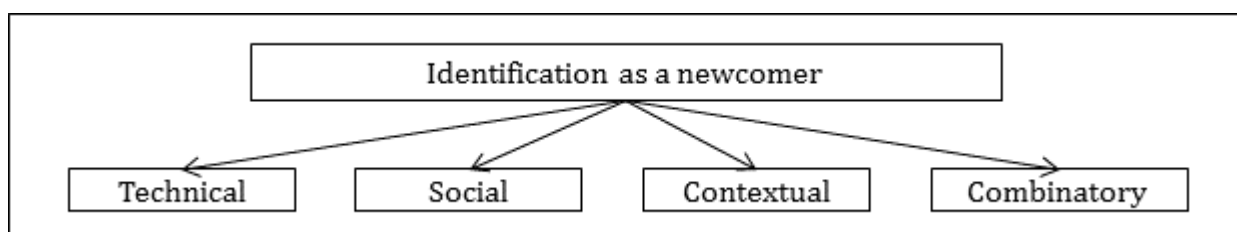
Extract 22: Example of Magic Mum and Ser Padres newcomers’ self-identification as a newcomer

“Hi everyone, Im new to magicmum, I have a beautiful 16 month old baby girl and I love reading the forums here as they have lots of useful advice :) I look foward to chatting with everyone”

<Newcomer 8: MM>

A further analysis and sub-categorisation of newcomer self-identification recognised that there were different types of personal identifications of being a newcomer; being new to using forums (technical), being new to the community (social), being new to being a mother (contextual) or being new in general either to being a mother, using a forum or joining a community (combinatory).

Figure 28: New sub-categorisation of differences in personal conceptions of newcomer identification



This sub-categorisation can be a useful tool for moderators to see how newcomers conceptualise ‘being new’. If newcomers are identifying with the ‘technical’ category, it might be relevant to include more information about technical issues. Alternatively, there could be types

of moderators related to each newcomer identification type, for example, having a ‘technical moderator’ whose role is to help newcomers with technical problems, a ‘social moderator’ who helps newcomers with social integration, or a ‘contextual moderator’ who deals with contextual support. This analysis **expanded** on current theory on newcomer identification and provides additional classification for understanding newcomer behaviour.

The cross-cultural analysis was very useful to develop the newcomer identification category, as not only did it give multiple sources for analysis but it also demonstrated that these categorisations were similar across the three communities from different cultural origins. This was a new finding not previously identified in the literature which **expanded** on current understandings of newcomer behaviour. No differences of note were found between the three communities within this category.

Table 31: Summary of findings relative to research questions from identification as a newcomer sub-category

NBM Sub-category: Identification as a newcomer	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.5.7. No Response Threads

Denoted in the analysis as ‘no response threads’, these were threads created by newcomers that were not replied to by existing members. Although these were not an explicit category from the NBM, these threads were deemed important to investigate. These were an obvious indication that the newcomer was not positively socialised into the community. The analysis showed that there were common reasons in the three communities as to why these threads were not being replied to. There were very few instances of these types of threads (EB: n=7; MM: n=4; SP: n=8) demonstrating similarities between these three communities in this regard.

First, it was noted that some of the threads were overtly specific, either mentioning a particular location or a very specific medical issue. Evidently, the community did not have an answer to the newcomer query, value the contribution or feel that the information sought was relevant for the community.

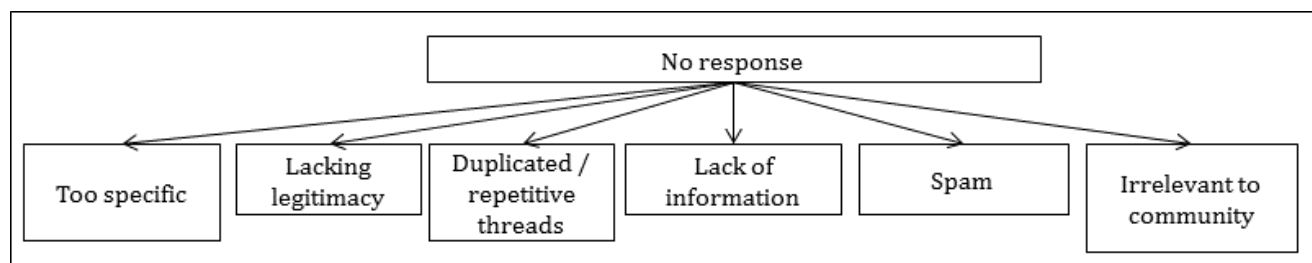
Extract 23: Examples of no response thread from Magic Mum

Long story short had an ingrowing toenail removed when i was alot younger. Does anyone know or can recommend a good surgeon to correct it or try and repair it? <Newcomer 9: MM>

Secondly, the content of these no response threads was also analysed, and a lack of legitimacy was found to be a common factor between the no response threads in the three communities. For example, of the 6 no response threads within the Essential Baby sample, three provided no personal legitimating information, two gave no geographical legitimacy and none gave neither external nor lurking legitimacy (see 5.5.7). It could also be suggested that by discussing very specific topics, the newcomers were not showing contextual legitimacy either, as such a specific query was out of context for most existing members.

Thirdly, of the no response threads from newcomers that provided information, the information was often very brief (a single sentence followed by a URL), spam (for example, links to personal blogs in context) or a personal rant against a particular institution that was irrelevant to the community. Previous research from Arguello et al. (2006) is **validated** by these findings. They found that new posters were more likely to get a reply by posting on-topic and introducing oneself via autobiographical testimonials.

Figure 29: New sub-categorisation of no response to newcomer threads



Analysing no response threads also gives an insight into the structure and workings of the community, and how they could be improved. In comparing the three communities, it was found that MM had a high number of no response threads localised within the 'New Members – Introduce Yourself' sub-forum where newcomers give personal details about themselves and a rationale for joining the community. Although many introduction threads were replied to, it is curious why some newcomers were not. These posts contained personal information about the newcomer, like other introduction posts, but were not replied to by the community.

It is theorised that the large volume of introduction posts and threads in this sub-forum could be the rationale for a non-response. It could simply be that these small numbers of introduction

threads were missed by existing members. However, of the introduction threads that were not replied to, only one newcomer failed to post to the community again. This perhaps demonstrates that introduction threads in Magic Mum are almost a rite of passage for new users, and newcomers do not require a response for them to continue posting. In effect, responses are not required here; rather the ‘New Members – Introduce Yourself’ sub-forum is less a place for interaction, but more of a place for newcomers to identify themselves to the community.

This cross-cultural analysis of no response threads has shown that there are **similarities** between the types of threads created by newcomers that do not receive a response. It also **expands** and **validates** on current theories on newcomer behaviour.

Table 32: Summary of findings relative to research questions from no response threads sub-category

NBM Sub-category: No response threads	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.6. Boundary Maintenance

Boundary maintenance behaviour was displayed by existing members (rather than newcomers) when newcomers failed to adhere to community norms and values. In order to successfully socialise with other community members, each online community has norms which newcomers must follow. These can include refraining from asking for medical advice, from trolling the community with aggressive content, from giving personal telephone numbers or to post off-topic content. This behaviour has been previously described in the literature (Honeycutt, 2005; Jarvenpaa & Lang, 2011) and was used in the NBM to structure the content analysis. The results **validated** and **expanded** upon existing theory, and suggested likely **similarities** between newcomer behaviour from different cultural origins. Some **differences** between cultures were found, but as there were few examples of this category, it is suggested that additional research on this be conducted to validate this finding.

Newcomers who broke community boundaries were reprimanded by existing members and often argued back with the community, creating long argumentative threads. In the three communities, this behaviour was evidenced by newcomers through controversial personal opinions, off topic content, breaking community norms and values, having a negative or aggressive attitude, trolling, lacking validity, going against the status quo, presenting smug, vain or patronising behaviour, and not taking community advice.

An example of boundary maintenance in the EB community is when <newcomer 5> tries to communicate in a thread about animal cruelty, and the members personally chastise her, accuse her of being a troll and reprimand her negative attitude.

Extract 24: Example of the reaction of community members towards a newcomer breaking community boundaries

Yes you are being sulky. I can see your bottom lip from here. I'm genuinely curious what prompted you to join a parenting forum to ask this question? It seems unusual to me. Which is why I called it suspicious. <Existing Member 4: EB>

Oh god, your first post. You know youre about to be slammed as a troll. <Existing Member 5: EB>

This newcomer has not correctly approached the content boundary for the community and is not accepted into the community (i.e. she is talking about a topic that is controversial and not within the acceptable content parameters of the community). Interestingly, the newcomer removes her posts after being chastised, and is further chastised because of this.

Extract 25: Example of the reaction of community members towards a newcomer breaking community boundaries

*Perhaps we need a new bumper sticker. Leave ya posts up or **** off. <Existing Member 5: EB>*

This behaviour by existing members is showing the newcomer the contextual boundaries of the forum. As the newcomer is not as socialised to the community, she does not understand that topics, such as animal cruelty, are not of interest to them and are off topic. In addition, the newcomer does not have as much legitimacy to provide such information because she is not known to the community. It is also interesting that this newcomers' activity is deemed 'suspicious', in that the community are not believing either that the newcomer is in fact a newcomer or that the newcomer is not being a troll. The newcomer then attacks the community itself by mocking the topics the existing users talk about, and responds that she is insulted to be labelled a troll.

Extract 26: Example of a newcomer chastising the community

Sorry I will only post questions about what coloured buttons go with what coloured shoes in future.

<Newcomer 10: EB>

I'm not sulky it is quite insulting to be called a troll and being labelled some sort of suspicious infiltrator. **<Newcomer 10: EB>**

This interaction is a good example of how a newcomer should not behave, and how the community reacts to this negative behaviour.

The length of time a newcomer had been part of the community, and their total number of posts also had an influence on the boundary maintenance of existing members. Newcomers who were going against community norms were rebuked for doing so because the community felt that the newcomer didn't have enough experience with the community to do so. One of the main themes that arose from the data relative to this was that users with a small number of posts or a short time in the community did not have as much validity in the eyes of existing users. These posters attacked the newcomer by telling her that she did not understand the community structure and norms because she had only been participating for a short time. This shows that there is another community boundary related to length of time or number of user posts. The more time or posts a user has, the more valid her arguments and information provision is perceived. Although legitimacy is increased by expressions of delurking (see 5.5.7.3 below), actual length of time in a community has an important influence on boundary maintenance behaviours by existing members.

Extract 27: Example of the Magic Mum community chastising the newcomer

"You are only here a wet day! Cop on." **<Existing Member 4: MM>**

"What would you know little miss 47 posts...its people like you spouting bile and bullshit that ruin magicmum!" **<Existing Member 6: MM>**

Additionally, boundary maintenance was also identified when existing members attacked newcomers' spelling and grammar, which could also be considered a boundary for community acceptance. There were some interesting examples of this type of boundary maintenance by existing members towards newcomers in the Magic Mum community.

What is evident from this analysis of boundary maintenance behaviour is that negative behaviour in newcomers, including breaking rules and norms, resulting in boundary maintenance behaviour by existing members, appears in few examples in the EB and MM

communities, but none at all in the SP community. Again this points to cross-cultural research on *simpatia*, collectivism, feminine and egalitarian nature of the Spanish culture. Although this suggests that there could be differences between the boundary maintenance behaviour of existing members towards newcomers, because of the very few examples found in the data, additional research would be needed to substantiate this finding.

The cross-cultural analysis also allowed for some additional sub-categorisation on how online community boundaries are surpassed by newcomers. Newcomers typify how they present themselves to the community through their personal attributes and through community attributes. It is through these attributes, that the community decides whether to let them into the community.

- Personal attributes: How the person portrays themselves towards the community through their own attitudes and beliefs (e.g. their personality, personal beliefs and standpoints).
- Community attributes: How the person portrays themselves towards the community through using community attitudes and beliefs (e.g. community norms and values).

In general, a positive combination of both of these attributes will allow newcomers to pass through community boundaries. For example, a newcomer with a friendly, positive attitude that conforms to community norms and values will most likely be allowed into the community. Newcomers with aggressive or negative attitudes and non-conformance to community norms and values will most likely be reprimanded by community members and prevented from assimilating into the community.

This analysis has both **validated** and **expanded** existing theory on boundary maintenance, and shown similarities and differences between the communities.

Table 33: Summary of findings relative to research questions from boundary maintenance category

NBM Sub-category: Boundary maintenance	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.7. Legitimacy

The legitimacy category is particularly important for newcomer integration, socialisation and social expression, and the results showed patterns of newcomer legitimacy behaviour across all three online discussion communities analysed. Both existing theoretical elements (Stommel & Meijman, 2011) and emergent themes were found, resulting in the development of a legitimacy model (see Chapter 6 for more details). Six categorisations of legitimacy were present in the data from the first community (MagicMum.com). These categorisations were then successfully used to model data in the Essential Baby and Ser Padres communities, providing **validation** for these new theoretical categorisations of legitimacy. The first three types of legitimacy (lurking, testimonial and contextual) were based on previous conceptions of legitimacy which arose out of the literature, whereas the final three categorisations emerged from the content analysis. The following categories **expanded** upon current theoretical conceptions of legitimacy.

5.5.7.1. Testimonial Legitimacy

A highly common behaviour exhibited by the newcomers was giving personal testimonials to legitimate their community presence, newly categorised as testimonial legitimacy. As newcomers do not have community identity, they must augment their posts with legitimating information, such as personal testimonial information, for the community to accept them. Burke (2010) observed a similar type of behaviour from identity based membership claims in newcomers in which they describe their similarity to the group's focal social category. This was seen through personal pronoun use, and giving personal information about themselves prior to making their community contribution. Both Galegher et al. (1998) and Arguello et al. (2006) identified this behaviour as being successful for receiving community responses, and thus increasing legitimacy. In the parenting communities, the newcomers tended to identify the number of children they had, their relationship status, whether they were a parent, expecting or trying to conceive, marital status, description of their children's behaviour and employment status.

Extract 28: Example of testimonial legitimacy

I have two girls 4 and 11 and am crazy into gardening, plants, flowers, you name it! <Newcomer

12: EB>

Hi magic mums, im new to this so i suppose i should introduce myself :)i have recently just moved from Wicklow to Offaly. I have one amazing little girl who is 5 and has autism. We are now trying for baby no 2 :) hopefully it wont take too long im not a woman of great patience! I dont know any

one in the Dublin area only my partners family, so would be nice to talk and maybe meet some other mm's for coffee someday :) <Newcomer 10: MM>

By providing this personal information, the newcomer legitimated their presence in the community, as the existing members could see that she was similar to the rest of the community, and that her contribution would be relevant and potentially interesting. In sharing this personal information, the newcomer is indicating to the community that 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. Some differences in the presentation of testimonial legitimacy were identified between the SP and the MM and EB communities whereby SP newcomers tended to present more testimonial legitimacy than MM and EB newcomers. This could support the suggestion of the presence of *simpatia*⁵⁰ in SP newcomers, as testimonial legitimacy is often prefaced with personal information, which is common in emotional posts

This analysis **validated** and **expanded** upon existing conceptions of newcomer legitimacy and presented likely **similarities** and **differences**.

Table 34: Summary of findings relative to research questions from testimonial legitimacy sub-category

NBM Sub-category: Testimonial legitimacy	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.7.2. Contextual Legitimacy

Previous research has earmarked the importance of writing about legitimate topics to create newcomer legitimacy in an online community (Galegher et al., 1998). This type of legitimacy was newly categorised as contextual legitimacy in the data. Evidently, this categorisation was categorised as such because this legitimacy was tied to the context of the community. For example, in the three parenting communities analysed, the context of the community and the interactions within were motherhood, pregnancy, childrearing, their estimated due date, the names of their children or reference to their children, bodily changes related to pregnancy or

⁵⁰ See 6.6.1.2

conception, gender of baby and size of foetus. In order for newcomers to legitimate their presence, they needed to post content relative to this context. It is evident from the boundary maintenance category, that if a newcomer deviates from this context the community does not react positively. Contextual legitimacy was exhibited by newcomers in all three communities through context-specific content in their postings.

Extract 29: Example of contextual legitimacy

Hi just wondering if anyone is expecting triplets? And what you hospital plan is... I only found out at 10 weeks and there is confusion in the hospital... Is there anyone else expecting triplets?

<Newcomer 14: EB>

Contextual legitimacy can also be linked to Fayard and DeSanctis (2010) understanding of legitimacy, whereby when newcomers refer to a previous post via quoting or discussion. Referring to the context of the community in their posts shows that they are aware of the community discussion, and their post is grounded and legitimate in the eyes of others. Each posting categorised as contextual legitimacy was replied to by other community members showing that contextual legitimacy elicited positive responses from the community. There were no cross-cultural differences identified of note in contextual legitimacy between the three communities with most newcomers posting on-topic and presenting context specific posts.

Table 35: Summary of findings relative to research questions from contextual legitimacy sub-category

NBM Sub-category: Contextual legitimacy	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.7.3. Lurking legitimacy

Galegher et al. (1998) described how newcomers presented legitimacy through referencing 'lurking' in their posts. In most active and established communities, newcomers can lurk for periods of time prior to interacting with the community. It is in these periods of lurking that newcomers learn the norms, values, language and structure of a community. 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 up their own content.

Some newcomers also described themselves as a community lurker prior to posting their first post. Their lurking experiences were generally positive, and this description of being a lurker also gave legitimacy to their community presence. By explaining that they have already had experience of community activities, norms and values, this provides legitimacy to them being accepted as a community member. It also shows that the newcomer has been somewhat acculturated into the community structure and communication prior to posting. This ties in with contextual legitimacy, in that the newcomer would have lurked and seen that contextual information is important. In the absence of this lurking experience, the newcomer does not post, and it is only when they feel they can post context-specific posts do they de-lurk and attempt to present legitimacy.

Extract 30: Example of lurking legitimacy

Llevo varias semanas entrando en el foro y leyendo y al fin me he animado a participar.<

Newcomer 13: SP>

Translation: I have spent a few weeks going into the forum and reading and finally I have been motivated to participate.

By presenting this information to the community, existing members are made aware that the newcomer has already researched community norms and values, which lends legitimacy to their community postings. There were no differences of note between the three communities and their lurking legitimacy behaviour.

Table 36: Summary of findings relative to research questions from lurking legitimacy sub-category

NBM Sub-category: Lurking legitimacy	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.7.4. Geographical and Cultural Legitimacy

Analysing the broad category legitimacy, it was noted that newcomers tended to mention both geographical and culturally specific content in their primary interactions with the community. For example, many newcomers mentioned place names (i.e. Brisbane, Sydney) or gave details of the names of local hospitals, fertility specialists or home locations. This gave the community information as to the location of the newcomer, demonstrated that they had a common geographical interest, and provided a clearer understanding of their offline identity. By sharing this information, the newcomer is showing that they are members of the cultural location in which the community bases itself within, and legitimates their community presence because of this cultural membership. Interestingly, this was common to all three communities and was almost a prerequisite for initial interactions. This emergent category was termed geographical legitimacy because of the strictly geographical nature of the content (i.e. place names).

Extract 31: Example of geographical legitimacy

Hi magic mums, im new to this so i suppose i should introduce myself :) I have recently just moved from Wicklow to Offaly. <Newcomer 11: MM>

However, it was also found that newcomers mentioned non-geographical cultural artefacts during their initial community interactions such as culturally specific abbreviations (i.e. Para, ECCE, 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). Newcomers presenting these types of explicit cultural artefacts showed that they had cultural commonalities with the community which in turn legitimated their community membership. This emergent category was termed cultural legitimacy⁵¹.

It was interesting that in comparing geographical legitimacy between the three communities the SP newcomers did not exhibit as much geographical legitimacy as the other communities. It is suggested that the use of the Spanish language was a legitimisation strategy that incorporated both geographical and cultural legitimacy (i.e. because they were using a culturally specific language they did not have to be as explicit about cultural or geographical legitimacy). Rather than having to be explicit about their geographical and cultural legitimacy, it was inherent in their language.

⁵¹ It is important to note that cultural and geographical legitimacy were identified within culturally-specific communities. It is outside the scope of this research to determine whether this also occurs within non-culturally-specific communities but the generalisability of the research is discussed in 7.4.1.2.

Table 37: Summary of findings relative to research questions from geographical and cultural legitimacy sub-category

NBM Sub-category: Geographical and cultural legitimacy	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.7.5. External Legitimacy

A less common but still relevant form of legitimacy that emerged from the data was external legitimacy. This was the use of external sources to legitimate a newcomer's identity. Reference to personal blog sites, social media channels, WhatsApp Groups 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.

Extract 32: Example of external legitimacy

For any of you gardeners on the thread or flower fans, feel free to enter my giveaway that I am hosting on my blog at the moment [website link] <Newcomer 14: MM>

In an interesting example of external legitimacy, newcomer 16 is recognised by an existing community member from another forum, and their presence is legitimated.

Extract 33: Example of external legitimacy

Yeah, that's me too. Both boards are the most intelligent in terms of discussion of 'The Mole' on the web. So thought I'd join both. <Newcomer 16: EB>

The newcomer follows this post by a very long and detailed post showing that this legitimation has given her confidence to post again in the community. By presenting these external sources to the community, existing members could verify the identity of the newcomer thus providing legitimacy to their community presence. No differences were identified in the newcomers and their presentation of external legitimacy. Rather than highlighting difference, the cross-cultural analysis served as a vehicle for understanding legitimacy in online community newcomers.

Table 38: Summary of findings relative to research questions from external legitimacy sub-category

NBM Sub-category: External legitimacy	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	
RQ5: Expand theory	x

Further investigations of legitimacy have resulted in the development of a newcomer legitimacy model⁵². This is detailed in 5.9.2.2.

5.5.8. Social Expression

Online community members display social expression in their interactions with other members through making self-introductions, initiating off topic conversations, and citing personal examples (Chua & Balkunje, 2013; Ma & Yuen, 2011). Social expression satisfies the need to belong to a group in order to retain interpersonal relationships. The analysis of sub-categories aligned with social expression demonstrated that the data not only **validated** previous theory but also **expanded** upon previous conceptualisations of newcomer socialisation. In addition the results present likely **similarities** and **differences** between newcomer behaviour from different cultural origins.

5.5.8.1. Introduction threads

A common social expression for newcomers in two of the communities (MM and EB) was to post an introduction thread or post in an introduction specific sub-forum ('New Members – Introduce Yourself' (MM) or 'Newbies Comfy Couch'(EB)). This behaviour was previously identified in the literature (Dove et al., 2011). These forums ask new users to introduce themselves, describe whether they are a parent, pregnant or trying to conceive, and how they found the community. It also asks newcomers to read the forum rules and directs them to a page that explains the multitude of acronyms used by community members. It is of interest that this thread requests personal information from the newcomer, and places a boundary for

⁵² A paper on this model is currently under revision following a review from the Journal of Computer Mediated Communication.

newcomers to pass before allowing them to post. Newcomers need to be a parent, pregnant or trying to conceive to be permitted to post in the community.

Extract 34: Example of the first post in the Magic Mum introduction thread

"Hello and welcome to magicmum :D Before starting to post please take the time to introduce yourself (number of children/pregnant/TTC etc) and tell us how you heard about magicmum. Also have a look at the forum rules before venturing onto the rest of the boards! Check out the other threads in the Announcements forum for some useful site info (on how not to see the tickers for example or a list of frequently used abbreviations). Then jump right in! Hope you enjoy using the boards and see you around!" <Existing Member 8: MM>

The newcomers who posted in these threads provided this detailed personal information to the community.

Extract 35: Example of an Essential Baby newcomer posting in an introduction thread

My name is newcomer 17 and I am mummy to 2 gorgeous little monkeys. My eldest is 6 going on 16 Aurora who is as much of a princess as her name suggests. I live north of adelaide and im looking forward to sharing the ups and downs with some people who are going through the same trials and tribulations as myself <Newcomer 17: EB>

However, these threads had very little responses from existing users. Rather than being a thread for communication, it is an online space for newcomers to present themselves to the community, legitimate their online identity, and demonstrate their rationale for wanting to become a member.

Of interest, it was identified that there were no individual introduction threads, posted by SP sampled newcomers, within the SP 'Introductions' sub-forum. Although there is a 'Presentaciones' sub-forum in SP (translation: Introductions), it is little used in comparison with the other communities⁵³. SP introductions were almost always made within pre-existing threads rather than in new threads, and they always presented demographic and personal information (e.g. age, location, due date, whether they already have children, children's names, relationship status) as well as their rationale for being in the community (e.g. I am looking to get pregnant, I want support) in these threads. This is an interesting finding, as it could possibly show evidence of how individualist and collectivist newcomers behave differently in

⁵³ This was investigated by looking at the total number of threads in each of the three communities within these sub-forums. SP had only 215 threads in their Introductions sub-forum compared with 3,500 threads in MM and 5,300 in EB.

introducing themselves in online communities. This likely difference manifests itself by SP newcomers presenting or introducing themselves within existing community, whereas EB and MM newcomers present themselves in external introduction threads and are then invited in (see 5.5.2.1 for more details on information seeking location which has explored similar findings).

This analysis has **validated** existing theory on the behaviour of newcomers in introduction threads, and the cross-cultural analysis has **expanded** its understanding by presenting **differences** in newcomer behaviour across cultures.

Table 39: Summary of findings relative to research questions from introduction threads sub-category

NBM Sub-category: Introduction threads	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.8.2. Greetings

A linguistic element previously identified by newcomer theorists was the use of greetings by newcomers in their social expressions (Weber, 2011). This is interesting newcomer behaviour as it is uncommon for existing community members to use this method of beginning and ending posts, and yet it is almost a ritual for newcomers to do so. Both valedictions and salutations were common greetings, as well as some newcomers signing off their posts with real names.

Salutations such as 'hi, hello', 'hola', 'saludos' and 'buenos dias' and valedictions such as 'thanks, many thanks, bye', 'thanks', 'TIA', 'Thanks in advance', 'thanks guys', 'thanks for your time', 'cheers', 'thank you ladies, much appreciated' at the end of newcomer posts were very common. The salutations were often accompanied with community focused words such as 'everybody', 'girls', 'all', 'ladies', 'fellow members' and 'Magic Mums', 'Hola a todas' (translation: Hi to all) or 'Un beso a todas' (translation: a kiss for all).

Valedictions are often accompanied by terms of endearment such as ‘xxx’ (in particular in the SP community) and pre-acknowledgement terms such as ‘Thanks’, ‘Gracias de antemano’ (Thanks in advance) and ‘Thanks everyone’.

Extract 36: Example of newcomer greetings

Hi boardy, I am new to this site , what Is the best way to get you my address For the cards as my son needs a fair few of them Thanks heaps for this Cheers <Newcomer 18: EB>

This shows that the newcomers are thanking the community before actually receiving information. This could be identified as a strategy for eliciting response from the community, as in addition, some valedictions were also accompanied with hope of engagement.

Extract 37: Example of newcomer valedictions

“Look forward to speaking to you all” – Taryn <Newcomer 19: EB>

“Any help advice anything at all is gratefully appreciated. <Newcomer 20: EB>

In these greetings, the community was referred by newcomers as ‘chicas’, ‘ladies’, ‘nenis’, ‘girls’, ‘ninas’ and ‘mamas’. What was interesting about this finding was the identification of community members as mothers and women. This shows that when the newcomers greet the other members they have already formed an idea of what the identity of the member is – female and a mother. In addition, the newcomers would almost always wish the community well at the end of their posts – referencing the collective community. It seems that newcomers are coming prepared and know what the community is like before posting for the first time (i.e. lurking).

This analysis **validated** existing theory on newcomer social expression and showed that there were similarities in this type of social expression between online community newcomers from different cultural origins. There were no cross-cultural differences of note in greetings between the three communities.

Table 40: Summary of findings relative to research questions from greetings sub-category

NBM Sub-category: Greetings	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x

RQ4: Validate theory	x
RQ5: Expand theory	

5.5.8.3. Sharing personal experiences and examples

Another major theme identified in the research was the incidence of newcomers sharing personal examples and experiences. This was previously highlighted in the sub-category testimonial legitimacy; however it was also present within the social expression category in a different guise.

This sub-category was present in all three communities, and personal examples were context specific and stayed on topic. Newcomers expressed themselves via personal examples about their experiences, their life, their children, their pregnancy, and their attempts at conception. It became apparent that it was an unwritten rule that newcomers must post some personal examples or information about themselves before posting, with the often addition of geographical and cultural information, in order to gain community acceptance.

Extract 38: Example of a newcomer sharing personal examples to the community

My son attends the Dietician in Sligo Hospital. He is quite small and has poor appetite. They recommend Sona Multiplus with Iron (...). I have tried lots of different tonics but when I give him his appetite increases almost immediately. Hope this helps. <Newcomer 17: MM>

Another example of this behaviour is in the TTC and Due In lists. Newcomers are added to a list of members with their ovulation or pregnancy dates. Not only are they providing information to the community, but that information is recorded alongside the other members, cementing the newcomer into the community.

It was also apparent that newcomers were using inclusive phrases such as 'like me' or 'we have the same due date' or 'we are similar'. This description of perceived shared personal experiences and understanding suggests an example of social acceptance, community integration and newcomer socialisation. Through the newcomer showing that they have had personal experiences shared with the community members, this demonstrates that they are willing to integrate with the community. It also provides evidence of contextual similarities in the content they are sharing.

Extract 39: Example of a newcomer providing inclusive shared personal examples

Footbolista, no sabes cómo te entiendo. Estoy en una situación parecida. <Newcomer 14: SP>

Translation: Futbolista, you don't know how much I understand you. I am in a similar situation.

This provision of personal examples provides legitimacy to their posts and demonstrates to the community that the information they are giving is relatable, potentially truthful and supports their opinions. Personal examples also crossed over many of the other categories including knowledge sharing, emotional disclosure, legitimacy, greetings, information process and socialisation.

This analysis **validated** existing theory on sharing personal experiences. There were no cross-cultural differences identified in sharing personal experiences and examples between the three communities. This determined that this type of newcomer behaviour was similar across all of the cultures analysed.

Table 41: Summary of findings relative to research questions from sharing personal experiences and examples sub-category

NBM Sub-category: Sharing personal experiences and examples	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	

5.5.9. Community Responsiveness

How a community responds to newcomers is key to understanding community development, newcomer integration and user growth (Kraut et al., In Press). Community responsiveness was analysed via posts responding to newcomer threads from existing members. The analysis of sub-categories aligned with community responsiveness demonstrated that the data not only **validated** previous theory but also **expanded** upon this previous theory. In addition the results present likely **similarities** between newcomer behaviour from different cultural origins.

The next series of sub-thematic categories do not refer to the behaviour of newcomers, but rather to the behaviour of existing community members towards newcomers. This was a very important analysis, as it investigated newcomers from a different perspective and generated theory guided from this perspective.

5.5.9.1. Inclusion strategies

Inclusion strategies have been previously identified in the literature as important tools for integrating newcomers (Millen & Patterson, 2002). A welcome/introduction forum or thread was a common inclusion strategy present in all three communities. This contained various levels of forum information, acronym dictionaries, community norms, and technical guidance (i.e. how to post up a picture). However it was interesting that there was a great deal more information for newcomers in the EB and MM community than the SP community. Although there are some structural information threads (i.e. Como poner mi foto; translation: how to upload my photo) there is no thread explaining acronyms or explaining the aims of the community. The SP administrators were very hands off and left it in the hands of the SP community itself to build the relationships with newcomers. This is a testament to the influence, commitment and strength of existing SP community members and how they include newcomers without the help of a higher power or moderator. It also would seem that the particular strength of online community from a collective nation, such as Spain, is emerging in this analysis. However, this finding does warrant additional research to fully determine this finding.

Existing members used strategies to include newcomers through acknowledging their resources, welcoming them to the community, inviting them to join in, and asking for further details from the newcomer (Joyce & Kraut, 2006). These all incited further responses from newcomers. Existing members also guided newcomers to correct forums and helped them adapt to community norms and structures.

Extract 40: Example of inclusion strategies by existing community members

Congratulations on your twin pregnancy. We have a Multiples section which can be found here. We also have an Expecting Multiples thread which can be found here in the Specialised Pregnancy Section. Hope that helps and congratulations again.<Existing Member 6: EB>

Some existing members also use inclusive terms such as 'sharing' and 'similar' and offer private messaging to newcomers about specific topics.

Extract 41: Example of inclusion strategies by existing community members

Welcome aboard, glad to see I have someone to share the next 7 months with :-)<Existing Member 8: EB>

Another example of inclusion is how existing users acknowledge newcomers. Welcoming is a very common tactic, as is using usernames within the post and smilies. Using the newcomer's

username is common, and is important as it shows the newcomer that their identity is now within the community. In other words, they see themselves within the discussion and are no longer external lurkers but now within the community.

Extract 42: Example of existing community members acknowledging newcomers

Hi Newcomer 12. Welcome to EB. <Existing Member 9: EB>

Existing members were not shy about responding to community-specific requests (i.e. clarification of community specific norms) and asking questions to try and get newcomers to participate:

Extract 43: Example of existing community members getting newcomers to interact

Newcomer 6 (bienvenida por cierto, jeje), no se tu fecha de no llegada, si es que la quieres decir, te he puesto en la lista pero donde me ha parecido, sin fecha jjeje. Si quieres que aparezca dime vale? <Existing Member 10: SP>

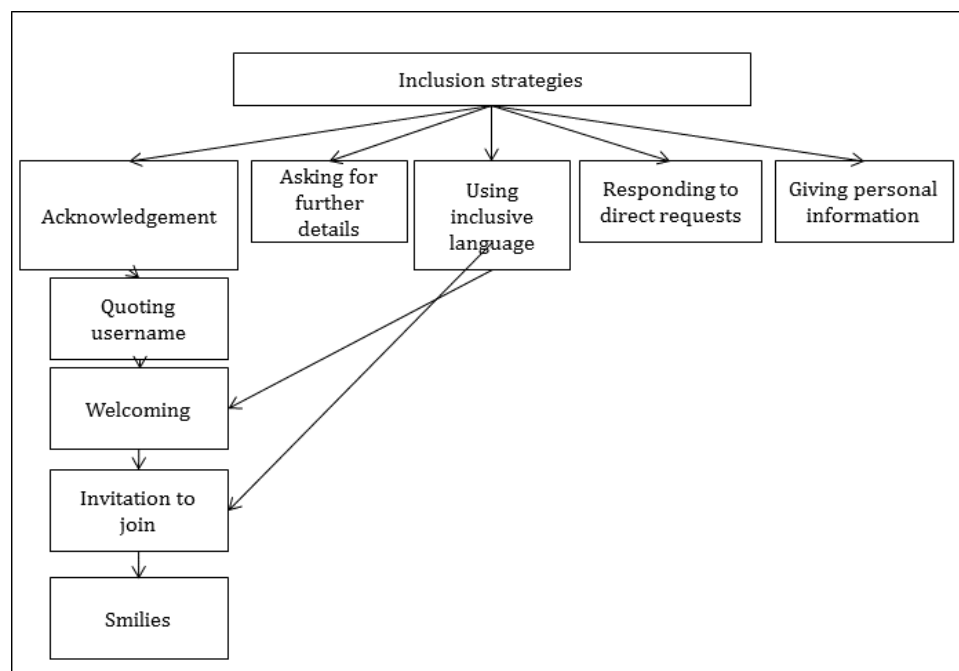
Translation: Newcomer 6 (welcome by the way haha) I don't know your due date, if you want to say it, I have put you on the list without a date. If you want it to appear up on the list tell me it ok?

What was particularly interesting about the SP community was that the community was very inclusive to newcomers, in particular in the TTC and EDD threads. No newcomers sampled that contributed to these threads were ignored, and all were welcomed in to the community. Most newcomers were welcomed by existing members quoting their username followed by 'bienvenida!' (translation: welcome) and a description of what the community does. The use of the plural tense 'nos' 'we' and 'todo el mundo' is also used a great deal, which shows how important community is rather than just individual members.

The community often ask personal questions about the newcomer in their welcoming posts, i.e. where they are from, how long they have been trying for a baby, and where they got their information from. This further questioning is a good tactic for retaining newcomers, and newcomers often continue to post because of this further questioning. It is posited that SP community was more inclusive to newcomers than MM and EB, which was somewhat supported by the data where inclusive language was more common in the SP community. However, more

research into inclusiveness rather than inclusion strategies would be needed to fully support this finding.

Figure 30: Inclusion strategies sub-categorisation used by existing members to integrate newcomers



This analysis has **validated** existing theory and **expanded** upon current conceptions of community inclusion strategies through developing a sub-categorisation of this behaviour. In addition it has shown that there are cross cultural **similarities** and **differences** in inclusion strategies.

Table 42: Summary of findings relative to research questions from the inclusion strategies sub-category

NBM Category – Inclusion strategies	
RQ1: Differences between cultures	x
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	x

5.5.9.2. Personal opinions, advice and problem solving

Existing members gave responses to newcomers in the form of personal opinions, advice and resources. These were in an array of different topics, but mainly referred to parenting and childcare. Many of these types of responses were supported by personal experiences, anecdotes or reference to URLs.

Extract 44: Example of an existing MM member providing personal advice to a newcomer

We're facing the same situation. What we did for preschool is stick an add in gumtree to get someone to pick the kids up and look after them until we got home from work. <Existing Member 10: MM>

These contributions are largely positive and supportive to the newcomer, and some of these posts used 'Good luck' or 'I wish you the best' valedictions at the end. This was interesting as the data suggested that these valedictions were not used between existing members, only between newcomers and existing members. This would seem to suggest that existing members present a greater level of politeness to newcomers than to existing members. In addition, the support given is an example of other-directed emotional disclosure by the existing members.

Extract 45: Example of an existing SP member providing support to a newcomer

Newcomer 24...mucho ánimo! no sabes lo que te entiendo; a mí ya me pasó en varias ocasiones retrasarse unos días y TE negativos! Ojalá sean negativos porque aún no detecta la hormona... y si es que no... que te baje cuanto antess!. <Existing Member 11: SP>

Translation: Newcomer 24... Loads of support for you! You don't know how much I understand you. That happened to me lots of times when I had negative pregnancy tests.

Existing members also showed problem solving skills when addressing information seeking questions posed by newcomers. They accompany the problem solving with their own personal information.

Extract 46: Example of an existing member problem solving a newcomer's question

"It'll sort itself out in time. You could try her in a 'big' toddler bed and she might stay put. All mine hated their cots and came out of them around 12 months." <Existing Member 11: EB>

This analysis **validated** existing theory on newcomer interactions with a community. There were no cross-cultural differences in personal opinions and support from existing community members between the three online communities.

Table 43: Summary of findings relative to research questions from personal opinions, advice and problem solving sub-category

NBM Sub-category – Personal opinions, advice and problem solving	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	

5.5.9.3. Emotional support

Existing members often provided emotional support for newcomers, as has been determined in the literature (Arguello et al., 2006)⁵⁴. This support was again commonly supplemented by personal information. Members of the SP community would often use flowery terms of endearment (e.g. in SP 'carino' (sweetheart), 'un besazo' (a big kiss)) which were directed

⁵⁴ It is understood that the communities used for this research were gender specific and could have had an impact on the results, in particular, in the emotional support category. A full discussion on this is available in 7.4.1.1.

singularly to the newcomer. In addition the existing members would provide some support for mental issues such as anxiety and stress.

Extract 47: Example of an existing member providing emotional support to a newcomer

It is good to keep an eye on your breasts into the future but these are extremely common, please do not panic. Good luck <Existing Member 12: EB>

In the TTC threads there are excellent examples of newcomers who are supported by existing members. In one fascinating, but sad, example of this, <newcomer 18> joins the MM TTC thread and tells the community that she is expecting, only to find out in subsequent days that she has lost the baby.

Extract 48: Example of Newcomer 18's interactions in the Magic Mum TTC thread

"Hello there!! im new to MM. Congrats to all who've found out they're pregnant & my sympathies to those who've lost. Its really hard. Im 37 and Ive recently got BFP - 7&half weeks now & have been waiting 5.5yrs for this news. Cried when I saw BFP. I had MC at 10 weeks in april 2008 & nothing since, till now". <Newcomer 18: MM>

"bad news for me on Friday im afraid at epu. Pregnancy stopped just after my scan the previous fri. Myself & DH are gutted" <Newcomer 18: MM>

The community rally around her and give her emotional support.

"Newcomer 18 I am very sorry. I really hope 3rd time is a charm for you. Take care of yourself"
<Existing Member 16: EB>

The community also invite her back in to the thread, showing how giving personal information and sharing personal experiences can help integrate the newcomer into the community.

"I'm so sorry Newcomer 18. Hopefully you'll be back here quickly." <Existing Member 18: EB>

This analysis **validated** existing research on the behaviour of existing members towards newcomers. There were no cross-cultural differences of note in personal opinions and support from existing community members between the three online communities.

Table 44: Summary of findings relative to research questions from emotional support sub-category

NBM Sub-category – Emotional Support	
RQ1: Differences between cultures	
RQ2: Similarities between cultures	x
RQ4: Validate theory	x
RQ5: Expand theory	

5.6. Additional Analyses

Although the majority of this research is qualitative, some additional analyses were conducted to determine whether these analyses could be supported with alternative methods.

5.6.1. NVivo Word Cloud Visualisations

Word clouds are a type of word frequency visualisation where words with greater frequency appear larger than words with smaller frequency. Rather than just presenting a frequency count of words, word clouds offer “semantically meaningful clusters with visually appealing layouts” (Cui et al., 2010, p. 42). NVivo offers a query where word clouds are produced with the removal of certain common ‘stop words’ such as ‘the’ ‘a’ and ‘and’.

When the three word clouds were compared visually, words that supported the information seeking preferences of newcomers such as ‘how’ (como), ‘what’ and ‘when’ were very common. In addition, the plural questioning terms such as ‘anyone’ or ‘alguna’ were also very common. But what was particularly interesting was that in the Ser Padres community, the word ‘todas’ (all of us (feminine)) and ‘chicas’ (girls) was one of the most common words. This demonstrates the community directedness of the Spanish community compared with the Irish and Australian communities, where these types of community orientated words were not as present.

Figure 31: Word cloud visualisations using Magic Mum, Essential Baby and Ser Padres data

method to compare emotional language between newcomer data. The LIWC was run over data from the three online communities, to determine whether the LIWC analysis produced similar similarities and differences in emotional disclosure to the qualitative directed content analysis.

Table 45: LIWC analysis of affective processes, positive emotions and negative emotions categories

LIWC Category	Examples	Ser Padres	Magic Mum	Essential Baby
Affective processes	Happy, ugly, bitter	5.04	4.12	4.21
Positive Emotions	Happy, pretty, good	3.65	2.57	2.8
Negative Emotions	Hate, worthless, enemy	1.18	1.53	1.4

The results of the LIWC analysis found that Spanish newcomers had a significantly higher percentage of “Affective Processes” than Irish and Australian newcomers. According to Tausczik and Pennebaker (2010), this category can be correlated to the psychological correlate “Emotionality”, which in turn is similar to the category from the NBM Emotional Disclosure. In addition, Spanish newcomers exhibited higher levels of positive emotions and lower levels of negative emotions compared with the Irish and Australian newcomers ($p = 0.06$)⁵⁵. This supports the individualism / collectivism dichotomy identified by the directed content analysis as collectivist cultures, such as Spain, exhibit higher levels of emotions and exhibit more positive emotions. This newcomer distinction in emotional disclosure has now been supported both through the content analysis and through the LIWC analysis.

Another useful category in the LIWC dictionary that supported some of the results of the content analysis was the “Tentative” category. The words in this category included ‘unknown’, ‘unclear’, ‘wonder’, and ‘guess’. The LIWC analysis found that the newcomers in Magic Mum and Essential Baby were more tentative than the Ser Padres newcomers. Although it cannot be determined whether the LIWC category relates exactly to the ‘Joining Request’ NBM category, the sentiment of both categories is very similar. It showed that newcomers from individualist cultures, such as Magic Mum and Essential Baby are more tentative and cautious about joining a community than the Ser Padres newcomers.

⁵⁵ A Two Factor ANOVA without replication test was used to determine this significance.

This could also be explained by the individualist / collectivist difference whereby the Ser Padres newcomers present collective behaviour (i.e. not being tentative or cautious in their initial communications with the community because their culture is more community driven) than the Magic Mum and Essential Baby communities. In addition, this difference also is highlighted by Hofstede's uncertainty avoidance dimension which expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. Spain exhibits high levels of uncertainty avoidance compared with Ireland and Australia (see Figure 15) and this short analysis supports Hofstede's categorisation.

Table 46: LIWC analysis of tentative category

LIWC Category	Examples	Ser Padres	Magic Mum	Essential Baby
Tentative	Maybe, perhaps, guess	1.84	2.72	3.2

Another interesting finding from the LIWC analysis was the similarities in many of the LIWC categories between the three communities. Although most of these categories do not relate to the NBM categories it shows that the three samples contained comparable text content across many psychological processes and standard linguistic dimensions. It would be concerning if the three samples were wildly different as the comparability and validity of the text being analysed could be put into question.

Table 47: Similarities in selected LIWC categories across the three communities

LIWC Category	Examples	Ser Padres	Magic Mum	Essential Baby
Assent	Yes, OK, mmhmm	0.5	0.25	0.24
Cause	Because, effect, hence	0.86	0.76	0.81
Anxiety	Nervous, afraid, tense	0.33	0.2	0.38
Anger	Hate, kill, pissed	0.19	0.54	0.29
Communication	Talk, share, converse	1.72	1.66	1.99
Family	Mom, brother, cousin	0.45	0.62	0.47

5.6.3. Validity of Results

Each of the validity tests as presented in Table 11 in Chapter 3 were employed during this cross-cultural comparative analysis. Multiple sources of evidence, a chain of evidence employing

pattern matching (via the NBM), cross case synthesis (via the overview grids), reflective notes, and NVivo files were used. Replication logic using the sampling framework, the case study guide, the NBM categories, the coding agenda and the case study protocol was also employed.

The following sections describe these findings, however, it must be noted that Chapter 6 discusses the implications of these findings in much greater detail.

5.7. Further Model Development

As discussed in Chapter 4, the Newcomer Behaviour Model (NBM) was developed:

- To create theoretical categories for cultural comparison of online community newcomer behaviour.
- To simplify the cultural comparison process by limiting categories for comparative analysis.
- To ensure that a rigorous method was implemented to select newcomer behaviour for comparison.
- To contribute a model to the online community research field that could explain and frame newcomer user behaviour.
- To help clarify large amounts of text contained within the online communities being analysed.

The NBM was successful in achieving these aims as presented in Chapter 5. However, as the research developed, it was found that additional models could be created on the basis of these results. Some of these models have already been described in Chapters 4 and 5 (i.e. the Legitimacy models), but further model development post data analysis has also been realised. These are culturally specific models that expanded upon the initial NBM using the similarities and differences identified in newcomer behaviour from the data analysis. Although some of the elements of this chapter could be argued as better placed within the Discussion chapter (i.e. summary of findings), due to the construction of additional model elements using the findings, it was decided to separate these models, along with the summary of findings, into this chapter for increased clarity.

The following sections aim to:

- Present models of newcomer behaviour relative to existing cultural theory.
- Discuss additional models developed during the data analysis.
- Discuss model validity and application.

5.7.1. Research Aims and Questions

Referring back to the research aims and questions in Chapter 1, these sections address the secondary research aim SA4 and the research question RQ6:

- SA4: Develop new models, categorisations and understanding of online community newcomer behaviour derived from the cross-cultural analysis.
- RQ6: Can **models of newcomer behaviour** be developed to explain, explore and describe national cultural differences in online community newcomer behaviour?

The chapter also includes an analysis and discussion of cultural theory which relates to RQ3:

- RQ3: Can existing cultural theories **explain the similarities and differences in newcomer behaviour** found in online communities from different national cultural origins?

In addition, the summary of findings addresses:

- RQ1: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?
- RQ2: Are there **similarities** in newcomer behaviour across online communities from different national cultural origins?
- RQ4: Does a cross-cultural comparative analysis of online community newcomers **validate** and **support** existing theory?
- RQ5: Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory?

5.7.2. Validation and Expansion of Existing Newcomer Theory

These first set of findings relate to validating and expanding on existing newcomer theory. The cross cultural comparative analysis found that all of the NBM higher level categories (8) and NBM sub categories (18) that were derived from previous theory were validated by the analysis. This means that all of the newcomer behaviours identified in the literature, were present within the analysis. Some initial implications of these findings are that existing theory is validated and supported by the cross cultural analysis, and that the presence of these theoretically derived themes within the data validates the data sample. It would be concerning if any of the theoretical elements identified by the literature were not present within the data, however, all of the categories were present. This adds validity and support to the NBM, to existing theory, and to the samples selected. In addition, the strength of existing newcomer theory is supported by the presence of it within the community data from three difference cultures. Not only does this support the theory by itself, but it also expands the generalisability of theory by demonstrating that it is present within communities of differing cultural origins.

In addition, 8 NBM higher level categories and 20 NBM sub-categories, developed by existing theory and emerging from the analysis, were expanded upon, either by refining or re-categorising existing theory or expanding theory in a cross-cultural context. The refinement and re-categorising of existing theory included:

- A new sub-categorisation of newcomer information giving behaviour.
- A new sub-categorisation of newcomer questioning and help seeking behaviour.
- A new sub-categorisation of cross cultural differences in joining requests in newcomers from different cultural origins.
- A new sub-categorisation of newcomer conceptions of personal identification as a newcomer.
- A new sub-categorisation of newcomer social acceptance behaviour.
- A new sub-categorisation of the rationale behind newcomer no response threads.
- A new sub-categorisation of boundary maintenance attributes.
- A new sub-categorisation of newcomer legitimacy.
- A new sub-categorisation of newcomer inclusion strategies.

One major implication of these findings is that the cross cultural methodology is not just a tool for determining cross cultural differences, but also for validating and expanding existing theory. It is evident from these particular findings that the cross cultural methodology was very useful for refining and re-categorising existing theory. However, it could be argued that if three online communities of the same cultural origin were used, could the same results have appeared (i.e. if a purely comparative methodology was chosen)? It is possible that the expansion of existing theory could have been aided by any three online communities, be them culturally different or similar, however, the presence of multiple cultures in the analysis lends itself to additional expansion which is seen in the findings from the similarities and differences in newcomer behaviour across national cultures.

5.7.3. Similarities and Differences in Newcomer Behaviour

The cross-cultural comparative data analysis has cautiously demonstrated that there are both similarities and differences in online community newcomer behaviour across different national cultures. These findings were derived from using directed content analysis through the NBM framework. What is particularly important about these findings is not only that there are differences identified in newcomer behaviour across different national culture online communities, but also that the similarities support existing research on newcomer behaviour.

Thirteen differences were identified in the NBM sub-categories between the Spanish, and the Irish and Australian newcomers during the cross-cultural comparative analysis. Differences in information seeking, supplication, joining requests, self-directed emotional disclosure, other-directed emotional disclosure, community specific language, structure and norms, resource acknowledgement, politeness, geographical legitimacy, cultural legitimacy, testimonial legitimacy, introduction forum usage and inclusion strategies were uncovered in the data.

In 25 NBM sub-categories, there were similarities in newcomer behaviour across both all three communities or between two communities, namely, information seeking and giving, supplication, questioning and help seeking, joining request, both types of emotional disclosure, community specific language, resource acknowledgement, clarification and further questioning, politeness, identification as a newcomer, no response threads, boundary maintenance, contextual legitimacy, lurking legitimacy, external legitimacy, geographical and cultural legitimacy, testimonial legitimacy, introduction threads, greetings, sharing personal experiences and examples, community inclusion strategies, community personal opinions, advice and problem solving, and community emotional support.

Looking back to the literature review, the differences identified are suggested to be related back to elements of cultural theory such as individualism/collectivism and simpatia. These findings are now applied to existing cultural theories in order to focus the research, provide a meaningful context, and broaden the scope of the findings.

5.7.4. Application to Cultural Theory

One of the key research questions that emerged during the analysis was whether cultural theory could explain the similarities and differences in newcomer behaviour. In Chapter 2, various cross-cultural theorists and their contributions were introduced such as Hofstede and Hall. In the following sections, their theory will be used to explain the findings from the data analysis and describe the implications of the research relative to these theories. More detail on the implications on this application to cultural theory will also be provided in Chapter 6 but it is important to provide some brief detail here in order to contextualise the cultural models developed.

5.7.4.1. Hofstede (2001)

Within online community literature, individualism and collectivism have been often used to explain user behaviour (Chou et al., 2009; Fong & Burton, 2008; Hara et al., 2010; Karl et al., 2010; Pfeil et al., 2006; Talukder & Joham, 2009), and this research further supports this theoretical relationship. As is evident from the analysis, Hofstede's (2001) individualism-

collectivism cultural dichotomy is the most apparent difference manifesting itself within the categories of newcomer behaviour in the three online communities. As discussed in Chapter 2, individualism and collectivism are theoretical conceptions of cultural behaviour. Collectivism has been linked to the idea of ‘concern’, and the more concern and bonds an individual has to another, the more collectivist they are. In other words, the less concern an individual has for another, the less bonds they have, and the more individual they are (Hui & Triandis, 1986). This cultural dichotomy has been identified by some psychologists and cultural theorists as the most significant cultural difference and is, in effect, the ‘deep structure’ of cultural difference (Greenfield, 2000; Triandis, 1996)⁵⁶. The results from the data analysis showed that the differences between many of the newcomer behaviours in the NBM seem to mirror the key variables present within the individualism/collectivism divide (i.e. Spanish newcomers present collectivist behaviours and Irish and Australian present individualist behaviours).

Individualist and collectivist specific behaviours were exhibited by newcomers from the Irish and Australian (individualist) and Spanish (collectivist) cultures. These behaviours were conceptualised via the NBM categories and included varying behaviour in information seeking location, supplication, joining requests, emotional disclosure, norm adherence, politeness, geographical and cultural legitimacy, introduction forum usage, and strategies for newcomer inclusion. Spanish newcomers tended to behave in a collectivist manner within these categories, while Irish and Australian newcomers behaved in an individualist manner. For example, Spanish newcomers exhibited greater emotional disclosure, supplication and politeness, in line with collectivist elements. Irish and Australian newcomers presented opposing behaviours in line with individualist elements.

Another cultural dimension identified by Hofstede that could be used to explain differences in the results from the data analysis was power distance. This is how accepting the less powerful members of a society are to the unequal distribution of power. Previous research found that higher levels of politeness were exhibited in online community users from high power distance countries such as Spain (Hofstede Power Distance Scale: 57), than in lower power distance countries such as Ireland (Hofstede Power Distance Scale: 28) and Australia (Hofstede Power Distance Scale: 36) (Hara et al., 2010). This research suggests that this is also the case in online community newcomers.

However, it is important to comment that the conceptualization of differences using Hofstede’s dichotomies can also be problematic. As discussed in the literature review, Hofstede’s research

⁵⁶ Although many of these theorists use quantitative instruments to examine these differences, their theory can help guide the results from this thesis.

was concentrated within the organization theory sector rather than in the online community space. Although a large number of academic papers within this field are using Hofstede for this type of conceptualization, it needs to be questioned whether his theories are suitable for understanding these behaviours in the online space. Within the context of online community cross cultural studies, Hofstede is the key theorist used for understanding differences between users. It remains to be seen whether other theories could be used to explain these cultural differences. However, within the scope of this research, his theories have been used because of their use by literature within the research space in which this thesis is positioned. A further discussion of this is available within 6.3.1.1.

5.7.4.2. Simpatia

Another method of interpreting social interactions via a cultural lens is through cultural scripts. These are commonly held assumptions about social interactions from a particular culture; in effect what are an individual's mental images of acceptable modes of behaviour or how people think about social interaction. Rather than predicting behaviour, cultural scripts are learned patterns for framing cultural values and beliefs (Holvino, 2010) and are used for interpretation and evaluation.

Simpatia is a cultural script attributed to Hispanic people whereby individuals strive to promote harmony, politeness and respect, and aim to avoid conflict. There is an emphasis on positive behaviours, being sympathetic and agreeable (Ramírez-Esparza et al., 2008). In analysing some of the newcomer behaviour differences emerged from the data analysis, it was evident that the cultural script of Simpatia was being presented by the Spanish newcomers. Simpatia was exhibited in Spanish newcomer inclusion, joining requests, politeness, emotional disclosure, and boundary maintenance. These newcomer behaviours were markedly different from the behaviours presented by the Irish and Australian newcomers, and highlighted how Simpatia was exhibited in Spanish newcomer behaviours.

This discovery that Spanish newcomers present Simpatia in their online community interactions is an important finding. Not only does it show that there are differences between Spanish, and Irish and Australian newcomers, but it also relates these differences to existing cultural theory. This further supports the findings from the data analysis, and gives more concrete evidence for the interpretation of variations of behaviour between newcomers from different cultures.

5.7.4.3. Hall (1977)

A third cultural theory used to understand newcomer behaviour differences was Hall's (1977) contextuality. His cultural theory has been previously used to explain online community behaviour in different contexts (Choi et al., 2011). High context cultures, such as Spain value politeness, convey information implicitly and rely on non-verbal symbols. In contrast, low context cultures, such as Australia and Ireland are explicit in their communications and value directness. In four of the sub-categories, evidence of difference can be related to this theoretical construct namely politeness, geographical legitimacy, cultural legitimacy and introduction threads.

Firstly, the thematic analysis showed that Spanish newcomers were more polite than the Australian and Irish newcomers. This difference is supported by Hall's conception of contextuality. Secondly, related to Hall's understandings of explicit communication practices, the Irish and Australian newcomers tended to use the Introduction threads to introduce themselves to the community and be explicit about their presence in the community. In contrast, the Spanish newcomers used these threads less and entered into the community without having to be explicit about their presence. This supports Hall's theory that high context cultures convey information implicitly. Thirdly, the Irish and Australian newcomers were explicit about their cultural and geographical background through describing where they were from, or by referring to cultural artefacts. The Spanish newcomers did not present this behaviour as much and Hall's theory of contextuality could explain why. It could be suggested that the Spanish newcomers did not feel that they needed to be explicit about their cultural heritage because of their high context background.

The implication of the results relative to cultural theory has shown that the similarities and differences of online community newcomer behaviour can be related back to cultural theory. The support that cultural theory gives to the findings is an important one. Rather than only using the data as evidence of difference, existing cultural theory gives backing to the findings from previous peer-reviewed research. This implication can be expanded one step further by the development of theoretically derived cultural-specific models of newcomer behaviour.

Table 47 describes the similarities and differences identified in the data analysis in line with existing cultural theory. The table is divided up into columns which describe the similarities and differences, and introduce the cultural theory that explains and supports some of the findings. It is important to note that the similarities described are those between the individualist Irish and Australian newcomers (IE & AUS), and the differences are those between the collectivist

Spanish, and the individualist Irish and Australian newcomers (IE & AUS / ES). Where there are no differences specified, the similarities are between all three communities (IE, AUS & ES).

Table 48: Summary of similarities and differences with support from cultural theory

NBM Category	Similarities	Differences	Support from cultural theory
Information Process	Yes (IE & AUS)	Yes (IE & AUS / ES)	
Information Seeking	Yes (IE & AUS)	Differences in information seeking location between Spanish and Irish/Australian newcomers.	Collectivism / Individualism
Information Giving	Yes (IE, AUS & ES)	None	
Conversation Strategies	Yes (IE & AUS)	Yes (IE & AUS / ES)	
Supplication	Yes (IE & AUS)	Differences in presenting supplication behaviour between Spanish and Irish/Australian newcomers.	Collectivism / Individualism
Questioning and Help Seeking	Yes (IE, AUS & ES)	None	
Joining request	Yes (IE & AUS)	Differences in presenting joining requests between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Simpatia Contextuality (value directness)
Emotional Disclosure	Yes (IE & AUS)	Yes (IE & AUS / ES)	
Other-directed	Yes (IE & AUS)	Differences in presenting other directed emotional disclosure between Spanish and Irish/Australian newcomers.	Simpatia Collectivism / Individualism
Self-directed	Yes (IE & AUS)	Differences in presenting self-directed emotional disclosure between Spanish and Irish/Australian newcomers.	Simpatia Collectivism / Individualism

NBM Category	Similarities	Differences	Support from cultural theory
Socialisation	Yes (IE & AUS)	Yes (IE & AUS / ES)	
Community Specific Language, Structure and Norms	Yes (IE & AUS)	Differences in norm adherence between Spanish and Irish/Australian newcomers. Differences in the construction of acronyms between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Simpatia
Resource Acknowledgement	Yes (IE, AUS & ES)	None	
Clarification and Further Questioning	Yes (IE, AUS & ES)	None	
Politeness	Yes (IE & AUS)	Differences in levels of politeness between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Simpatia Contextuality Power Distance
Identification as a Newcomer	Yes (IE, AUS & ES)	None	
Social Acceptance	Yes (IE, AUS & ES)	None	
No Response Threads	Yes (IE, AUS & ES)	None	
Boundary Maintenance	Yes (IE, AUS & ES)	None	
Legitimacy	Yes (IE, AUS & ES)	Yes (IE & AUS / ES)	
Testimonial Legitimacy	Yes (IE, AUS & ES)	None	

NBM Category	Similarities	Differences	Support from cultural theory
Geographical Legitimacy	Yes (IE & AUS)	Differences in presenting geographical legitimacy presentation between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Contextuality
Cultural Legitimacy	Yes (IE & AUS)	Differences in presenting cultural legitimacy presentation between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Contextuality
Contextual Legitimacy	Yes (IE, AUS & ES)	None	
Lurking Legitimacy	Yes (IE, AUS & ES)	None	
External Legitimacy	Yes (IE, AUS & ES)	None	
Social Expression	Yes (IE, AUS & ES)	Yes (IE & AUS / ES)	
Introduction Threads	Yes (IE & AUS)	Differences in introduction forum usage between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Contextuality
Greetings	Yes (IE, AUS & ES)	None	
Sharing Personal Experiences and Examples	Yes (IE, AUS & ES)	None	
Community Responsiveness	Yes (IE & AUS)	Yes (IE & AUS / ES)	
Inclusion Strategies	Yes (IE & AUS)	Differences in strategies for newcomer inclusion between Spanish and Irish/Australian newcomers.	Collectivism / Individualism Simpatia
Personal Opinions, Advice and Problem Solving	Yes (IE, AUS & ES)	None	

NBM Category	Similarities	Differences	Support from cultural theory
Emotional Support	Yes (IE, AUS & ES)	None	

This analysis tentatively answers the research question RQ3: Can existing cultural theories explain the similarities and differences in newcomer behaviour found in online communities from different national cultural origins?

5.8. Developing New Models of Newcomer Behaviour

5.8.1. Culturally Specific Models

In looking at how cultural theory supports the results from the data analysis, this gives confidence and direction to develop cultural models specific to newcomers from individualist and collectivist cultures. Cultural models, such as Trompenaars (1998) Onion Model, and Hall's (1977) models of contextuality have long been used to compare the similarities and differences of two or more cultures by using international variables (these are the variables or categories that organise cultural data, such as those within the NBM (Nielsen & Galdo, 1996)). Similarly, in this thesis, individualist and collectivist models (derived from Hofstede's work) were constructed to guide, explain and investigate newcomer behaviour. As determined from the literature review, the use of culture to examine newcomer behaviour is an important endeavour, and the development of these models will help further online community understanding and investigation, and are an important contribution to online community research.

The primary rationale for creating these models was to provide a framework for moderators and researchers to investigate newcomer behaviour relative to the culture from which the community originates from. For example, a moderator of a collectivist country would use the collectivist model, which incorporates collectivist behaviour determined from the cross-cultural comparative directed content analysis, to analyse their newcomers. In addition, the creation of these models demonstrates the flexibility, ease of use, and possibilities for further enrichment of the NBM via cultural theory. These models were constructed using iterative analysis between and within the three communities, coding using NVivo 10, reflexive notes, memoing, data logs and matrices.

Each category and sub-category in the NBM is detailed in the models, and sub-categories that are particularly important to that culture (as determined by the cross-cultural analysis) are highlighted in the model as "focal points". By highlighting the behavioural sub-categories that are particular to the culture, moderators and researchers can concentrate on these sub-categories when they are analysing their community. This would help focus their analysis, ensure that cultural elements are being addressed in their examinations and reduce the complexity of investigating large amounts of data. It would also help them better understand their newcomers because they are concentrating on online community behaviour sub-categories that are of importance to their culture as defined both by cultural theory and through the data analysis.

It is also important to note how each of the categories and sub-categories can interact, and can be examined in combination with one another. This interaction could provide future additional useful information about how newcomers behave. The models are supported by their application to cultural theory, their structuring of community data and their root in newcomer behaviour theory from the directed content analysis⁵⁷. In effect, these models could be described as NBM (individualist) and NBM (collectivist).

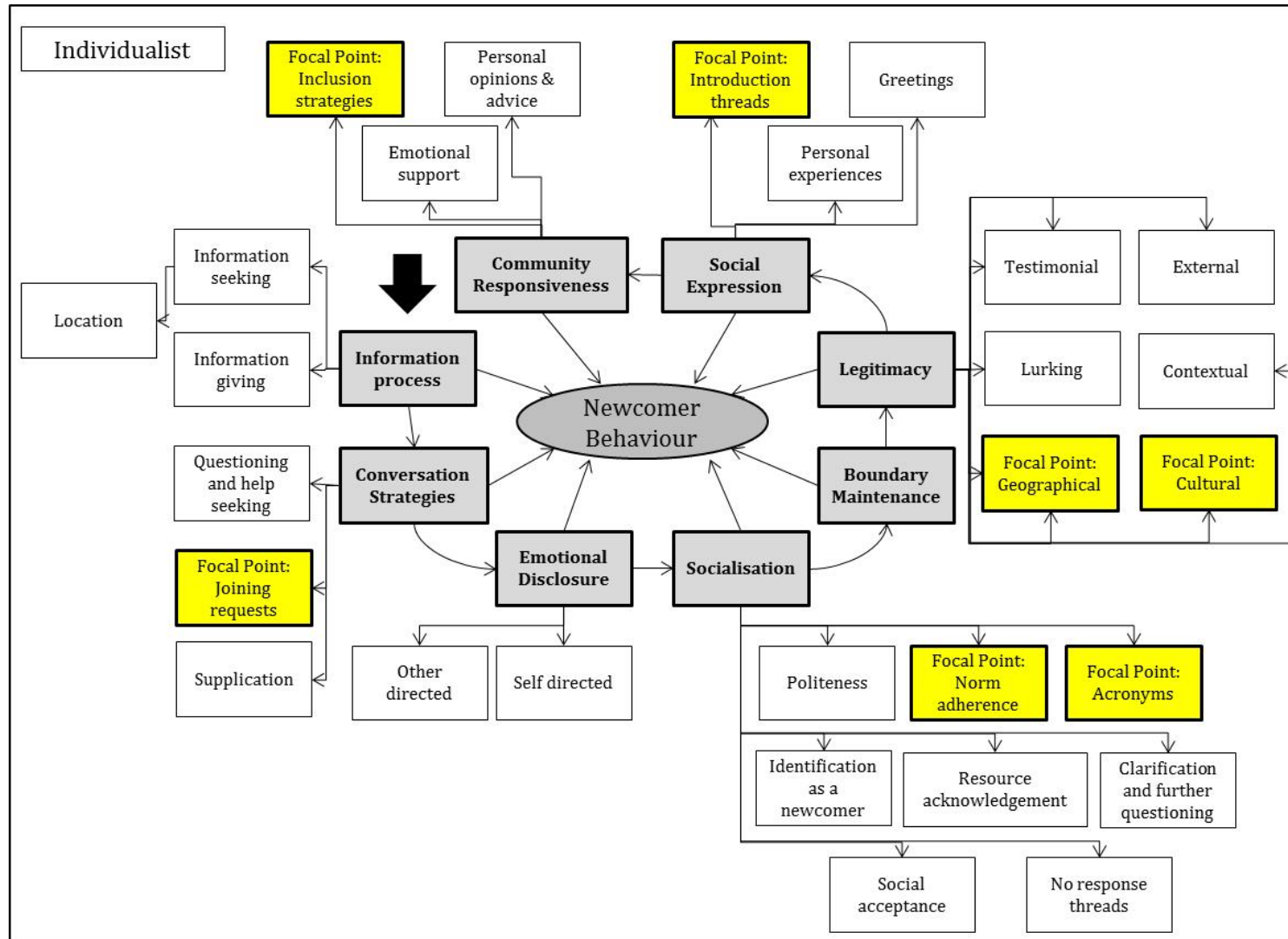
5.8.1.1. Newcomer Behaviour Model for Individualist Cultures

This model contains all eight categories of newcomer behaviour, derived from the NBM directed content analysis, and seven “focal points”. These focal points are where differences between individual and collectivist online community newcomers were identified, and are deemed important for researchers and online community administrators investigating individualist online communities to focus on. They can also be used to help improve newcomer integration and inclusion via a structured approach (see 5.9.1.3).

The seven focal points for the individualist Newcomer Behaviour Model are inclusion strategies, joining requests, introduction threads, geographical legitimacy, cultural legitimacy, norm adherence and acronyms (as derived from the sub-category community specific, language structure and norms, and boundary maintenance). These are the elements identified in the cross-cultural analysis that are deemed to be of particular importance for newcomers in individualist cultures, such as those in the Magic Mum and Essential Baby communities. For example, separate “introduction” forums are of great importance for newcomers within individualist cultures and should be always be provided for. Acronym lists and a clear description of community norms should also always be provided as they are also of particular importance in individualist communities where newcomers more commonly break norms or do not have an understanding of the huge number of acronyms being used by the community. As individualist cultures can sometimes be poorer at including newcomers, moderators should keep abreast of how the community are doing this through the community responsiveness category, and act accordingly.

⁵⁷ Model validation is presented in sections and 4.12.2 and 6.7.3.

Figure 32: Newcomer Behaviour Model Individualist



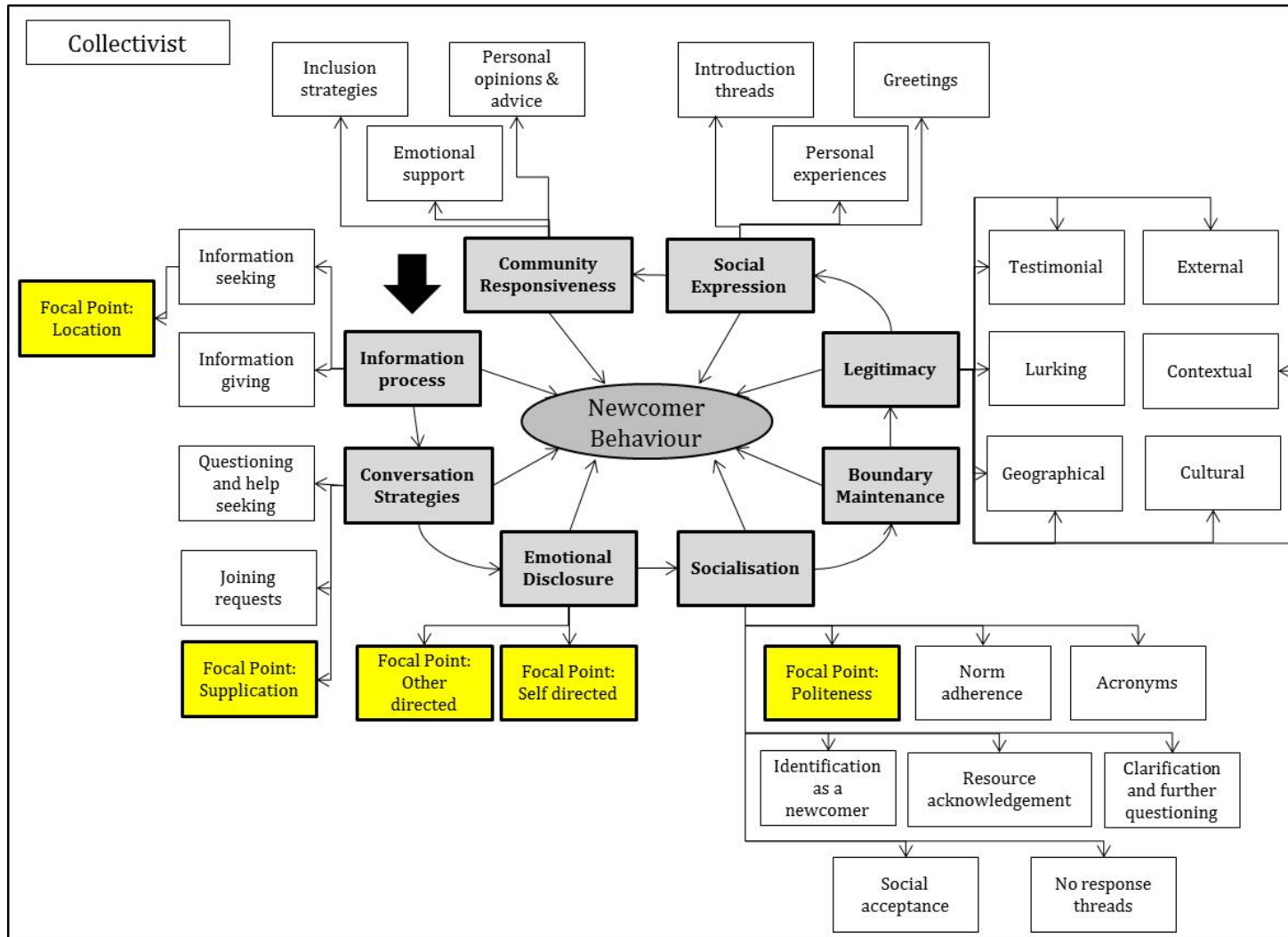
If, for example, newcomers are seeking information but not receiving many replies, the moderator can refer both to the seven focal points (and the other categories and sub-categories) and determine whether the newcomers are not presenting any of these behaviours that would support their information seeking. It may be the case that in an online community where newcomers are not receiving replies that they are failing to present geographical or cultural legitimacy, or have not created an introduction thread. Moderators could help newcomers present this behaviour by providing more detailed information in a FAQ section, employing newcomer specific moderators to guide or tease out this information from them, or changing the structure of the community itself to aid newcomer information seeking. It must be noted that although the focal points are of particular importance, the other sub-categorisations should also be referred to during the analysis. It may be the case that newcomers are not presenting sufficient politeness in their interactions, or are not adhering to community norms. These elements should also be considered.

The model itself is presented in a circular manner in order to maintain structure and flow to the newcomer examination process. However, depending on what a moderator or researcher wishes to focus on, the examination can commence using any category. For example, if a moderator is particularly concerned with how newcomers are interacting in a community, they can begin their examination with the conversation strategies category, refer first to the focal points (Are newcomers giving joining requests?) and then to the other sub-categories in this category, followed by the other categories and sub-categories in the model.

5.8.1.2. Newcomer Behaviour Model for Collectivist Cultures

Similar to the previous model, the NBM Collectivist model also contains all nine categories of newcomer behaviour derived from the NBM directed content analysis, and five “focal points” (see Figure 34). The focal points for collectivist newcomers are location of information seeking, supplication, emotional disclosure (both self and other) and politeness. A collectivist community moderator would use the model, and accompanying focal points, as a structure for investigating newcomer behaviours and encouraging inclusion and interaction. Again the same process as the previous model can be used by researchers and moderators to examine newcomers in their samples. The research problem is determined, and each category is examined in turn, along with the focal points and subcategories. This aids research structure, analytical process and ultimately streamlines newcomer analysis.

Figure 33: Newcomer Behaviour Model Collectivist



Although NBM individualist and NBM collectivist have not been tested with data, this would be an important area for future research, and given the success of the initial NBM, it is expected that the NBM will also generate useful information for online community moderators and researchers.

5.8.1.3. Practical Application of Models

How NBM Individualist and NBM Collectivist can be practically used by researchers and moderators is by examining newcomer data using each category in turn and considering the focal points during this examination. A simple method of doing this is by using a questioning process. For example, a moderator could ask “Why are newcomers not receiving replies to their questions in the community?” Following this, they can refer to each of the categories, sub-categories and focal points to examine this question in more detail.

However, prior to utilising this questioning process other elements that could impact on the model validity need to be addressed. The process for using these models can be summarised as follows:

- a) State research problem / community problem.
- b) Determine whether the community can be described as culturally specific through using the newcomer sampling framework (see Appendix E).
- c) Determine whether the online community originates from an individualist or collectivist culture using Hofstede scales or similar.
- d) Select NBM Individualist or NBM Collectivist.
- e) Select first category for analysis.
- f) Use this category as a framework for understanding or investigating the research problem / community problem via coding, questioning or other applicable methods (i.e. How are newcomers legitimating themselves in the community?).
- g) Refer to focal points.
- h) Use the focal points as a framework for understanding or investigating the research problem / community problem via coding, questioning or other applicable methods.
- i) Refer to sub-categories.
- j) Use the sub-categories as a framework for understanding or investigating the research problem / community problem via coding, questioning or other applicable methods.
- k) Select second (and subsequent) categories and sub-categories for analysis.
- l) Refer to focal points.
- m) Continue until coding, questioning or other applicable methods until all data has been investigated and a saturation point is reached.

n) Formulate answers to research problem / community problem.

In order to indicate model application and usefulness, it is helpful to explore how these models could be practically used by researchers and moderators. By examining various scenarios, the usefulness of the model can be described:

Scenario 1: An Irish online community moderator is worried about the growth of her online community. She finds that there are few newcomers that remain in the community over time and this is impacting on the development of the community.

Model application: The online community manager can use the Newcomer Behaviour Model categories from “NBM Individualist” as a framework for exploring the behaviour of her newcomers. Where newcomers are behaving differently to the newcomer behaviour status quo, or where they are not exhibiting certain behaviours, the manager can try and guide newcomers towards a more positive behaviour. For example, the manager finds that many newcomers are posting information seeking posts that are not being replied to by the existing community. Designating “newcomer moderators” to focus particularly on replying to newcomers and welcoming them into the community could improve newcomer retention.

In addition, she also finds (through the legitimacy category) that newcomers are not legitimating their information seeking posts with personal, geographical or contextual information which can have a major impact on their community integration. Moderators could tease out these legitimisation variables by asking the newcomers questions as to where they are from (geographical legitimacy), who they are (personal legitimacy) or their experience with the topic (contextual legitimacy). This could ultimately improve the community growth and development.

Scenario 2: A Spanish online community researcher is looking to investigate the development of trust between newcomers and existing members in an online community.

Model application: The NBM can be used as a framework for qualitatively coding data relative to trust. Newcomer data could be extracted which focuses on trust in online communities, and the NBM collectivist categories, sub-categories and focal points could be used to code and frame this data. This would be very useful for the researcher to link trust to existing categories of newcomer behaviour and tease out relationships between trust and existing newcomer behaviour. This could provide important information for the research field. For example, the researcher could investigate the data using the Socialisation category. By coding the newcomer trust data under the socialisation category, the researcher could find out whether elements of socialisation are impacting on trust relationships within the online community.

A further discussion as to the generalizability of these models to individualist and collectivist national cultures, given that the data with which the models were developed, is presented in the discussion chapter.

5.8.2. Additional Models

In addition to the NBM collectivist and individualist models developed using findings from the data analysis and cultural theory; two additional models were developed directly from the data analysis; the newcomer social acceptance model and the newcomer legitimacy model. These two models used multiple behavioural categories (both existing and emergent) in their composition and were notable examples of how the initial NBM, along with qualitative memos, matrices, reflection, and elements of validity (see Table 11) can be used to generate other models of newcomer behaviour. Rather than being focused on newcomer cultural differences specifically, these models focused on newcomer behaviour generally.

5.8.2.1. Newcomer Social Acceptance Model

A theme that grew and developed over the analysis was social acceptance. Social acceptance describes how newcomers are accepted into the community by existing community members, and previous theory has highlighted its importance for newcomer adjustment (Bauer et al., 2007). This theme described how newcomers were being accepted into the community through the newcomers own words and experiences (i.e. rather than from the perspective of existing users, social acceptance looked at the perspective of the newcomer). An example of social acceptance is when the community welcomes newcomers and the newcomer acknowledges their welcome. In Extract 49, the newcomer acknowledges the welcome and mentions each user individually who gave her the welcome. Other posts showed newcomer acceptance because the topic they were talking about generated positive discussion, because they described their satisfaction with the community, or because of mutual emotional disclosure.

Extract 49: Example of a Ser Padres newcomer acknowledging her community welcome

Hola mamissssss!!!! Gracias por su bienvenida a las 3, Sara, Isa y Maria!!! <Newcomer 12: SP>

Hi mums!!!! Thanks for the welcome from the 3, Sara, Isa y Maria!!!

The progression of social acceptance was particularly clear in the TTC or EDD threads. The newcomers were welcomed and prompted to post information. In this example, newcomer <Newcomer 9> first asks to join and then begins to tell her own personal experiences. She is subsequently supported by existing members through positive language and support.

Extract 50: Example of an Essential Baby newcomer being positively acknowledged by an existing member

*"Welcome Newcomer 9, I can feel your excitement in your post.. your going about it the right way
:Jumpy: <Existing Member 2: EB>*

When this newcomer presents evidence of her positive pregnancy test, the community continue their support and acceptance.

Extract 51: Example of an Essential Baby newcomer being positively supported by an existing member

"Wohooooo well done delighted for you hopes and dreams" <Existing Member 2: EB>

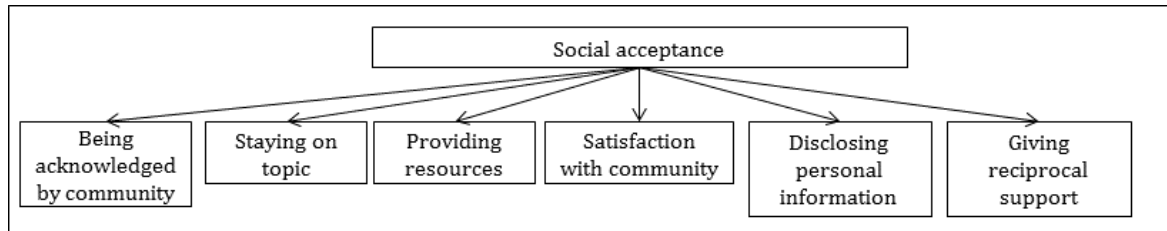
As newcomers become more involved in TTC and EDD threads (through posting), they begin to ask direct questions to other existing members, and provide reciprocal support. The existing members then reply back to the newcomers, demonstrating social acceptance. This shows that social acceptance is tied in with providing personal information, legitimating that information, and subsequently integrating with existing members. In contrast, a thread created by <newcomer 10> demonstrated how she was not accepted because of the topic she was writing about (halal meat). This shows the importance of staying on topic and within contextual boundaries.

Extract 52: Example of an Essential Baby newcomer not being accepted by the community

*I will remove the posts, it is clearly the wrong kind of site for such a discussion. Apologies.
<Newcomer 10: EB>*

This analysis of social acceptance has created sub-thematic elements that describe how newcomers approach being accepted into an online community. These elements included being acknowledged by the community, staying on topic, providing resources, displaying satisfaction with the community, disclosing personal information and giving reciprocal support. These sub-thematic elements expand on previous understandings of newcomer social acceptance.

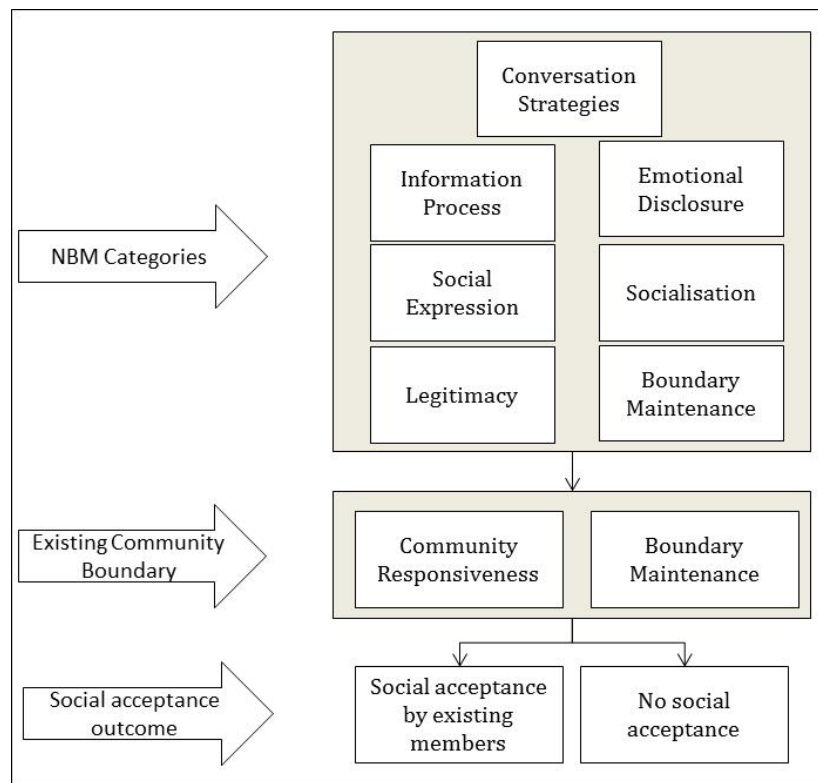
Figure 34: New sub-thematic elements of newcomers displaying social acceptance behaviour



However, in addition to these sub-thematic elements, a new model of online community social acceptance was developed using the NBM categories. This was developed using an iterative analysis between and within the three communities, reflexive notes, memoing, data logs and matrices. This model used nine NBM categories to further understand and examine how newcomers are accepted into a community. Although previous studies have identified some variables for newcomer social acceptance (Burke et al., 2010; Kraut et al., 2011), this model combines existing newcomer theoretical elements in one place in an attempt to expand on previous research and provide a framework for future analysis. What is key to note about this model, is how the categories determined in the NBM have been used to construct a further model, demonstrating its flexibility and usefulness for additional analysis.

Existing research on online community newcomer social acceptance has used mainly used quantitative methodologies such as surveys and social networking analysis (Elevant, 2013; Li, 2011). This model is based on qualitative methodological techniques and provides a different scope for understanding social acceptance by examining how newcomers can be accepted first through their own behaviour (i.e. from the perspective of the newcomer), and subsequently via the behaviour of existing members. Understanding this can be of vital importance for online community moderators, as if newcomers are not being accepted by existing members, community development will suffer.

Figure 35: Online Community Newcomer Social Acceptance Model



Researchers and moderators can use this model to question, investigate and examine newcomer social acceptance. Moderators can guide newcomers into behaving positively through examination of these NBM categories and subcategories, and researchers can use the categories to frame their research questions and analysis. For example, a moderator is concerned that many newcomers are not being accepted into their community and wishes to understand why this is happening. Data from newcomers can be extracted and coded using the categories from the newcomer social acceptance model. This structure and process will help understand what newcomer behaviours are potentially having an impact on social acceptance. Perhaps, newcomers are not legitimating their posts, or are not socialising in a manner that is acceptable to the community. On the other hand, the model also allows for the examination of the responses of existing members towards newcomers within these categories. If, for example, a newcomer is aggressively attacked by another poster, it is important to investigate the context of this attack through the NBM category framework.

Although the model primarily serves as a useful tool for investigating newcomer behaviour, the model also shows how NBM categories can interact with one another to create an understanding of a higher level theory (i.e. social acceptance). This identification of interaction between categories is an important contribution as it shows that theoretical categories of the

NBM do not have to be understood in isolation and can be used together to explain aspects of newcomer behaviour.

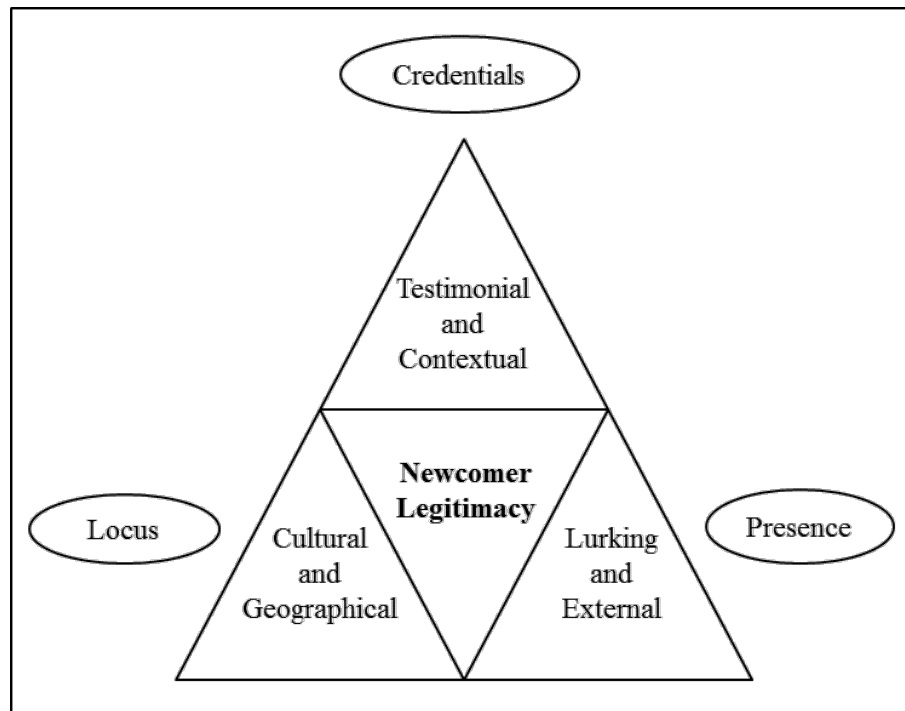
5.8.2.2. Newcomer Legitimacy Model

A new model of newcomer legitimacy was also developed through directed content analysis in which existing and emergent newcomer behaviour categories (i.e. testimonial, cultural, geographical, contextual, lurking and external legitimacy) formed the basis of the model. A key point that arose from the research which warrants further discussion is the emergence of a multifaceted understanding of newcomer legitimacy. Existing research from Rafaeli et al (2004), Fayard and DeSanctis (2010), and Burke et al among others, illustrated that online community legitimacy was present in different ways in online communities. However, classifying and analysing these theoretical conceptions of legitimacy in one place had never previously been conducted. The analysis and subsequent modelling of three online communities using these classifications confirmed that legitimacy in online communities is not a static concept, and has many complex offshoots with interrelated conceptual variables.

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 behaviour. Although the existing literature provides an excellent broad understanding of legitimacy, classification frames this theory, improves clarity, and delivers an explanatory shell for looking at legitimacy from a contextually determined perspective (Kwasnik, 1992).

Following the classification of existing theory and the development of emergent categories, a model of newcomer legitimacy was created. This triangular model has both theoretical and practical implications. For online community researchers, the model assimilates existing and emergent forms of newcomer legitimacy in one place. This allows for improved theoretical understanding of legitimacy behaviours and the relationships between behaviours. The model also has practical implications for online community moderators that are looking to retain and support newcomers.

Figure 36: Online Community Newcomer Legitimacy Model



If, for example, newcomers are not presenting credentials to the community, moderators could provide guidelines and suggestions to newcomers to do so. This is a tactic employed by many online communities who want their newcomers to adhere to community norms (e.g. Wikipedia (Kraut et al., 2011)). Community moderators could also use the model to identify how newcomers in their community are legitimating their presence and whether the existing community is responding positively to this. In addition, the legitimacy model could also help explain the motivation for newcomer posting. For example, within lurking legitimacy, many newcomers describe that they have been lurking but feel that they would like to post now for a particular reason. By classifying this legitimization tactic, the rationale behind newcomer posting motivation could be explored.

This could potentially improve newcomer retention and community interaction. The implications of the triangular model of newcomer legitimacy are that it not only extends the classification on newcomer legitimacy with conceptual variable segments, but it also serves as an important visual tool for researchers and online community moderators to understand newcomer legitimacy within different online communities.

5.8.3. Model Validity

In order to ascertain the validity of these models we refer to Morris's (1968) five criteria of a well-constructed model (Table 48). These criteria were all consulted during the development of

the models to ensure that they were well-constructed, pertinent and effective. Hence, some of the criteria are similar across the four models. The presence of a strict process, triangulation, claims to generalisability through using a cross-cultural analysis, and general achievement of its aims show that these models are valid and can be used as a tool for analysis of newcomer legitimacy behaviour.

Table 49: Validity of models using Morris's (1968) criteria of a well-constructed model

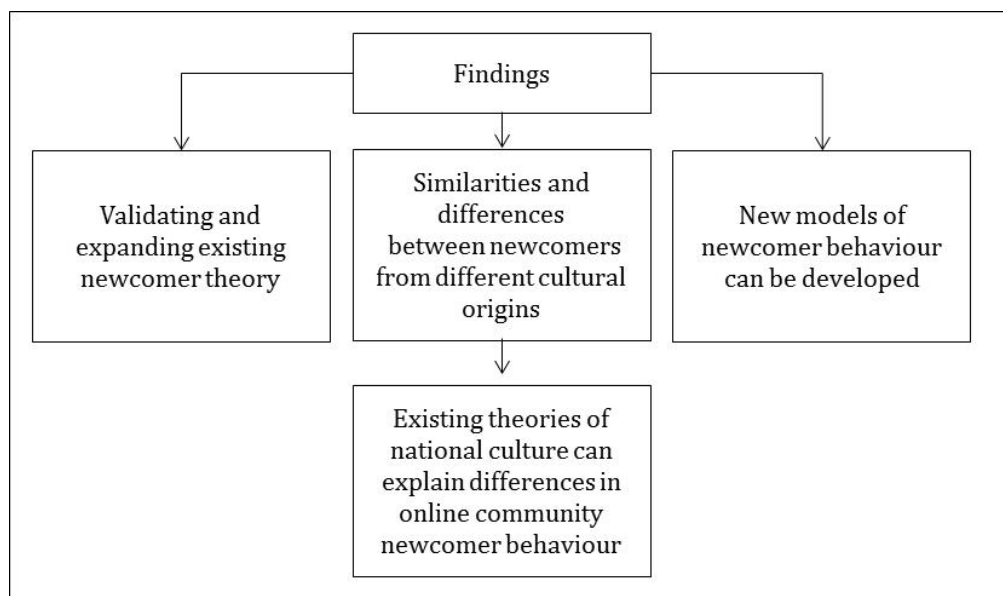
Model Name → Criteria ↓	NBM Individualist	NBM Collectivist	Newcomer Social Acceptance Model	Newcomer Legitimacy Model
Its relatedness to other models and techniques	This model was developed using theoretical elements from the literature, demonstrating its relatedness to other models. Content analysis was used, which is a common methodological technique for developing models in the online community sphere.	This model was developed using theoretical elements from the literature demonstrating, its relatedness to other models. Content analysis was used, which is a common methodological technique for developing models in the online community sphere.	This model was developed using theoretical elements from the literature.	Three of the categories present in the legitimacy model can be all related back to existing theory because of the use of directed content analysis in the method. The three new categories have been applied to and supported with structured data analysis techniques.
Its transparency or ease of interpretation	Each of the model categories have been operationalised, and a detailed graphical model has been developed easing interpretation.	Each of the model categories have been operationalised, and a detailed graphical model has been developed easing interpretation.	Each of the model categories have been operationalised, and a detailed graphical model has been developed easing interpretation.	The model categories have been described in detail with operationalised examples provided with each. This facilitates transparency, and allows simple interpretation when using it with data.
Its robustness or sensitivity to the assumptions made	The model can be described as robust and sensitive because of the linear and defined phased directed process used in its development.	The model can be described as robust and sensitive because of the linear and defined phased directed process used in its development.	The model can be described as robust and sensitive because of the linear and defined phased directed process used in its development.	The model can be described as robust and sensitive because of the linear and defined phased directed process used in its development.

Model Name → Criteria ↓	NBM Individualist	NBM Collectivist	Newcomer Social Acceptance Model	Newcomer Legitimacy Model
Its fertility or richness in deductive possibilities	This model can be used in many ways to determine newcomer behaviour in individualist cultures. The model has excellent deductive possibilities because of the broad range of categories within, the detailed description of category operationalisation, and its derivation from existing literature on online community newcomers.	This model can be used in many ways to determine newcomer behaviour in collectivist cultures. The model has excellent deductive possibilities because of the broad range of categories within, the detailed description of category operationalisation, and its derivation from existing literature on online community newcomers.	The model has excellent deductive possibilities because of the broad range of categories within, the detailed description of category operationalisation, and its derivation from existing literature on online community newcomers.	The model has excellent deductive possibilities because of the broad range of categories within, the detailed description of category operationalisation, and its derivation from existing literature on online community newcomers.
Its ease of enrichment or ability to modify and expand the model	There is much potential to modify and expand the model through examination using individualist culture online communities.	There is much potential to modify and expand the model through examination using collectivist culture online communities.	There is much potential to modify and expand the model as online community newcomer theory becomes more developed, or if it is used with other datasets.	There is much potential to modify and expand the model as online community newcomer theory becomes more developed, or if it is used with other datasets.

5.9. Summary of Findings

There were three main areas of findings that arose out of the directed content analysis; validating and expanding existing theory on newcomer behaviour, identifying similarities and differences in newcomer behaviour and developing new models of newcomer behaviour (detailed in 5.9).

Figure 37: Summary of findings



These findings can be summarised as follows:

- A cross-cultural analysis of online community newcomers can validate, support and expand upon existing theories of online community newcomer behaviour (RQ4 +5)⁵⁸.
 - 8 higher level theoretical categorisations and 21 sub-categorisations of existing newcomer behaviour theory have been validated and supported by the cross-cultural analysis.
 - 8 higher level theoretical categorisations and 20 sub-categories of newcomer behaviour theory were expanded upon, either by refining or re-categorising existing theory in a cross-cultural context. Nine new sub-categorisations of newcomer theory were developed by expanding on these higher level and sub-categories.
- Online community newcomers across cultures behave similarly within a framework of existing newcomer behaviour theory (RQ2).

⁵⁸ This addresses how the research questions have been linked to the findings.

- Cross cultural similarities in newcomer behaviour were identified in 8 higher level theoretical categorisations and in 25 sub-categorisations of newcomer behaviour theory.
- However, there are also some likely differences in online community newcomer behaviour across different national culture origins (RQ1).
 - Cross cultural differences in newcomer behaviour were identified in 8 higher level theoretical categorisations and in 13 sub-categorisations of newcomer behaviour theory.
- Existing theories of national culture (e.g. Hofstede, Hall) could explain differences in online community newcomer behaviour. A link has been made between existing newcomer theory and existing cultural theory (RQ3).
- Culturally specific online community newcomer behaviour models are useful for investigating, understanding and structuring online community newcomer user behaviour (RQ6).
 - Five new models of newcomer behaviour have been developed; the Newcomer Behaviour Model (NBM), the NBM Individualist, the NBM Collectivist, the Newcomer Legitimacy Model and the Newcomer Social Acceptance Model⁵⁹.
- Differences in offline national culture attributes manifest themselves within online community newcomer behaviour. National culture has an impact on the behaviour of online community newcomers (RQ7).

5.10. Conclusions

This chapter has summarised the findings of the cross-cultural data analysis and presented models relative to existing cultural theory and additional models developed during the data analysis. These address RQ3 and RQ6. It has also discussed model validity and how it can be practically applied by moderators and administrators. The four additional models developed from the cross-cultural analysis show the flexibility of the original NBM and how it can be used for not only cross-cultural comparison, but also for understanding other aspects of newcomer behaviour such as legitimacy and social acceptance. The models also show how categories from the NBM model can be used in conjunction with one another to help understand newcomer behaviour.

⁵⁹ These are detailed below in sections 6.7.1.1, 6.7.1.2, 6.7.2.1, and 6.7.2.2.

6. Discussion

6.1. Introduction and Research Summary

This final chapter aims to expand on the major findings of the research as detailed in Chapters 4 and 5, clarify and evaluate the meaning of these findings, relate the findings to existing research, consider alternative explanations of the findings, explore the limitations of the research, and consider suggestions for future research (Hess, 2004). Referring back to Phillips and Pugh's (2005) analytical constructs outlined in Chapter 1, the discussion chapter of a PhD aims to generate focal theory and contributions. In contrast to the results and modelling chapters, the discussion chapter intends to provide a wider meaning of the research, evaluate its impact, present the research contributions and discusses the implications of the research for existing knowledge (Witcher & Wilkinson, 2014).

Bringing this chapter into context, the research problem that this thesis addresses is a lack of understanding of the impact of culture on online community user behaviour. In particular, knowledge of how national culture affects the behaviour of online community social roles, such newcomers, is deficient. The literature review identified that there is insufficient knowledge of how national culture can influence online community analysis, design and development, and the impact of national culture has on online community user behaviour communication is not fully understood (Gallagher & Savage, 2012). Although there has been previous research on online community newcomer behaviour, no previous research has analysed newcomer behaviour using a cross-cultural method, investigated multiple theoretical conceptions of newcomer behaviour in one place, produced a model for newcomer behaviour, nor investigated the impact of national culture on existing and emergent theoretical conceptions of newcomer behaviour.

Hence, the main aim of this thesis was to explore the behaviour of the online community newcomer using a cross-cultural method. This primary research aim also framed some secondary research questions; namely whether existing theoretical conceptions of newcomer behaviour are supported within online communities from different national cultures, to identify any new theoretical conceptions of newcomer theory by using a cross-cultural methodology, to describe the similarities and differences in newcomer behaviour between these communities, and explain these similarities and differences with reference to cultural theory.

In order to address these aims, two key tools were needed; a structure for comparing newcomer behaviour (the NBM) and a sampling framework for culturally specific online communities.

These tools were constructed and formed the basis of comparing the behaviours of newcomers across three communities of differing cultures. Conclusions were drawn by using overview grids

and matrices, identifying patterns in the data, reviewing outliers, looking for alternative or competing themes, and building chains of evidence between the three communities.

The results from the cross-cultural analysis of online community newcomers presented some important findings described in Chapter 4 and 5. Aside from validating and expanding on existing conceptions of newcomer theory using a cross-cultural methodology, these findings also showed that there were similarities and differences in the behaviour of Spanish, Irish and Australian newcomers which could be supported by existing cultural theory.

6.2. Chapter Summary

The aims of this chapter are to:

- Critically addressing additional issues that emerged during the research including:
 - The similarities and differences observed in the comparative analysis.
 - The models constructed from the analysis.
 - Geographical and cultural specific results.
 - The link to cultural theory from the results.
- Describe the contributions of the research.
- Explain the limitations of the research.
- Consider the implications of the research in line with the research aims, questions and problems.
- Suggest future research.

The following sections critically evaluate the research, present the findings in the context of previous literature and theories, and discuss their implications for the online community research field. To provide further clarity, each research question will be referenced (where appropriate) in this chapter to provide a link between the Introduction and Literature Review, and the results of this thesis (also see Appendix O for further details on this link).

6.3. Discussion

6.3.1. Community, Culture and Roles

Prior to discussing the results of the cross cultural analysis, a key discussion point is how the research has addressed the three major concepts surrounding this thesis; namely community, culture and role. Rather than being specifically 'tied' to the research results, this discussion employs a more reflective approach surrounding these macro level concepts and how this research has encouraged emergent thought within these spaces.

As discussed in the introduction, the ideology of a static notion of community, as is commonly used within online community cross cultural literature, warrants questioning. The current literature in this space focuses on the communities being studied without considering concepts commonly discussed outside of this research space such as affect, the psychological contract, the imagined community or the influence of networked communities. It is important that these concepts, and others, from disciplines such as psychology and sociology are brought to the forefront in the online community cross cultural space. For example, should the newcomer role be considered as such if online users are members of other online communities? Could they be termed newcomers, or should there be micro level classifications of newcomers to the Internet, and newcomers to a particular community? How much influence does previous experience of online community, or interlocking networks that newcomers are members of has an impact on the behaviour of newcomers? How important are affective processes in understanding newcomer behaviour? This is an area that warrants further research in this space.

The newcomer 'role' shows some consistency across different online communities that originate in different national cultures, but differences are also apparent. In looking at offline 'roles', gender roles, for example, tend to differ widely across cultures, but biological attributes of a man and a woman are the same across all cultures. It could be theorized that in the same way that gender based biological attributes are similar across all cultures, certain newcomer behaviours, because of the structural attributes of being a newcomer (i.e. posting to a community for the first time) drive the behavioural similarities across cultures. In effect, the makeup of a man, woman, or newcomer, drives some of the similarities across cultures.

In addition, the cognitively-framed perception of being a newcomer in an online community also drives these similarities; individuals are expected to behave as a newcomer because of the inherent 'being' of a newcomer. This ties in with a functionalist understanding of roles, which can be further identified in the boundary maintenance theme in the qualitative analysis. When newcomers do not act as expected, they are cast aside and chastised. Although a great deal more analysis and discussion could be done into the understanding of roles in online communities across different cultures, this research forms a starting point for further investigations.

The third major area of this thesis, culture in the online cross cultural space, also warrants further discussion. Researchers that have used Hofstede as a comparative variable within this space concede that his dimensions only partially explain cross cultural differences. For example, as Malinen and Nurkka (2015) comment in their discussion of findings from their cross cultural study of online exercise diary users, "Hofstede's cultural theory, in particular the dimensions individualism-collectivism and uncertainty avoidance used in this study, does not fully explain

these differences as the findings are only partly supported by the theory (...) even though cultural background alone cannot explain user behaviour, it is clear that cultural differences exist in online community use. As online communities are global and continue to expand their reach to new audiences, there is a need for the localisation of platforms, and designers cannot assume that all of the features hold universal value" (p152). This leads into a discussion of whether this research has, in effect, fallen into the Hofstede trap.

6.3.1.1. Falling into the Hofstede Trap?

The literature review described how research in the cross cultural online community discipline was holding on to Hofstede's cultural dimensions, and critics were suggesting taking a more dynamic and reflexive view of culture. One could argue that this thesis was falling into the static conception of national culture as proposed by Hofstede as most other literature in this space is doing. However, it is argued that this research, although using Hofstede, moves beyond his theories by using micro level classifiers and creating culturally specific models tied to previous newcomer behaviour research. It is this alignment of multiple types of theory, newcomer behaviour and culture, which aids a dynamic understanding of online community behaviour.

First, the use of a smaller more focused sample of newcomers allows the research to be more precise and attuned to national cultural differences. Rather than using a sample of all online community users and performing a cross cultural analysis, the use of social roles minimises the breadth of different types of users which could add greater complexity and misunderstanding to the comparative analysis.

Secondly, the directed content analysis uses themes from newcomer theory to frame the comparative cross cultural analysis. This is another way that this research has moved away from the static notion of national culture. Rather than conceptualizing the newcomers in terms of their cultural dimensions (i.e. if the thematic analysis had used Hofstede's cultural dimensions as comparative thematic elements) the content analysis uses newcomer behavioural theory to frame the comparative analysis. In effect, the comparison does not use national culture indicators as the comparative variable, rather it uses the behaviour of the newcomers. This demonstrates how the research is moving away from using Hofstede's cultural dimensions as the main focus of the research, and is employing a more dynamic approach by using different levels of analysis (i.e. newcomer behaviour) in the comparison.

It could be argued that at the macro level, Hofstede's dimensions are being used to qualify the cross cultural differences and therefore the research is moving back towards research criticised by many as being static. However, it is important to note that this research is not looking to make grand claims about national culture, but the focus is on newcomer behaviour and how it

can be better understood through a cross cultural analysis. Future research is needed within the online community cross cultural field to determine whether Hofstede's conceptualizations of national culture are suitable for understanding similarities and differences between users, or whether other cultural theorists could lend better comprehension.

6.3.2. Similarities and Differences in Newcomer Behaviour

One of the findings of this research was that there were tentative similarities and differences in newcomer behaviour, potentially derived from existing and emergent theory, across online communities from different national cultures. Essentially, this finding addressed RQ1: Does the behaviour of newcomers differ depending on the national cultural origin of an online community?

Differences in general online community user behaviour between cultures have been previously identified in the literature where cultural theory such as Hall's (1977) theory of contextuality (Ardichvili et al., 2006; Pflug, 2011) and Hofstede's (2001) cultural dimensions have been used to explain these differences (Fong & Burton, 2008; Hara et al., 2010; Karl et al., 2010)⁶⁰. What became evident both during and after the analysis in this thesis was that newcomer behaviour differences highlighted by the data, were also present in existing cultural theory (see Chapter 5). The finding that there are individualist / collectivist differences in online community newcomer behaviour, supports existing research (e.g. Karl et al., 2010) that used quantitative methodologies to investigate similar differences in general online community users. This triangulation of research techniques gives further credence to research in this area. However, it is also important to discuss other potential reasons for these national culture similarities and differences aside from the theory already noted by existing literature.

Moving away from a macro level understanding of similarities and differences (i.e. individualism and collectivism), other elements outside the scope of this research could have also be examined to explore the reasons behind these differences. These include the impact of language, values, the external world, other online communities and networks and reasons behind posting motivation. This preliminary investigation of cultural differences in newcomer behaviour has tentatively described similarities and differences within the scope of existing online community cross cultural theory. However, the theories used to qualify these similarities and differences within this thesis are merely the tip of the iceberg in this burgeoning discipline. Tan (2002) provides an excellent overview of national cultural research within the IS space and

⁶⁰ See Chapter 2 for a full list of literature in this field

the theories used within this research. It is evident, as previously discussed, that the same theories are being used in much literature (Tan, 2002). Future research within this space needs to take into account alternative theories and viewpoints from different disciplines.

A starting point for this is to examine the discrepancies between the results from previous research investigations and the analysis conducted in this thesis. As previously noted, Fong and Burton (2008) and Chu and Choi (2011) identified differences in information seeking between collectivist and individualist cultures, whereas no major differences were identified in this research. This could be explained by the use of newcomers in the sample. Fong and Burton used discussion postings from all members of the online community rather than just focusing on one social role, as was the case in this research. Newcomers tend to be information seekers which would explain why there were few differences exhibited between the three communities in this regard.

This lack of difference could suggest the importance of examining the proportions of different social roles within online communities before sampling. If, for example, the behaviour of users in a new online community is being investigated using the cross-cultural method, there would be higher proportions of newcomers in the sample. This could have an impact on the results as, for example, having more newcomers in a sample could skew data on information seeking. Conversely, when research into smaller social groupings is being conducted in online communities, the wider community should also be reflected upon. For example, if the information giving behaviour of online community leaders was being investigated, it should be related to the information giving behaviour of the community as a whole. This could provide additional information on the behaviour being analysed by allowing comparison between results from the social role specific analysis and the whole community analysis.

What is important to note when looking at previous research into cross-cultural differences in online community user behaviour, is that neither newcomers nor smaller social groupings have been previously compared using this approach. The implications of this are threefold;

1. The differences that arose in this research are novel because of the use of the newcomer social role as a comparative unit. The models generated from the analysis, which contain newcomer behavioural differences, can be a useful tool for community moderators and researchers to further understand the behaviour of these individuals.
2. Social roles, such as newcomers, leaders, questioners and trolls should be taken into account during sampling because differences, that could arise when examining communities as a whole, could be skewed if there were higher numbers of a particular social role within the sample.

3. The differences identified through using the newcomer social role can be linked and supported with existing cultural theories (see section 5.8.5).

Another important finding to emerge from this study is that although there are differences in newcomer behaviour, there is evidence that newcomer behaviour transcends cultural boundaries (i.e. similarities across the newcomers were found). This finding addresses RQ3: Are there similarities in newcomer behaviour across online communities from different national cultural origins?

Previous research has identified similarities in the behaviour of users in online communities such as in information disclosure (Kisilevich & Last, 2011), motivation for using sites (Kim et al., 2011), and social ties (Cardon et al., 2009). However, it was interesting that most previous research focused on differences rather than similarities between cultures. Although differences between cultures are more salient and compelling than similarities (Schwartz & Bardi, 2001), similarities are important for establishing theoretical generalisability and understanding where culture does not have an impact on behaviour. In this case, it is these similarities that support the theory behind the common behavioural traits of a newcomer.

Within 25 sub-categories of the NBM, similarities in newcomer behaviour were identified. Initially, given that the sample focused on newcomers, how we define a newcomer evidently had an impact on this. For example similarities in newcomer questioning and help seeking, resource acknowledgement and clarification, and further questioning was an obvious result. As newcomers are new members, it is evident that they would present these behaviours, as the very definition of a newcomer directs the emergence of these behaviours within the texts analysed.

However, within some of the categories that were less directed by the definition of a newcomer it was very interesting that there were similarities emerging from the comparative data analysis both between the Irish and Australian communities (e.g. socialisation), and all three communities (e.g. identification as a newcomer). One rationale for these similarities between cultures could be the newness of the research field being investigated. Richerson and Boyd (2008) believe that cultural differences arise through cultural evolution, which is a process similar to organic evolution. It could be argued that the similarities exhibited by the newcomers are so because of the newness of the research field which has not evolved to a state where cultures are widely different. In effect, because online communities are such a new space, cultural differences have not emerged because of the centrality of their state to Western / US ideal from which the online communities originally originated from.

Alternatively, it could be posed that similarities are related to a wider online community behaviour that transcends some aspects of newcomer behaviour. For example, newcomers in online communities will seek information no matter what culture they come from. This behaviour is standard for all newcomers in online communities. It could be suggested that if there are no cultural differences between certain newcomer behaviours this means an Internet culture is manifesting itself in these behaviours, and the behaviour within it transcends the notion of national culture. Although not addressed in this thesis for reasons of scope, this question shows that the research conducted by this thesis is bringing about more and more queries on newcomer behaviour, and is contributing exciting ideas for future research.

6.3.3. Geographical and Cultural Specific Newcomer Interactions

As shown in the previous section, this research provided new insight into online community newcomers by identifying similarities and differences in their behaviour across cultures, and linking these findings to existing cultural theory. However, it was also noted that cultural and geographical linguistic elements were an important part of newcomer communication and integration (e.g. describing locations, hospital names, culture specific abbreviations etc...), within some NBM categories (e.g. information seeking, information giving, social acceptance, introduction threads, sharing personal experiences and legitimacy). Geography forms a basis for social community (Festinger, Back, & Schachter, 1950), and additional literature analysing other online communication channels such as Twitter (Herdağdelen, Zuo, Gard-Murray, & Bar-Yam, 2013; Quercia, Capra, & Crowcroft, 2012), Facebook (Backstrom, Sun, & Marlow, 2010) have highlighted the importance of geographical location for online community interaction. Studies have also shown how users provide location-based information even when they fail to provide details of their location field in their user profile (Hecht, Hong, Bongwon, & Chi, 2011).

The importance of presenting geographical information in an online community was previously conceptualised by Fayard and DeSanctis (2010) who found that sharing information about geographical locale was important for supporting a collective identity, promoting social solidarity and facilitating the emergence of a shared online community culture. Presentation of geographical and cultural information is also a form of newcomer self-disclosure which communicates the identity that newcomers want the community to associate with them. These identity claims implicitly communicate social norms and cognitive representations of the community, which further invites community integration (Forman, Ghose, & Wiesenfeld, 2006). By asserting that they are from analogous geographical locations to the community, online community newcomers can legitimise their presence, increase feelings of similarity with the group, and thus foster social community (Forman, Ghose, & Wiesenfeld, 2008). This ties in with

the theory of social identity, which is an important construct for understanding online relationships between individuals. It purports that there is an interplay ongoing between how others identify us and how we identify ourselves, and is materialized through a process of dialectic identification (Code & Zaparyniuk, 2009). It could be argued that this type of geographical legitimisation ties in with social identity theory, and that these newcomers are presenting a form of social identification with others from the same cultural background.

Although Fayard and DeSanctis (2010) identified the importance of geographical identity in online communities, no previous research has analysed only newcomers in this context. No previous research had linked geographical and cultural newcomer interactions to theoretical conceptions of newcomer behaviour, such as those embodied by the NBM. Some preliminary work was conducted into the presence of cultural artefacts in newcomer behaviour and this type of culture-specific information was found to be peppered throughout newcomer interactions. This supports the findings from this research that culture is having an impact on newcomer behaviour, given that cultural references are commonly used by newcomers. In addition, by connecting newcomer cultural and geographical interactions to previous newcomer theory, this strengthens and extends previous findings on newcomer behaviour and gives a better understanding of why newcomers are providing this information. For example, newcomers are talking about their geographical location in their introduction threads thereby linking cultural interactions with community introductions and socialisation.

Essentially, this analysis has now contextualised newcomer cultural and geographical interactions within the theoretically derived categories of information seeking, information giving, social acceptance, introduction threads, sharing personal experiences and legitimacy. It is also interesting to note that the primary categories, from which the sub-categories identified above originate from, refer to both initial newcomer interactions (i.e. information process) and interactions where newcomers are attempting to integrate into the community (i.e. legitimacy, social expression and socialisation). This demonstrates that geographical and cultural information is important for both initial interactions and further community integration.

The implications of this are that geographical and cultural information need to be taken into account when any of these newcomer theoretical elements are being investigated. It is also an important contribution to the research field as it both broadens the scope of newcomer behaviour understanding to new theoretical elements, and allows for future focused analysis using these elements and geographical and cultural community interactions. It also suggests that newcomer behaviour could now be better understood because of this link made between newcomer theoretical elements, and geographical and cultural community interactions.

Critically expanding on this issue, it is interesting that some authors believe that “geography is less important in web communities (...) geographic identity is much more liberal in an online community” (Tippins & Marquit, 2010, p. 8). This research argues against this, and considers that geographic identity is important for newcomer integration because of its presentation by newcomers in the sample framed by the directed content analysis categories. However, it could be argued that the reason for the presence of geographical and cultural information was because the communities were sampled on the basis of their geographical specificity. Would the same results have appeared within a sample of newcomers with less geographical specificity?

Herdağdelen et al. (2013) suggest that online users identify with what they consider most important; for example, in a religious community, users identify with other users of the same religion, or in a music community, users identify with other users who are supporters of the same band. Given that in the three communities analysed, geographical and cultural information is widely presented by newcomers, it is evident that geography and culture are an important part of their social and collective identity with these communities. However, it is unknown whether in communities where geographical location and cultural artefacts may not play such a large role, whether this identity is as important to newcomers. This would be a key area for future research.

6.3.4. Model Construction and Development

In this research, five conceptual models of newcomer behaviour have been developed, namely, the NBM, the NBM for individualist cultures, the NBM for collectivist cultures, the newcomer legitimacy model and the newcomer social acceptance model. The initial NBM, developed through existing and emergent research, has been expanded for specific use in individualist and collectivist cultures, and has also formed the basis of non-cultural specific conceptual models (i.e. social acceptance and legitimacy models). The construction of the latter models from the NBM model shows progression and refinement of newcomer understanding from this initial model, and demonstrates that the NBM model categories can be reengineered to explain other elements of newcomer behaviour. Previous research in the online community field has used models to examine different user behaviours⁶¹, and this thesis has contributed to this body of conceptual models. This section aims to discuss the implications of the development of these models.

⁶¹ As detailed in Chapter 4.

First, a discussion needs to be presented on what is the theoretical relevance of these models. Two types of theory, substantive and formal, have been used to classify theory within the grounded theory methodological space. Although this methodology was not used in this thesis, these theoretical concepts are a useful tool for this discussion. Substantive theories are used as “a springboard or stepping stone to the development of a grounded formal theory” (Glaser & Strauss 1967, p. 79) whereas formal theory has “explanatory power over a range of situations” (Ng & Hase, 2008, p. 156). Substantive theory builds generalisations derived from the essence of observations; for example, race relations and patient care. However, formal theory is developed for a formal or conceptual area, such as socialisation or power (Glor, 2008).

It must be noted that at the onset of this research, theory generation was not the primary objective; rather the objective was newcomer behaviour exploration and understanding. It was not envisaged that formal theory would emerge, nor that the models would immediately be theory generative. However, as the data analysis began to provide more salient information, which led to the creation of new models of newcomer behaviour, it became important to reflect on whether theory was indeed being generated through these models.

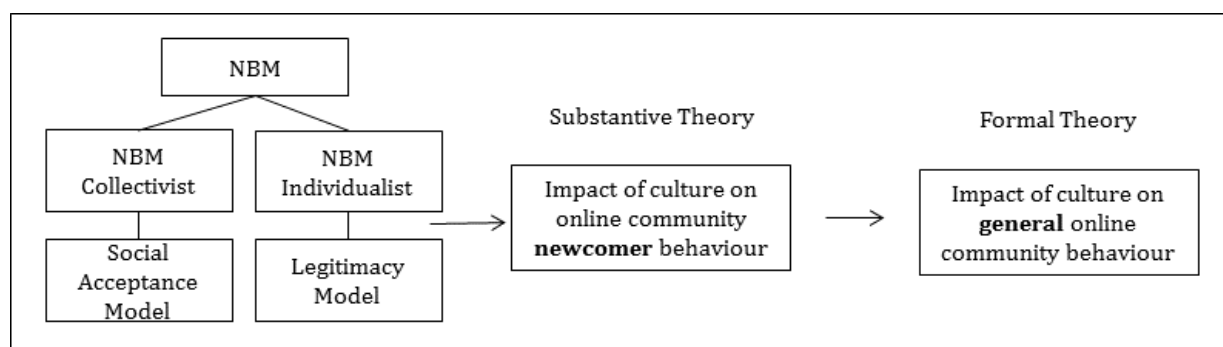
The initial NBM was mainly derived from previous theory, and served as a framework for the directed content analysis. Thus, this was not a theory, but a means for structuring and classifying existing newcomer theory. However, the subsequent models were different to the original NBM because of their construction via the comparative directed content analysis. It is argued that these models were a type of substantive theory as they are explaining the behaviour of newcomers in online communities, albeit in a model format.

This leads to the more complex question of whether models derived from previous theory (i.e. emergent models) are theories in themselves. They have been inductively generated, show relationships between concepts, and aim to explain a certain phenomenon. It would be erroneous to suggest that these emergent models are theories because in their definition and structure, they are models and not theories. Nevertheless, as these models have been created using the findings from an analysis, have intrinsic theory within, and are explaining some type of newcomer behaviour it could be suggested that they are a type of meso-level (or intermediate) theoretical model. Meso-level or multilevel theories are important for making explicit the links between constructs that have not been previously linked (Klein, Tosi, & Cannella, 1999), and it is suggested that the NBM and subsequent models facilitate this.

Although it has been argued that these models are neither substantive nor formal theory, they could form the basis of the construction of a more formal theory of online community behaviour. Effectively, what do these models say about the general understanding of the impact

of culture on online community users? By identifying that there are cultural differences in newcomer behaviour through using some of these models (i.e. NBM, NBM individualist, NBM collectivist, legitimacy model), these findings could be the basis for explaining the differences in general online community behaviour across cultures. In essence, these models are structures for substantive theory of newcomer behaviour, which could direct the creation of formal theory within the knowledge gap of the cultural impact on online community users generally (i.e. not just newcomers). In essence, although formal theory was not developed in this thesis, the analysis and models could serve as a foundation for future formal theory.

Figure 38: Suggested future development of formal theory



Another important question to pose is whether the NBM, and subsequent culturally specific models, are useful and applicable tools for analysing newcomer behaviour. The initial NBM was successfully implemented over five different online communities (the two pilot communities plus the three communities used for the cross-cultural analysis). The implications of this are that the model can be generalised to many different online communities. This shows that the model can be practically used by researchers to investigate online community newcomer behaviour by analysing newcomer theory within an integrated system (i.e. within the model parameters). Although this does not imply usefulness, it does demonstrate its potential application across many different communities. Future research could investigate the application of these models by researchers, and whether they felt it was useful for them in online community management. In addition, the model has been used in online communities from four different cultures (i.e. Spain, Ireland, Australia and Canada⁶²), and one from a community where there were many different cultures within (i.e. the Coursera MOOC). This shows how the model can be used across national cultures, and even in online communities where cultural origin is not of importance.

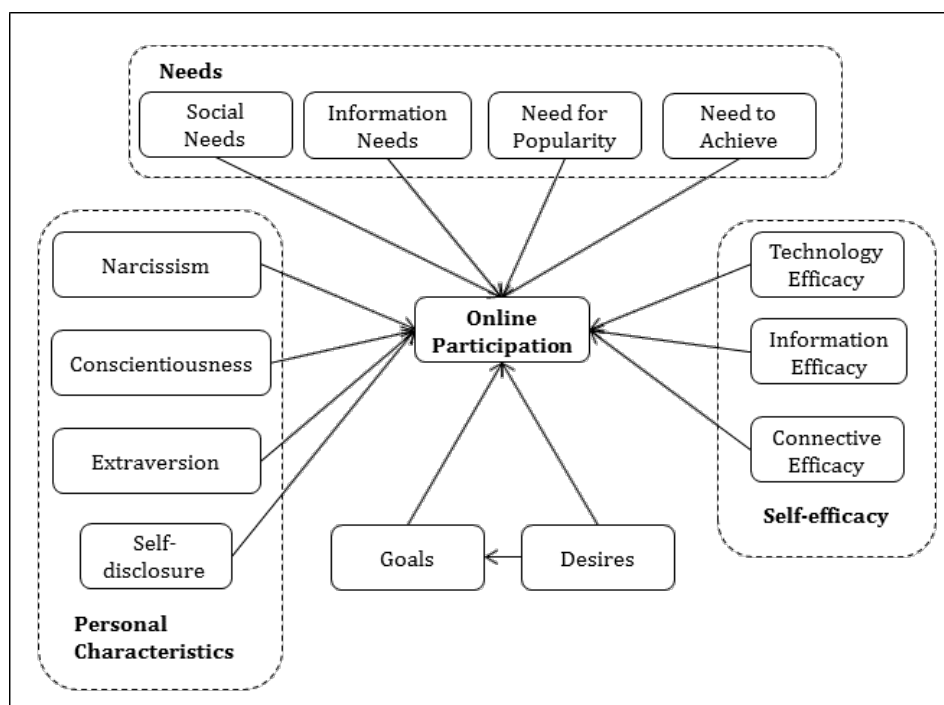
⁶² The NSMB forum is a Canadian mountain bike forum.

The research established that newcomer behaviour differs depending on the cultural background of the user, and in particular, between individualist and collectivist cultures. This has likely implications for online community managers, especially those who work in global corporations with multiple user bases in different countries. Many global corporations use online communities to interact and help customers, and understanding that the individualism/collectivism differences have the same impact on newcomers in an online community as they do in an offline setting is an important finding. Although previous research had identified this cultural difference within websites and online communities generally (Fong & Burton, 2008; Pfeil et al., 2006), it had never been substantiated using particular social roles (i.e. the newcomer). This is a significant development, as it can help researchers and online community managers drill down into differences in user behaviour using social roles.

In essence, the research showed that the application of this individualism/collectivism divide is possible by not only using data from the entire online community but also in micro-level social roles. By using social roles in online community cross-cultural analysis, they can reduce the complexity of newcomer behaviour and allow for more thorough comparison and classification between different types of users. This is particularly important for online community managers, as newcomers are the driving force behind online community development. Understanding differences between them could have an impact on online community management and development; for example, this is useful for sampling in cross-cultural research projects where previously it was unknown whether theoretical differences that manifested themselves across cultures could be applied to particular cohorts of online community users (such as newcomers). It was also unknown how methodologically these types of cross-cultural comparative analyses could be undertaken. This research has opened up the scope of future cross-cultural analysis to many different social roles and potentially to a greater scope of theoretical abstraction.

An interesting post-analysis development was the identification of new research by Sun, Rau, and Ma (2014) who analysed the behaviour of another social role, lurkers, using a model of motivational factors of online behaviour, and investigated the factors that influence online participation.

Figure 39: Sun, Rau and Ma's (2014) exploration of factors that influence online behaviours in lurkers



Their model was developed using a classification of online behaviours based on findings from the literature, and it was notable that some of their model elements were similar to the model elements in the NBM. For example, information needs, self-disclosure, conscientiousness, extraversion and social needs are similar to information seeking, information provision, emotional disclosure, socialisation and social expression. Although they have focused more on motivational and participatory behaviour, this literature demonstrates the emerging interest in generating models to explain social role behaviour. It also demonstrates that the method of model creation using previous theory is both warranted and useful for understanding social role behaviour.

6.3.5. The Impact of National Culture on the Findings

A final major question that needs to be discussed is whether national culture was contributing to the similarities and differences found in newcomer behaviour. Although similarities and differences were identified in the analysis, it must be questioned whether these are as a result of cultural differences or as a result of some other factor or bias within the methodology, data analysis or other external factors. This relates to RQ7: Does national culture have an impact on the behaviour of online community newcomers? In effect, can it be determined that cultural factors are linked with these differences or were there other factors, either within the research process or within the data that are influencing the results?

The manner in which the methodology was developed could have had a major influence on the findings, and whether the similarities and differences identified were as a result of cultural differences in the data or due to some methodological influence. Great care was taken in the methodology to ensure that the results outputted would relate to cultural and newcomer behaviour factors. For example:

- Using a cultural specific sampling framework ensured that the communities selected were the best fit to answer the research question. By having a structured sampling framework to use across all three communities, which incorporated national culture elements, the community data had sufficient rigour to warrant successful cultural comparison.
- Construct and method biases were addressed in the methodology through validation strategies. These biases can have a significant influence on cultural investigations.
- Framing the directed content analysis with previous theoretical elements (i.e. the NBM) allowed for easier and more refined identification of cultural differences within the parameters of newcomer theory.
- The use of individual case studies prior to comparative analysis helped focus the analysis on individual cultural spheres before comparison. If all three communities had been analysed at the same time, there would have been difficulties in extracting cultural differences.

These research activities aimed to focus on cultural comparison rather than the comparison of any other factors. Although, care was taken in the methodological construction, it must be conceded that there could have been methodological choices that could have had an effect on the results. Perhaps communities where the context of the discussion was more strongly focused on a particular cultural element (e.g. politics, national identity etc...) could have been sampled, and subsequently presented stronger cultural differences. However, it was decided that more general online discussion communities would be better to sample as cultural elements would emerge more holistically and the results would be potentially more generalizable.

Moreover, cultural behavioural categories could have been included within the directed content analysis (e.g. using general cultural behavioural attributes such as individualism and collectivism as codes). These could have potentially presented more culturally specific results. For example, individualism and collectivism could have been used as themes in themselves, and text which demonstrated these behaviours could have been coded in NVivo. Interrelationships between the newcomer behaviour themes and the cultural theoretical themes could then have

been investigated. This would have supported potential interrelationships between coded categories.

This was not implemented within this iteration of the content analysis because of three reasons: First, as the primary focus of the content analysis was to explore newcomer behaviour cross-culturally, newcomer behaviour was at the forefront rather than culture. If cultural elements were included in the thematic analysis it is suggested that the analysis would have been leading the research question. It was decided that by omitting these cultural categories, cultural differences would emerge more holistically. Given that the differences were identified without this theoretical cultural coding, perhaps future research using these categories could be implemented to support this research. Secondly, the categorisation of cultural theory could be a very difficult affair given the broad interpretations of how each category could be coded. For example, the concept of 'individualism' would be very difficult to code in the same way across the three communities. Maintaining construct validity for these theoretical constructs could be difficult and hence the validity of the analysis could be called into question. Thirdly, although some preliminary work into the interrelationships between categories was conducted (see Appendix N), the complexity of looking at the interrelationships between 9 higher level categories and 29 sub-categories with additional cultural categories would have been an endeavour outside the scope of the project.

Having addressed the potential impact of the methodology and data analysis in the context of national culture, a further important issue was whether the results of the data analysis could have been attributed to national cultural differences or were any external factors impacting on the results. In order to determine this, it is helpful to examine what external factors could have had an effect on the results and what measures were taken to prevent this (i.e. if factors not attributable to culture would have affected the similarities and differences).

Some of the differences identified between the three communities were linked to the structure of the community. For example, differences in information seeking location, differences in the construction of acronyms and differences in introduction forum usage. Previous research has identified that there are structural differences in online communities from different cultures (Jawecki et al., 2011). Could differing structures within the communities have had an effect on the results? Firstly, the three communities were selected using the sampling framework, which aided the selection of communities with similar structures. All three had used similar forum structures and software. However, it is useful to look in detail at the differences and how community structures could potentially have had an impact on the results. In the case of information seeking location, where the Spanish newcomers tended to post within existing

threads rather than creating their own threads, the analysis has attributed this to the collectivist nature of the Spanish culture. It could be argued that perhaps the structure of the Spanish community could have had an effect on this in some way, but closer investigation shows that all three communities followed the same structure with relatively the same sub-forums and community discussion structure.

Additionally, the differences in the construction of acronyms could also have been attributed to community structures, such as a lack of a dictionary explaining acronyms in the Spanish community resulting in the lesser likelihood of using this linguistic tool. However, in the few cases where an acronym was used in the Spanish community and newcomers asked for an explanation of meaning, existing members always provided an answer. Perhaps not having an acronym dictionary resulted in the lesser use of acronyms but it is unlikely that this community structure would have had such a great impact on their use. The third difference identified, introduction forum usage, could not be explained through differences in community structures, as all three communities had this facility and yet the Spanish newcomers failed to use it as much as the other two communities.

Another issue that could have had an effect on the results was the tactics of the online community moderators. Were the moderators guiding newcomers towards particular behaviours, or were their behaviours rooted in their national culture? It is unlikely that this was the case, as in all three communities (and in particular the Irish and Spanish communities) moderation took a back seat and the newcomers and existing members were allowed to interact with little guidance from moderators. This was determined through the content analysis of the newcomer threads and posts, where there were few instances of moderators guiding newcomers towards particular behaviours.

A key finding from the analysis showed differences in emotional disclosure between the Spanish, and the Irish and Australian newcomers. Could this difference be attributed to differences in the topics for discussion?⁶³ If the Spanish community has more sub-forums related to emotional topics could this have guided and affected the emotional nature of the discussions? An analysis of the sub-forums across the three communities showed that the nature of the discussions was the same, with relatively similar topics for discussion such as Pregnancy, Trying to Conceive and Childbirth.

Aside from community specific topics, could external factors have had an influence on the results? One issue which previous literature has neglected is the difference in Internet

⁶³ More discussion on this topic is available in the limitations section 7.4.1.1.

penetration in the country, and how comparing cultures with widely different penetration rates could present problematic results. In this research, this problem was mitigated by sampling communities with similar Internet penetration rates⁶⁴.

By strictly adhering to the validation strategies, carefully considering the methodology and data analysis, and reflecting on possible external factors, it has been determined that the best possible structures were in place to ensure that the differences were as a result of national cultural differences. However, it is noted that some limitations of the research could have also had an impact on these issues discussed.

6.4. Research Limitations

A research limitation is a systematic bias which was not or could not be controlled by the researcher, and could potentially negatively affect results (Price & Murnan, 2004). Limitations can have a major impact on research findings and the ability to successfully answer research questions. A helpful structure to address limitations is to describe the limitations, reflect upon them and determine how they could be overcome in the future. Two types of limitations were identified during the research, methodological limitations and analytical limitations.

6.4.1. Methodological Limitations

6.4.1.1. Sampling

The first major limitation of this research was identified in the sampling of newcomers. In the literature review, there were some sampling limitations that were identified in previous literature including maximum variation sampling, Internet penetration differences of sample populations, using student populations, small sample sizes, an unbalanced gender ratio and the inability to ascertain the real nationality of members in the community. This research aimed to circumvent these sampling issues, and contribute to the online community methodological base by creating a cross-cultural sampling framework. This framework ensured that the communities selected for sampling were from a defined geographical country, were active, and had a wide range of different social roles within. In addition, student populations were not used, and each country selected had similar Internet penetration rates. The implications of the sampling framework, and the addressing of problematic sampling issues, is that the data analysis is more robust, biases arising from the sampling were mitigated, and a representative sample of newcomers from each country was extracted.

⁶⁴ Ireland: 79%, Spain 72% and Australia 82% (International Telecommunications Union, 2013)

However, one major sampling limitation that warrants discussion is the inherent gender bias in using parenting communities. It was evident both from the sampling and the analysis that most of the newcomers and existing members being analysed were female. This was supported by data from Alexa.com, which described females as being 'over represented' in each of the three communities (Alexa.com, 2014). Previous studies have found that there are gender differences in language use where women tend to use more words related to thoughts and emotions than men (Newman, Groom, Handelman, & Pennebaker, 2008). Within the online community setting, women and men also behave differently, with researchers describing how women tended to ask more questions, supplicate, apologise, support others and justify themselves more than men (Herring, 1993). The implications of these differences could have had an impact on the overall cross-cultural comparative results. It could be suggested that a more gender neutral community could have presented different findings.

It could be argued that because there were more female newcomers, some of categories coded, such as emotional disclosure, information seeking and conversation strategies could have been different if both male and female newcomers would have been used. However, given that one of the major differences between the three communities was emotional disclosure; this demonstrates that the differences between individualist and collectivist cultures transcended gender boundaries. If no differences in emotional disclosure had been found, then gender could have been a problematic element. However, this was not the case.

Finding an online community with similar numbers of male and female users would also have been difficult, given that many online communities are geared towards a particular gender or are related to a gender specific subject matter. Studies using social network sites such as Facebook where similar numbers of male and female newcomers are present could be a way of addressing this, but using a cross-cultural methodology in this space could be difficult because of the large size and global scope of the network. However, it is accepted that using a gendered biased sample could have had an impact on the results and would have been a limitation in the analysis.

Another area of sampling concern is the data collection period selected to sample the newcomer data. Two issues arose here; whether there was an optimum time for sampling data from parenting sites, and whether there was an optimum time for sampling data from each country.

It could be posited that birth rates tend to be higher at different periods during the year thus impacting on the data sampled. This can be addressed in two ways. In the case of this research, specific sampling dates would not be an issue due to the fact that the online communities sampled were not limited to discussions on just birthing. A wide range of different topics from

birth up to teenage years are on these communities meaning that time of year would not have an impact on sampling. If the community was limited to birth only, it could have potentially been an issue. In addition, Irish data suggests that that “total births were fairly evenly spread throughout the year”(The Economic and Social Research Institute, 2013, p. 47). This is also reflected in Australian (Australian Bureau of Statistics, 2012) and Spanish (Instituto Nacional de Estadística, 2015) statistics. This suggests that month of birth would most likely not have had a causal effect on posting, however, more research is needed to confirm this. Reflecting on these considerations, it suggests that there is no ‘optimum’ time for sampling from parenting sites because of the breadth of topics on the online community, and because birth rates tend to be relatively uniform over a year.

Regarding the second potential temporal limitation, whether there is an optimum time for sampling data from each country, this brings about some interesting reflections. In each geographical country sampled, different social, political, economic and technological movements are taking place at different times. This brings into question whether these movements would have an impact on the data sampled, and whether they could, or should, be taken into account. For example, recession was occurring within Spain and Ireland, and not in Australia during the sampling periods. Data trends from Ireland has shown that birth rates increase in recessionary times, which could suggest that increases in the use of online parenting forums could occur during these times. However, as the breadth of data sampled is not limited to just birthing forums (as discussed above), it is unlikely that this would have an impact on the data across the different geographical countries.

Newcomers are using the parenting communities to discuss a wide range of different topics when their children are at different stages of development, not just during periods of pregnancy and birth. However, it is also important to consider whether country specific movements could have an impact on internet use, and consequentially, on use of online communities. Research has shown that there has been a steady increase in online community use across the three countries sampled, notwithstanding country specific movements. Investigating the potential impact of offline country-specific movements on online community behaviour would be a very interesting endeavour, but, it is outside of the scope of this research. It is concluded that this could be a potential limitation of the sample.

Related to this demographic limitation is the use of first world countries in the analysis. One of the findings from the literature review was the under-representation of developing countries in online community research. Using these types of countries would have been difficult for this research because of language barriers and other access problems. It could be argued that by not

including developing countries in the newcomer analysis, potential behaviours could have been missed. Developing countries such as Guatemala, Angola and Algeria (International Telecommunications Union, 2013) have low Internet participation rates; could newcomers in these newly connected countries have different behavioural traits than those in countries with longer established Internet participation rates? In effect, could online community newcomers who are newcomers to the Internet behave differently to those newcomers who have more experience with the Internet? The issue of generalisability is a contentious one in qualitative research, and it must be questioned how generalisable are the theoretical elements to developing countries and in a broader sense to other online communities.

6.4.1.2. Generalisability

It is important to note that generalisability in case study and qualitative research has long been discussed where opponents believe that results from single or a small number of cases cannot be generalised to larger populations. However, this criticism has been treated as a nonissue by proponents as the primary role of qualitative case study research is to interpret rather than measure or predict the meanings of agents within social contexts (Malcolm, 2004). In effect, generalisability is not the goal of qualitative research, and by expecting generalisability in the same way as in empirical studies theorists are misinterpreting the aim of qualitative research.

Rather than using the term 'generalisability' for the qualitative models developed in this research, it is better to reflect on the construction and validation of these models to ensure that they are robust, well-constructed and applicable to other research spaces. It is not the aim of the models to be generalisable but rather that they can be successfully applied with the support of clear validation techniques and rigorous development. The validation of the models has been discussed in Chapter 3, Chapter 4 and Chapter 5. Although the newcomer theory used in the models has not been tested in developing countries, the creation of the NBM allows for this to take place in a simplified, validated and iterative manner because all the newcomer theoretical elements are contained in one novel tool.

In addition, given that parenting communities were used during the analysis, another concern would be how generalisable/applicable are the models generated by these communities to other online communities? A question could be posed as to what extent is this analysis exploring newcomer behaviour generally, or is it only exploring newcomer behaviour within the context of parenting communities. Two responses can address this. First, the use of the NBM decontextualises the data from the context of parenting by using the behavioural categories derived from previous theory, rather than categories derived from parenting. Secondly, the NBM was piloted in two other communities not within the parenting context which

demonstrated that the model can be used across other online communities and is not fixed to the context of parenting.

Another aspect of generalizability that needs to be addressed is whether the results of the qualitative analysis are in any way generalizable to other national cultures. The online community newcomer behaviour models for individualist and collectivist national cultures were developed using data from Spanish, Irish and Australian newcomers. The inference that data from these national cultures can be used for all national cultures defined as individualist or collectivist is tentative rather than a fixed definitive result. More research needs to be done using data from other individualist or collectivist national cultures to definitively determine the validity of the models. With other studies that have come across similar findings pertaining to individualism and collectivism in the online space, most do not affirm that their findings are generalizable to all national cultures and advise that more research needs to be done. In essence, the early stage of cross cultural online community research is a limitation that ties in with the issue of generalizability. It is difficult to address generalizability across all national cultures given that there is a dearth of research in this area. Even when meta-analysis of individualism, for example, are conducted in the offline space, there are difficulties in aligning results (Oyserman, Coon, & Kemmelmeier, 2002).

However, as Malinen and Nurkka (2015) comment in their cross cultural study which uncovered individualist and collectivist traits in online diary users, “even though cultural background alone cannot explain user behaviour, it is clear that cultural differences exist in online community use”. It cannot be postulated that the results from this thesis are a definitive model for newcomer behaviour across different national cultures. However, the thematic elements in the model do point to differences within the data, and are a preliminary tool that can be augmented and examined by online community moderators and researchers. Caution is advised when using the models as fixed determinants of newcomer behaviour in different national cultures, but it is only through an iterative process using multiple online communities that a more stable model can be developed.

6.4.1.3. Early Stage of Research

Another limitation of this research related to the validity of the theoretical elements used in the NBM given the early developmental stage that the field of online communities is in. Although there has been research on newcomer behaviour, it is small given the massive scope of online communities. The theoretical elements used to create the NBM are those produced at this developmental stage, and future theory could have an impact on the model. One could argue that as online communities are at such a preliminary phase of theoretical analysis that the

models created via directed content analysis are not as accurate as they could be if the field were more advanced. This is a potential limitation of the analysis that is difficult to address. One reflection on this limitation is that as the models have been developed through qualitative methods they lend themselves to integration with new theories in the future. If, and when new theories of newcomer behaviour emerge, they can be added to the model and used in further directed content analysis investigations.

6.4.1.4. The Selectivity of the Thematic Analysis

The use of directed content analysis with newcomer theory calls into question whether the analysis was too limited to one particular subset of online community literature. Could a broader set of themes have been used from online community user behaviour literature have been used for directing the content analysis, and what would have been the implications of this?

Using only newcomer theory to direct the content analysis was done in order to focus the research on newcomer behaviour specifically. As a cross cultural analysis of online community newcomer behaviour had never been done previously, the focus of the directed content analysis was guided and framed by newcomer theory. This was a necessary decision to be made. If other online community theory was to be included in the directed content analysis, this theory would not have been tested within newcomers, and the analysis would not just have been a cross cultural comparison, but also an investigation into whether existing online community theory pertained to newcomer roles. This is an activity that is needed within this space, but was outside the scope of this research.

In addition, a newcomer behaviour model encompassing all of the previous newcomer research had never been constructed previously, and this was needed for the directed content analysis. Other online community behavioural theory could have potentially been used in the newcomer behaviour model, but it would not have been known whether these elements pertained to newcomers prior to the qualitative analysis.

However, it could also be criticised that the emergent analysis was limited because of its directedness by the existing newcomer theory. If a wholly interpretivist analysis was used, without using the newcomer behaviour model, could different themes have emerged? It is conceded that a purely emergent approach (for example using grounded theory) would have brought up different themes. However, the methodological rationale for using directed content analysis was in order to support an analysis in a novel area of research, and aid the comparative analysis of newcomers across national cultures. The research process would have been more complex, in that first thematic analysis would have had to be done across all three communities,

then these themes classified and compared across the different communities. It is unknown whether the same themes would have emerged across the communities, and a cross cultural analysis would have been more limited to only themes that were emerging across all three communities. The use of newcomer behaviour as a classifying theme for comparison was a necessary decision to aid the comparative analysis.

An opposite criticism could have been made if an emergent interpretivist methodology had been employed, existing newcomer theory would have been neglected, and those themes would not have emerged or would not have been classified in a way that would aid comparison.

To clarify, the process of constructing the newcomer behaviour model without existing general online community theory was done on purpose for the following reasons:

- To focus the cross cultural analysis on existing newcomer behaviour theory specifically.
- Using other online community theory in the cross cultural analysis would mean using untested directed themes in newcomers. It would not be known whether these themes pertained to newcomers at the onset. In effect the analysis would be multi-layered; comparing both newcomer behaviour across cultures, and general online community behavioural themes across cultures in newcomers.

6.4.2. Analytical Limitations

6.4.2.1. Cross-cultural Analysis

Another limitation worthy of discussion is the limitations of a cross-cultural comparative analysis using online data. The definition of culture and geographical location online is a difficult concept to address. Although the sampling framework aimed to mitigate this difficulty, it is understood that culture is not limited to geographical location. There are many different sub-national cultures within the Irish, Spanish and Australian geographical space, and inferring that all of the newcomers sampled are 'Irish', 'Spanish' or 'Australian' cannot be guaranteed. However, as all previous research into cross-cultural online communities have used this conceptualisation of culture related to geography, this lends some validity to using the same approach⁶⁵. In addition, the use of validation techniques from the cross-cultural method also supports the use of these samples.

It is difficult to determine how else the sampling could have been conducted in order to alleviate this problem, and it is an issue frequently discussed in the cross-cultural literature. If other

⁶⁵ See Chapter 4 for details of this literature.

methods such as interviews and surveys were used, perhaps this could have been mitigated as the cultural identity of the newcomer would be more evident? As previously discussed in Chapter 3, the use of interviews was not feasible within the scope of this thesis, and online surveys do not guarantee the cultural location of a respondent.

Another issue is how objective the content analysis without being biased towards the different cultures. The issue of bias was addressed in Chapter 3, however it is understood that personal cultural biases may have limited the results.

6.4.2.2. Similar Cultures Comparison

Another research limitation was seen in the lack of difference identified between Australian and Irish newcomers. For example, Hofstede's scales describe Australia as more individualist than Ireland; however, this was not identified in the newcomer analysis. This can be addressed in two ways; either Australian or Irish newcomers are very similar, or the methodology used was not suited to identify smaller differences that could be present in newcomers of similar national cultures.

One of the problems with qualitative analysis is that smaller ranges of difference, which can be seen with quantitative research through the use of statistical analysis, cannot be easily identified nor described. Although both Irish and Australian newcomers were identified as individualist, levels of individualism were not easily identified with the comparative content analysis. The literature review described how maximum variation sampling was commonly used in previous research. Maximum variation sampling gives more pronounced results, and yet using similar cultures is as important but more difficult to discover differences. It is understood that one of the limitations of this research is that more understanding of potential differences between similar cultures were not identified, mainly because of the difficulties in identifying these differences by using an exploratory qualitative analysis. However, this limitation does serve as a rationale for more detailed research using quantitative methods into cross-cultural newcomer differences, which could potentially identify differences between similar cultures such as Ireland and Australia.

6.5. Research Contributions

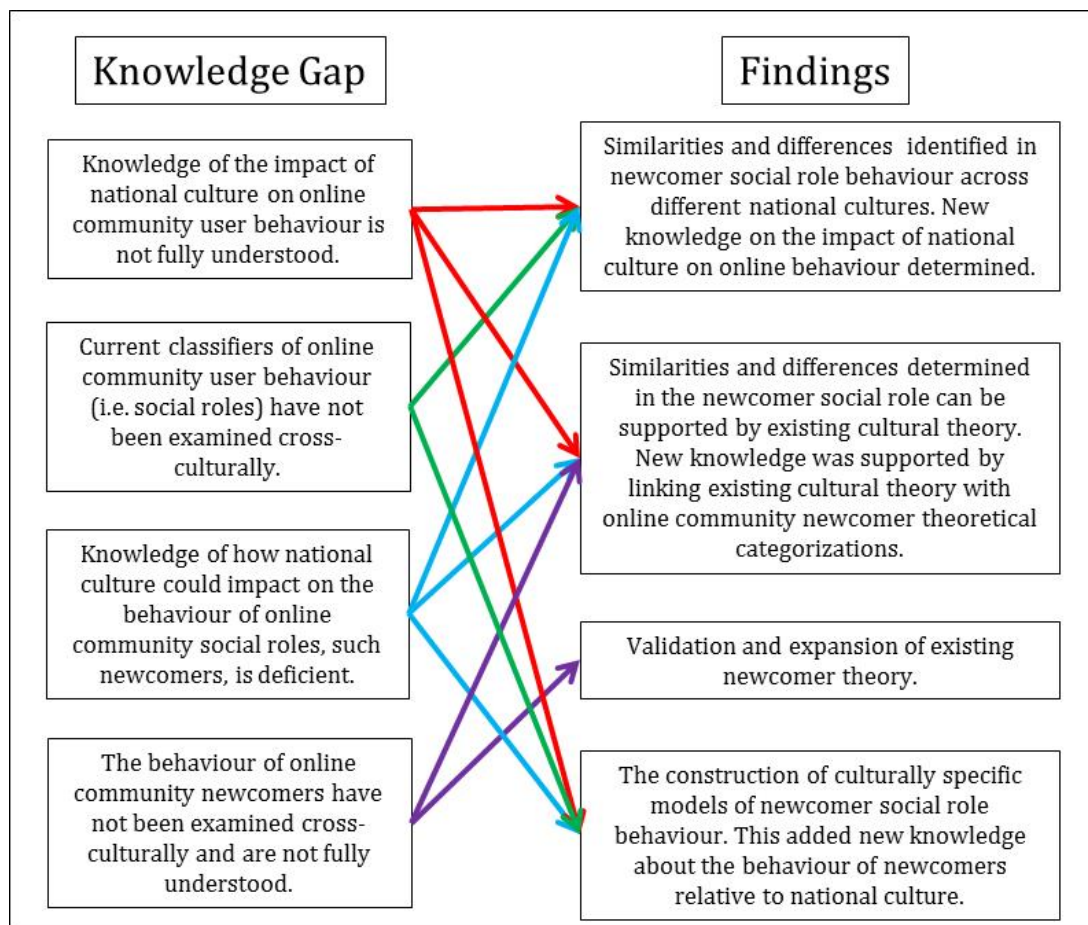
Relating back to the form of the PhD as defined by Philips and Pugh (2005) in Chapter 1; this contribution section highlights "how background theory and focal theory are now different as a result of the study" (Philips & Pugh, 2005, p. 60). This section highlights these differences through dividing the contributions of this research into three types; bridging the knowledge gap, methodological contributions and theoretical contributions. These latter contributions

have been classified by Wobbrock (2014) as common contributions in the Human-Computer Interaction field, and are helpful to structure the many contributions of this thesis.

6.5.1. Bridging the Knowledge Gap

One of the key findings from the initial literature review was the lack of knowledge on the impact of national culture on online behaviour. This thesis aimed to explore this knowledge gap by investigating the behaviour of the newcomer social role across three online communities from different cultural origins. Looking back to these knowledge gaps identified in Chapter 2, we can see that the findings from Chapter 5 and Chapter 6 did indeed provide new knowledge to bridge these gaps.

Figure 40: Bridging the knowledge gap

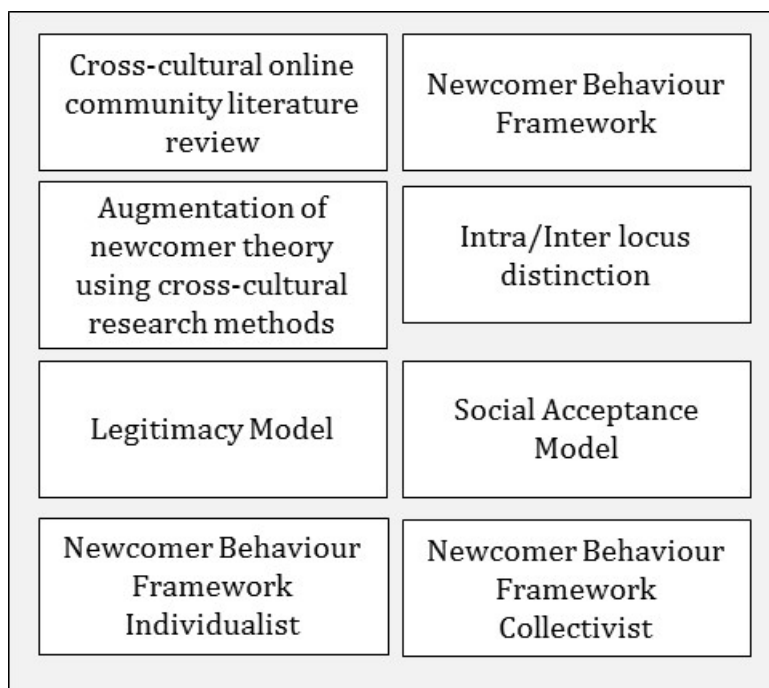


This figure illustrates the bridging of the knowledge gaps using the research findings, and demonstrates at a high level the contributions of this research. The following section goes into further detail as to the contributions of this research, and evaluates them within the context of the research area.

6.5.2. Description of Research Contributions

Figure 41 summarises the contributions of this research.

Figure 41: Summary of research contributions



1. **Findings from the cross-cultural online community literature review (SA1⁶⁶):** This literature review explored the prevalence of cross-cultural online community literature, and contrasted the literature in terms of the cultures and online communities compared, the research topics used, and the differences in methodology and sampling techniques (Gallagher & Savage, 2012). This was an important contribution for the research area as it uncovered some problematical methodological issues related to cross-cultural online community literature, and provided new awareness where previously there was a substantial lack of understanding in this area. This contribution could have an impact on future online community research as the findings can help guide and support online community researchers to use appropriate methodologies in the most valid and correct manner while avoiding common pitfalls and biases.
2. **The inter / intra online community comparative distinction (SA1):** The cross cultural online community literature review identified a key distinction in the comparative locus of cross-cultural online community analyses, namely whether the investigation is focused on multiples cultures within a single community, or comparing

⁶⁶ SA1 refers to secondary research aim as explained in 1.2.2.

multiple communities from different cultures (Gallagher & Savage, 2012). By identifying this distinction, the results from research outputs are easier understood and classified. This distinction had not been previously identified and could have future impact on online community research by helping focus investigations and literature reviews on one or other loci.

3. **The augmentation and expansion of newcomer theory using cross-cultural research methods (PRA, RQ 4 and RQ5):** Through the use of conceptual models, differences and similarities in online community newcomer behaviour have been newly discovered. This is an important contribution for online community research as it demonstrates that cultural elements are of particular importance for user behaviour, that cultural theory can be used to explain differences in newcomer behaviour and that the constructed models can be applied practically to online community datasets. The impact of this contribution is significant. Researchers in this space have now been given a foundation for further investigations into the impact of cultural differences on newcomer behaviour. For example, future research could triangulate some of the findings with alternative methods. Researchers could focus in on the emotional aspect of online community newcomers in collectivist cultures, for example, and construct surveys to further cement the findings of this research. In addition, the impact of this contribution means that taking culture into account during online community user investigations is both necessary and warranted, and can serve as a foundation for future research.
4. **Newcomer Behaviour Model (PRA, RQ 1/2/4/5/6/7, and SA4):** This model contributes to the online community field by amalgamating newcomer theory into one tool that can be applied to many other research activities. By providing a tool with many different elements of newcomer theory, an improved and wider understanding of newcomer behaviour can be made. This can facilitate positive online community development and management. The impact of this model could be significant, given that its development and structure could be re-applied to other social roles (e.g. leader behaviour model, lurker behaviour model), and used not only in a cross-cultural manner, but also to investigate the behaviour of community members within individual communities.
5. **Newcomer Legitimacy Model (PRA, RQ1/2/3/4/5/6/7 and SA4):** The newcomer legitimacy model contributes a new understanding of legitimacy in online community newcomers which has practical applications both for researchers and online community managers. The model can be used to frame and understand legitimacy behaviour, and could also be expanded to form the basis of legitimacy with other social roles (e.g. how

leaders legitimate themselves in online communities). This initial legitimacy model could be the foundation for the creation of multiple models of legitimacy within online community social roles, which could have a major impact on the overall understanding of legitimacy within the online community space.

6. **Newcomer Social Acceptance Model (PRA, RQ1/2/3/4/5/6/7 and SA4):** The social acceptance model not only contributes new understanding of newcomer social acceptance, but it also demonstrates that singular newcomer theoretical elements, derived from the NBM, can be integrated to form additional models. In essence, the model not only contributes a tool for researchers and moderators to understand newcomer behaviour, but also supports the integration of singular newcomer theoretical elements to form distinct models of behaviour. The impact of this model is that it could be used as a template for forming child-models with NBM categories, and further drive the creation of new online community user behaviour models.
7. **NBM (Individualist) (PRA, RQ1/2/3/4/5/6/7 and SA4):** This model provides a novel tool for understanding newcomer behaviour in individualist cultures. It is an important contribution as it addresses new cultural differences in online community newcomer behaviour, and is a practical tool for researchers and managers to investigate newcomer behaviour in individualist cultures. Its impact is not only in its practical application, but also as an example of how culture is having an impact on newcomer behaviour via the focal points, and provides guidance and drive for other researchers looking to expand knowledge in this research space.
8. **NBM (Collectivist) (PRA, RQ1/2/3/4/5/6/7 and SA4):** Similar to the previous model, this collectivist model provides a novel tool for understanding newcomer behaviour in collectivist cultures, and has both positive practical and theoretical impacts. It is an important contribution as it addresses new cultural differences in online community newcomer behaviour and is a practical tool for researchers and managers to investigate newcomer behaviour in collectivist cultures.

These eight theoretical contributions describe how the focal theory described in Chapter 2 - Literature Review, Chapter 4 - Newcomer Behaviour Model, Chapter 5 - Data Analysis and Chapter 6 – Findings and Further Model Development has been expanded and augmented, and contributed important practical and theoretical tools for the online community field.

Additional preliminary insights that have the potential to be contributions with further research include:

- A sampling framework for online communities with a defined national culture

- A new sampling framework for selecting online communities with a defined national culture within (i.e. a “French” online community) was developed through new culturally-specific variables and findings from the initial cross-cultural online community literature review. This is a useful potential future contribution to the online community field as in the past, these roles had not been presented in one location and it was difficult to ascertain the quantity, description and relevance of these roles. This could have an impact on the research space, as online community researchers now have a clearer view of the range of roles in the literature, which opens up potential new research topics and methodological choices using these roles. The classifications of social roles⁶⁷ could also help avoid the construction of duplicate social roles in new research, and maintain consistency in this field.
- A literature review of online community social roles
 - This potential future contribution classified existing descriptions of social roles within online communities, and provided useful structures for investigating these roles. This is a useful contribution to the online community field as in the past, these roles had not been presented in one location and it was difficult to ascertain the quantity, description and relevance of these roles. This could have an impact on the research space, as online community researchers now have a clearer view of the range of roles in the literature, which opens up potential new research topics and methodological choices using these roles. The classifications of social roles⁶⁸ could also help avoid the construction of duplicate social roles in new research, and maintain consistency in this field.

6.6. Future Research

Given that the online community research space is at a relatively youthful stage, there is ample room for future research using many of the contributions given by this research and expanding on the findings of the data analysis.

Many smaller areas for future research were identified from the data analysis including:

- Additional research on the cross cultural differences in newcomer politeness.
- Investigating the cross cultural differences in online community acronym use.

⁶⁷ See Appendix C.

⁶⁸ See Appendix C.

- Investigating the cross cultural differences in boundary maintenance by existing users towards newcomers.
- Investigating cross cultural differences in community responsiveness to newcomers.

Other outlets for future research emerged from the model development and general research outputs including:

- The creation of the leader legitimacy model (or the development of a legitimacy model for any other social role in the same way as the newcomer legitimacy model).
- The creation of online community social role behavioural models in the same way as the NBM (e.g. leader behaviour model, lurker behaviour model).

New research questions also emerged during the analysis including:

- Could online community newcomers who are newcomers to the Internet behave differently to those newcomers who have more experience with the Internet?
- How important is geography and culture as part of the social and collective identity of newcomers?
- Does internet culture transcend aspects of national culture in the online community space?

In addition, taking the methodological contributions in account, the sampling framework can be easily applied to other research studies to ensure rigorous sampling of cultural specific communities. Future research could determine whether this sampling framework could be augmented with additional cultural investigations through more quantitative data mining methodologies; for example, expanding on the variable 'national specific content' with statistical analyses of cultural content within the sampled online communities.

Within the theoretical contributions, the literature review determined a key distinction in the comparative locus of cross-cultural online community analyses; namely whether the literature is analysing multiples cultures within a single community, or comparing multiple communities from different cultures. Initially, this finding has consequences for the generalisability of research outputs between inter and intra comparative research. However, the full implications of this comparative distinction warrant future research.

The modelling elements of the thesis allow for future application within other online community data. The models and the methodology used for their application could be used to focus on particular newcomer behaviour elements, such as social acceptance, to expand on the current literature. It is also suggested that future research should examine the models in other

types of online communities, such as task/goal oriented communities (e.g. online learning communities) and internal business communities (e.g. corporate intranet communities). This would provide more validation sources for the models, and potentially determine additional emergent newcomer behaviours.

Another implication of this research, related to the results from the models, is that location, geographical and cultural factors have a much greater role to play in online community legitimacy than previously realised. Similarly, another area identified for future research is whether geographical and cultural information provision is as an important factor for newcomer integration within non-geographically specific communities. As the communities sampled were from culturally specific communities, and it would be pertinent to use the NBM in the same way for more general communities without a specific cultural leaning. This research has begun to examine this, but evidently, more investigations into this area are needed.

In addition, the relationships between the different model elements could be an important area for future research. Understanding if, for example, legitimacy and social acceptance have interrelationships would be useful for further understanding our knowledge of online community newcomer behaviour. This could involve both high-level theoretical analysis and more emergent analysis derived from the data. This analysis was commenced during this thesis, however, after some consideration; it was determined to be out of scope. Appendix N provides some reflexive notes on this potential future research.

In this research, data from developed countries has been applied to these models, however, as determined by the cross-cultural literature review, there is a dearth in research into online communities in developing countries. It would be very beneficial for the online community field to use these models within these countries in order to ascertain whether newcomers behave differently in developing countries. In addition, as online community research is expanding at a fast pace, additions to these models could occur as theory develops in this field.

The newcomer social role was investigated using the NBM in this thesis; however similar models derived from directed content analysis, could be constructed and applied to other social roles such as leaders, questioners and trolls. Contextual models could be developed using a similar methodology not only to determine whether there are cross-cultural similarities and differences within these social roles, but also as a framework for a wide range of behaviour analysis within these roles. Essentially, future research could construct Leader Behaviour Models (LBM), Questioner Behaviour Models (QBM) or Troll Behaviour Models (TBM). Leaders are of great importance to online community development, and although there has been some research into these social roles (Bock, Ng, & Shin, 2008; Giuri, Rullani, & Torrisi, 2008; Ho &

Huang, 2009; Luther & Bruckman, 2008), an amalgamation and modelling of leader theory would be very beneficial to this field.

In summary, there are many avenues for future research arising out of this research, both from the methodological and the theoretical contributions.

6.7. Has the Thesis Addressed the Research Aim?

The aim of this thesis was to explore the behaviour of the online community newcomer using a cross cultural analysis. Through the development of the NBM, subsequent models and the cross-cultural comparative analysis of the three communities this issue has not only been explored but practical tools have been developed for other researchers to explore newcomers in their online communities. This aim was strongly exploratory and through clear research questions, a comprehensive literature review, a rigorous methodology, sound data analysis, reflection on results, and model creation, this thesis has indeed explored newcomer behaviour.

6.8. Conclusion and Reflection

This research has been an interesting, fulfilling and exciting endeavour. From determining the research question via the literature review, developing the NBM from previous theory, examining the data, to creating the models, the research process has been both enjoyable and rewarding. In addition, contributing research outputs that could aid other researchers in the field is a very satisfying experience. In summary:

- This research has established that comparing cultures using social roles is a useful method for confirming, developing and expanding existing online community research.
- Existing theories of national culture can explain differences in online community newcomer behaviour.
- Online community newcomers across cultures behave similarly according to previous newcomer behaviour theory.
- However, there are some likely differences in online community newcomer behaviour across different cultural origins.
- Cross-cultural analysis of online community newcomers can validate, support and expand upon existing theories of online community newcomer behaviour.
- Culturally specific online community newcomer behaviour models are useful for investigating, understanding and structuring online community newcomer user behaviour.

- Differences in offline national culture attributes manifest themselves within online community newcomer behaviour. National culture has an impact on the behaviour of online community newcomers.

7. References

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Appendix A: Comparative cross-cultural online community literature review concept matrix

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
<i>Opinion-based</i>					
Ardichvili et al, (2006)	Qualitative interviews using 36 managers and employees over the three countries.	China, Brazil and Russia	Intra	Virtual communities of practice	Individualism vs collectivism, in-group and out-group members, saving face, modesty and competitiveness.
Grace-Farfaglia et al, (2006)	Online survey using 1344 respondents (approximately 400 from each country).	US, Korea and Netherlands	Inter	Online communities	Active online community participation, time spent on online community websites (own or other countries and language), online application use (chat room or online discussions), internet gratifications and cultural values.
Ishii and Ogasahara, (2007)	Survey conducted in metropolitan areas using 455 Japanese and 1013 Korean respondents.	Japan and Korea	Inter	Online communities and personal websites	Demographics, online community activity, real world versus online relationships, gratifications of online communities and social bonding.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Marshall et al, (2008)	Online survey using 245 university students from India and 241 from US.	India and US	Inter	Social Networking Websites	Online privacy, communication patterns in social networking websites and online versus offline relationships.
Chen et al, (2008)	Online survey using 333 students from Taiwan and 292 from the US.	US and Taiwan	Inter	Online environments	Online privacy control, behaviour and motivations.
Lewis and George, (2008)	Online and face-to-face survey using 99 US and 94 Korean respondents.	US and Korea	Inter	Social networking sites	Deceptive behaviour in computer mediated communication.
Xie and Jaeger, (2008)	Qualitative interviews with 33 Chinese and 37 US students.	US and China	Inter	Online community linked to computer training organizations	Online political participation.
Cardon et al, (2009)	Online survey with 1763 completed surveys from eleven countries.	China, Egypt, France, Israel, India, Korea, Macao, Sweden,	Inter	Social Networking Websites	Online and offline friends (social ties), demographics and frequency of use.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Posey et al, (2010)	Online survey using 263 respondents from France and 266 from the UK.	Thailand, Turkey and the US UK and France	Inter	Online Communities and Social Networking Sites	Self-disclosure in online communities.
Chou et al, (2009)	Online survey using 213 respondents from China and 216 from Taiwan.	Taiwan and China	Inter	A community of common interest or information exchange (Armstrong and Hegel's terminology)	Demographics, continuance intention of knowledge creation, satisfaction with online community, perceived identity verification and performance expectancy with online community.
Madupu and Cooley, (2010)	Online Survey using 70 respondents from India and 81 from the US.	India and US	Inter	Online brand communities	Motivation for online community participation and online brand community characteristics.
Karl, Peluchette and Schlaegel, (2010)	Online survey using 346 US respondents and 290 German respondents.	US and Germany	Intra	Online social Networking Site	Type of user information provided in social network.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Li, (2010)	Qualitative interviews with 21 US and 20 Chinese respondents both face to face and using a telephone.	US and China	Inter	Communities of Practice	Knowledge sharing.
Shin, (2010)	Paper survey with 170 respondents from Korea and 181 from US.	US and Korea	Inter	Social Networking Services	Motivations to use social networking sites.
Vasalou et al, (2010)	Online survey using 72 US, 67 UK, 95 Italian, 108 Greek and 81 French participants.	US, UK, Italy, Greece and France.	Intra	Social Networking Site	Motivation and commitment to use social networking sites.
Kim, Sohn and Choi, (2011)	Online survey using 349 undergraduate US students and 240 undergraduate Korean students.	US and Korea	Inter	Social Networking Sites	Use and motivation to use social networking sites.
Choi, Kim, Sung and Sohn, (2011)	Online survey using 349 undergraduate US students and	Us and Korea	Inter	Social Networking Sites	Use of social networking sites, network size and composition,

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
	240 undergraduate Korean students.				bridging and bonding social capital and online relationship development.
Chu and Choi, (2011)	Online survey using 363 US students and 300 Chinese students.	US and China	Inter	Social Networking Sites	Electronic word of mouth and social relationship variables in social networking sites.
Wang, Norice and Cranor, (2011)	Online survey using 343 participants from China, 354 from India and 355 from the US.	China, India and US	Inter	Social Networking Sites	Attitudes towards SNS privacy.
<i>Observation-based</i>					
Darling-Wolf, (2004)	Netnography / observation of three community forums.	16 undefined countries	Inter	Virtual Communities	Identity formation and cultural definition in a virtual community.
Pfeil, Zaphiris and Ang, (2006)	Content analysis of 952 'Game' article changes by users including 228 French, 155 German, 70 Japanese and Dutch.	French, German, Japanese and Dutch. Note: In this case language is used as a unit of culture	Intra	Wikipedia	Hofstede cultural influences and contribution styles of users.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Chou and Lee, (2009)	Content analysis of 1062 messages in a US forum, 230 messages in a Japanese forum, and 236 messages in a Taiwanese forum.	US, Japan and Taiwan	Inter	Discussion forums	Communication style, content and user behaviour in discussion forums.
Fong and Burton, (2008)	Ethnographic and textual analysis of 4308 discussion board postings in the US and 1685 in China.	US and China	Inter	Discussion boards	Electronic word of mouth, information seeking behaviour, information giving behaviour and country of origin effects in online community discussion boards.
Morio and Buchholz, (2009)	Content analysis of 10 most active and most visited topics in US and Japanese online communities.	US and Japan	Inter	Online communities	Social behaviour and anonymity in online communities.
Stvilia, Al-Faraj and Yi, (2009)	Content Analysis of Wikipedia weblogs and data.	Arabic, English and Korean Wikipedia Note: In this case	Intra	Wikipedia	Socio-cultural factors, and understanding and measurement across cultures.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Talukder and Joham, (2009)	Content analysis of 18 US forums, 15 Bangladeshi forums and 15 Venezuelan forums.	language is used as a unit of culture. Venezuela, Bangladesh and US	Inter	Virtual Communities	Structure and content of online communities.
Siau, Erickson and Nah, (2010)	Content analysis of 18 virtual communities, 3600 messages were analysed from 1761 posts; 805 from Chinese communities and 956 from American communities.	US and China	Inter	Virtual Communities	Knowledge sharing activities in virtual communities.
Hara et al. (2010)	Content analysis of 120 Wikipedia talk pages.	English, Hebrew, Japanese and Malay Note: In this case	Intra	Communities of Practice	Online community discussion behaviour.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Pflug (2011)	Content analysis of 350 samples of German and 350 Indian Google Groups postings.	Germany and India language is used as a unit of culture	Inter	Internet forums	Contextuality.
Jawecki, Füller, and Gebauer, (2011) Jawecki et al. (2011))	Netnographic analysis of five English speaking and five Chinese online basketball communities.	China and US Note: Most of the members of the communities were identified as from the US.	Inter	Online communities	Structural differences, innovation motives and output and process of innovation.
Mixed Methods					
Yildiz (2009)	Content analysis of forums, email and face-to-face interviews with five students studying English as a foreign language.	Native English and Non-Native English speakers Note: In this case language is used as a unit of culture.	Inter	Web-based class forum	Social presence.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Chapman and Lahav, (2008)	Observation and ethnographic interviews of 36 users of social networking sites in four countries.	US, France, China and South Korea	Inter	Social networking services / sites	Social networking interaction behaviours.
Diehl and Prins, (2008) (2008)	Observations and online surveys with 29 participants. US (12), Portugal (4), UK (3), Spain (2), Australia (1), Canada (1), Denmark (1), Germany (1), Guadeloupe (1), The Netherlands (1), Slovakia (1) and Ukraine (1).	US, Portugal, UK, Spain, Australia, Canada, Denmark, Germany, Guadeloupe, The Netherlands, Slovakia and Ukraine.	Intra	Virtual World	Cultural identity and intercultural literacy.
Liao, Pan and Zhou, (2010)	Observation and online survey Study 1: observation of 32 online communities from China and the US. Study 2: Online survey of 105 respondents from China and 103 from the US.	US and China	Inter	Online Social Sites	User behaviour and attitude towards online community governance practices.

Study	Methodology	Countries compared	Research typology	Online community type	Online community specific comparatives
Flores and Horner, (2010)	Participant observation and in-world interviews.	Latin American, American and British	Inter	Virtual Community	Leisure activities in a virtual community.

Appendix B: List of online community typologies

Author	Classification Type	Online Community Typologies
American Productivity and Quality Centre (2001)	Purpose-based	Technical Operational Note: These relate to online communities of practice only.
Carlen (2002)	Content-based	Educational Professional Interest Note: These related to online learning communities only.
Dube et al (2006)	Structure-based	Demographics Organizational Content Membership Characteristics Technological Environment Note: These relate to online communities of practice only.
Gongla and Rizzuto (2001)	Temporal-based	Potential Building Engaged Active Adaptive Note: These relate to online communities of practice only.
Hagel and Armstrong (1998)	Content-based	Personal Interests Demographic and Geographic Business to Business
Hagel and Armstrong (1998)	Content-based	Communities of Interest Communities of Relationship Communities of Fantasy Communities of Transaction

Author	Classification Type	Online Community Typologies
Hara, Shachaf and Stoerger (2009)	Structure-based	Demographics Organizational Content Membership Characteristics Technological Environment Note: These relate to online communities of practice only They are modifying Dube et al's version.
Hunter and Stockdale (2009)	Structure-based	Online Community: Business Sponsored; Socially Constructed; Volunteer Orientated Ownership: Business; Individual or Group; Organization. Value Proposition: Revenue; Personal Motivation; Mixed.
Schrammel, Köffel and Tscheligi (2009)	Structure-based Content-based	Business Networking Sites Social Networks Content and Media Sharing Networks Social News and Bookmarking Sites
Lazar and Preece (1998)	Structure-based	Attributes Supporting Software Relationship to Physical Communities Boundedness
Lechner and Hummel (2002)	Content-based	Games Interest Business to Business Business to Consumer Consumer to Consumer
Millington (2014)	Content-based	Leisure communities - Where people spend their leisure time. E.g. communities about celebrities, films and fishing. Relationship communities - Where people are looking for dates, friends, networking etc. Cause communities - For people trying to fix something wrong in the world.

Author	Classification Type	Online Community Typologies
		Self-improvement communities – For people trying to improve something about themselves. Collaboration communities – Where people collaborate through online tools to get their work done.
Mitchell (2007)	Structure-based	Centralized one space, one login (exclusive, limited to others). Decentralized (one space, multiple login options). Distributed using a range of (standard) spaces: Facebook, twitter etc. to build community).
Plant (2004)	Structure-based	Degree of Community Regulation Degree of For Profit Community Activity Degree to which the Community is Open
Porter (2004)	Purpose-based	Member Initiated: Social; Professional. Organization Sponsored: Commercial; Non-profit; Government.
Preece, Maloney-Krichmar and Abras (2003)	Content-based	Trade/Professional Hobby Fans/Sports Fans/Entertainment Local Health Beliefs Political Religious Sports Team Ethnic Cultural
Ridings and Gefen (2004)	Content-based	Health Interests Pets

Author	Classification Type	Online Community Typologies
		Professional Recreation
Schubert and Ginsberg (2000)	Content-based	Community of Interest Network Community
Seufert (2002)	Content-based	Work Learning/Study Research Private Interest
Stanoevska Slabeva and Schmid (2001)	Content-based	Discussion: PSP Communication, Relationships; Topic Oriented; Communities of Practice; Indirect Discussion Communities. Task / Goal Oriented: Design/Open Source; Online Learning; Transaction. Virtual World Hybrid
Wagstrom et al (2011)	Structure-based Purpose-based Content-based	Purpose Economy Member Platform Content Interaction Note: These relate to enterprise development.
Wenger et al (2002)	Structure-based	Size Life Span Geographic dispersion Boundary Span Creation process Degree of institutionalized formalism Note: These relate to online communities of practice only.

Appendix C: List of online community user typologies and classifications

1. Primary level classifier	2. Researcher defined classification	3. Researcher defined concepts					
Roles	Social Roles	Core Members Semi-Periphery Members Periphery Members (Ang & Zaphiris, 2010)	Moderating Supporter Central Supporter Active Member Passive Member Technical Expert Visitor (Pfeil, Svangstu, Ang, & Zaphiris, 2011)	Answer People Substantive Experts Technical Editors (Gleave, Welsler, Lento, & Smith, 2009)	Discussion People Discussion Catalyst (Himmelboim, Gleave, & Smith, 2009)	Key Contributors Low Volume Repliers Questioner Readers Disengaged Observers (Brush, Wang, Turner, & Smith, 2005)	Celebrity Newbie Lurker Flamer Troll Ranter (Golder & Donath, 2004)
	Member Roles	Leaders Motivators Chatters (Nolker & Zhou, 2005)					

1. Primary level classifier	2. Researcher defined classification	3. Researcher defined concepts					
	Learner Roles	Facilitator Contributor Knowledge Elicitor Vicarious Acknowledger Complicator Initiator Closer Passive Learner (Waters & Glasson, 2006)					
	Participation Roles	Simple Readers Casual Senders Hosts (Marcoccia, 2004)					
Types	Author Types	Answer Person Questioner Troll Spammer Flame warriors Conversationalist (T. Turner, Smith, Fisher, & Welser, 2005)					

1. Primary level classifier	2. Researcher defined classification	3. Researcher defined concepts					
	Member Types	Tourists Minglers Devotees Insiders (Kozinets, 2009)					
	User Types	Sporadics Lurkers Socialisers Debators Actives (Brandtzaeg & Heim, 2011)					
	Social Types	Questioner Answer Person Community Managers Moguls (S. Turner & Fisher, 2006)					
Other	User Participation	Lurkers Intermittent Contributors Heavy Contributors (Nielsen, 2006)	Habitual Active Users Personal Users (Ip & Wagner, 2008)				

1. Primary level classifier	2. Researcher defined classification	3. Researcher defined concepts					
	Categories of Profiles	Protagonist Deuteragonist Tritagonists Fools (Vaast, 2007)					
	Users	Alpha Socialisers Attention Seekers Followers Faithfuls Functionals (OFCOM, 2008)					

Appendix D: Case study protocol

(Adapted from Brereton, Kitchenham, Budgen, and Li (2008))

1.1. Overview of research and purpose of protocol

This protocol is to be used during the design, collection, analysis and reporting of each of the three online communities being investigated in the research. It should be regularly referred to ensure that adequate structure and process is kept constant throughout all three cases.

1.2. Research Aim

To explore the effect of national culture on the behaviour of the online community newcomer

1.3. Research Questions

- RQ1⁶⁹: Does the behaviour of newcomers **differ** depending on the national cultural origin of an online community?
- RQ2: Are there **similarities** in newcomer behaviour across online communities from different national cultural origins?
- RQ3: Can existing cultural theories **explain the similarities and differences in newcomer behaviour** found in online communities from different national cultural origins?
- RQ4: Does a cross-cultural comparative analysis of online community newcomers **validate** and **support** existing theory?
- RQ5: Does a cross-cultural comparative analysis of online community newcomers **expand on** existing theory?
- RQ6: Can **models of newcomer behaviour** be developed to explain, explore and describe national cultural differences in online community newcomer behaviour?
- RQ7: Does national culture have an **impact** on the behaviour of online community newcomers?

2. Design

2.1. Design type

- The case study is a multiple embedded cross-cultural analysis.

2.2. Object of study

⁶⁹ This abbreviates 'Research Question'.

- The objects of study are newcomers from three online communities from different national cultures.

3. Case Selection

The selection of cases is to be determined using the Sampling Framework. Refer to this framework in Appendix E for all queries on sampling.

4. Data Collection Procedures

The data has been collected from three online communities, Ser Padres, Magic Mum and Essential Baby. The data will be collected in three separate time frames to ensure that the process is structured and no mixing of data occurs. This data will be stored in Dropbox folders and in NVivo files. These folders and files will be stored in the cloud, and in external hardware (DVDs).

4.1. Access and data sources

The data has been accessed through consent via the online community moderators. The data source is newcomer posts and threads from three online communities, Ser Padres, Magic Mum and Essential Baby.

4.2. Procedural reminders during initial data collection phase

- Contact must be made with the administrators of the community prior to any analysis.
- Data must be extracted from the same newcomer time frame from each community (i.e. three months from registration date).
- Similar quantities of data must be extracted from each community (i.e. minimum three months' worth if possible).
- Posts and threads should be copied and pasted into Excel before being imported into NVivo.
- Ensure to include a hyperlink to each thread to aid any referencing needs.

5. Procedural reminders during analysis phase

- For each case study the NBM model must be used to direct the content analysis. This ensures consistency of analysis.
- For each community create a list of NBM categories in the Nodes section in NVivo.
- Refer to these nodes for coding.
- Code one community at a time using the pre-defined NBM categories.

6. Plan Validity

Validity Type	Validity Test	Operationalisation
Construct validity	Multiple sources of evidence	Three online communities are used in the analysis.
Construct validity	Chain of evidence	Via Research Log
Internal validity	Pattern matching	Via the NMB
Internal validity	Cross case synthesis	Via overview grids
External validity	Replication logic	Via case study guide for data analysis. Via sampling framework for data collection. The NBM categories were inputted into NVivo and used across the three communities. The research log headings were used across the three communities. Each NBM category was operationalized and these operationalisations were used across the three communities.
Reliability	Case study database	Via NVivo
Reliability	Case study protocol	This was used prior to each case study analysis.
Construct Bias	Convergence approach	During the development of the emergent NBM categories, great care was taken that the new categories were not specific to one culture. The emergent categories were developed within each community in isolation followed by careful reflection on the merging of the categories.
Sampling Bias	Derive sampling from research goals	Via the sampling framework (see Appendix D).

7. Reporting guide

- NVivo reporting tools should be used including quantitative node reports, export content options, word cloud visualizations.
- For each report that is created within one community, the same report must be created with the other two communities. Ensure the same parameters are used.

Basic Case Study Guide for Individual Case Data Analysis

Step	Completed
1. Collect data from community into Excel file.	
2. Import data into NVivo.	
3. Create task list using task list template.	
4. Create nodes with NBM categories in NVivo.	
5. Start coding using NBM categories.	
6. Re-do coding with any new categories.	
7. Write detailed notes in memo document.	
8. Summarise results from each NBM category.	
9. Insert summaries into overview grid.	

Appendix E: Sampling framework

Online Community	Essential Baby	Magic Mum	Ser Padres
Purpose	Australian based childcare discussion community	Irish based childcare discussion community	Spanish based childcare discussion community
Country	Australia	Ireland	Spain
Culture Analysis			
Web domain	.com.au	.com	.es
Hosting location	Australia	Ireland	Spain
Traffic Analytics	62% from Australia	79% from Ireland	45% from Spain
Location field	Yes	Yes	No
National specific content	Yes	Yes	Yes
Culturally specific forum titles	Yes (State forums)	Yes (MagicMums near you)	No
Culturally specific language	Yes	Yes	Yes
Language	English	English	Spanish
Activity Level Analysis			
Internal statistics			
Total Posts	13,712,947	5,167,098	83,873
Total Threads	N/A	436,499	3,490
Total Users	232,003	31,155	6,214
External statistics			
Alexa Ranking (WW)	19,245	96,174	32,024
Alexa Ranking (country)	310	512	1,557
Social Roles	Advanced Member Member New Member Moderators	No but join date visible	Junior Member, Member, Senior Member
Community Aims Analysis			

Online Community	Essential Baby	Magic Mum	Ser Padres
Community aim	Essential Baby is the largest online parenting community in Australia (and one of the largest women's communities) providing information and resources for conception, pregnancy, birth, baby, toddler, kids, parenting and women's lifestyle.	An Irish website for mums and mums to be.	Ser Padres is a pioneering magazine in the family sector of Spain. It is a leading brand of reference and a top influencer of parents and young mothers. Ser Padres offers valuable information and support in vital topics concerning parenthood: maternity, children's education and care, relationships, and how to achieve a happy lifestyle within the home.

Appendix F: Essential Baby task list

Essential Baby Data Analysis Task List		Completed?	Notes	Date
1	Go back over no response threads	Yes		26/11/2013
2	Can I join posts	Yes		26/11/2013
3	Go back over threads that might have a response	Yes	Is this relevant - are we looking at a snapshot or of a continuum?	29/11/2013
4	Go back over threads that people say they are a newcomer	Yes		26/11/2013
5	Cross-tab themes with other themes	Ongoing		Ongoing
6	Information process	Yes	Look over this again from *** This is done	26/11/2013
7	Community responsiveness	Yes		27/11/2013
8	Socialization	Yes		27/11/2013
9	Legitimacy	Yes		28/11/2013
10	Questioning and help seeking	Yes		27/11/2013
11	Domain knowledge sharing	Yes		02/12/2013
12	Social expression	Yes		28/11/2013
13	Emotional disclosure	Yes	Redo this one from *** up = Yes	28/11/2013
14	Newcomer adjustment and acculturation	Yes		28/11/2013
15	Boundary maintenance	Yes		29/11/2013
16	Look at post titles	Relevancy?	Is this relevant	Ongoing
17	Offtopic conversations	Yes		29/11/2013
18	Meta-Communities	Yes	Needs to be looked at in other communities again.	29/11/2013
19	Very little identification as a lurker	Yes		26/11/2013
20	Salutations and Valedictions	Yes		26/11/2013
21	Social support	Relevancy?	Is this the same as emotional disclosure - other directed?	Ongoing
22	Domain knowledge sharing - justifying thoughts and opinions			02/12/2013
23	Resource giving: images	Yes		26/11/2013

Essential Baby Data Analysis Task List		Completed?	Notes	Date
24	Look at all first posts. Were they information seeking or information providing?	Relevancy?	This could be a quantitative element to look up in further analysis.	Ongoing
25	Introduction threads - what is said and what is responded to	Yes		29/11/2013
26	Community admonishing newcomer	Yes		27/11/2013
27	Look over all memos	Yes		27/11/2013
28	Geographical legitimacy?	Yes		28/11/2013
29	Community acknowledging newcomer	Yes	Redo this one *** up = Done Where would this go?	27/11/2013
30	EDD List	Yes	Recheck via search = Done	26/11/2013
31	Cards thread	Yes		26/11/2013
32	Recheck all sets			03/12/2013
33	Sort out EDD TTC and Due in Sets	Yes		26/11/2013
34	Merge the two lurker nodes	Yes		26/11/2013
35	Supplication	Yes		26/11/2013
36	Recheck that all themes in MM are in EB	Yes	See category comparison spreadsheet	02/12/2013
37	Vocabulary comparison list	Yes	Make sure to do this with third community - Ser Padres doesn't have this!	12/02/2014
38	Fill out models			03/12/2013
39	Redo Legitimacy with new categories	Yes		02/12/2013
40	Look over first page of notes	Yes		02/12/2013
41	Look at what their first post is		Is it reply or thread starter – are there differences?	Ongoing
42	Look at some visualisations		Think of the relevancy of these. Just to look at the broader picture of your data.	03/12/2013

Appendix G: Overview grids example

Category	Sub-category	Magic Mum	Essential Baby	Ser Padres
Social expression	Introduction Threads	<p>The newcomers exhibited social expression in self-introductions, off topic conversations and citing personal examples and experiences. A common activity for newcomers in the Magic Mum community was to post an introduction thread or post in the 'New Members – Introduce Yourself' sub-forum. A large number of newcomers posted in the 'New to Magic Mum? Click here!' thread within this sub-forum. This thread asks new users to introduce themselves, describe whether they are a parent, pregnant or trying to conceive, and how they found the community. It also asks newcomers to read the forum rules and directs them to a page that explains the multitude of abbreviations used by community members. It is of interest that this thread requests personal information from the newcomer, and places a boundary for newcomers to pass before allowing them to post. Newcomers need to be a parent, pregnant or trying to conceive to be permitted to post in the community. The newcomers who posted in this thread provided this detailed personal information to the community. However, this thread has very little responses from existing users. Rather than being a thread for communication, it is an online space for newcomers to present themselves to the community, legitimate their online identity,</p>	<p>The newcomers have a separate forum called 'Newbies Comfy Couch', where there are two stickied threads at the start with explanations of abbreviations, and 'New to EB' which gives site information. This forum is used in the same way as the 'New Members – Introduce Yourself' sub-forum in the MM community. Newcomers can introduce themselves, and they are always replied to by either existing members or moderators</p> <p>There were three introduction specific threads in the sample that were in the 'Newbies Comfy Couch' sub-forum. All three threads provided information as to the maternal status of the newcomer i.e. I am pregnant, I am a mother. Two of the threads also provided legitimating information, such as number of children and geographical location.</p>	<p>A very interesting difference between the SP community and the other communities is that there were much less introduction threads by newcomers. Although there is a 'Presentaciones' forum, compared with the other forums, it was little used. Introductions were almost always made within pre-existing threads. This is something interesting as it could show evidence of how individualist and collectivist newcomers behave differently. So in SP the newcomers present themselves within existing community threads, whereas in EB and MM the newcomers present themselves in external threads and are then invited in. Of the introduction posts that the SP newcomers presented, demographic and personal information was almost always provided (age, due date, whether they already have children, children's names, relationship status) as was their rationale for being in the community (i.e. I am looking to get pregnant, I want support etc...).</p> <p>Interestingly, some newcomers don't give personal details (i.e. age, location) but give personal experiences as a legitimization tool and it seems to suffice for the community. Another point of interest, is in some of the no response threads, there was little personal introduction, showing the importance of introducing oneself to the community before seeking or providing</p>

Category	Sub-category	Magic Mum	Essential Baby	Ser Padres
		<p>and demonstrate their rationale for wanting to become a member.</p> <p>In addition, some newcomers created their own threads in the 'New Members – Introduce Yourself' sub-forum. These threads contained similar personal information to the 'New to Magic Mum? Click here!' thread but in contrast, existing members would respond to the threads. These existing members would welcome the newcomer, praise the virtues of the community, and give some brief emotional support.</p> <p>However, these threads were in general very short, and served the same purpose as the 'New to Magic Mum? Click here!' thread; to provide personal information, to satisfy community boundaries, and to present legitimacy for their inclusion to the community.</p> <p>Another interesting element identified in these newcomer threads was when other newcomers posted on the thread giving support and also identifying themselves as a newcomer. This interaction between newcomers demonstrates how some newcomers are supporting each other in the initial stages of their community engagement.</p>		<p>information. Presenting introductions is almost like a community norm or ritual that must be done. This could be an example of personal legitimacy and how it works and does not work i.e. if you don't provide personal information it is much less likely that the community will interact with you.</p>

Appendix H: Coding agenda for Phase 1 deductive content analysis (adapted from Mayring (2000))

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
Information process Ahuja and Galvin (2003) Burke et al. (2010) E. Morrison (2002)	Information seeking Information giving	Question, looking, advice, “?”, wondering My son, my DD, I, me, suggest, recommend, helps	My son will be 15 months when this baby is born please god and I'm wondering if I would be able to manage without having to buy a double buggy as it is another expense he has been walking confidently since 11 months. Iv a much bigger age gap and def rely on double buggy when 2nd was due we bought a Phil and ted was expensive but well worth it I live in the country so its ideal for the lanes!!!	Posts requesting information from the community. Posts that provided information based on posts seeking information from other users.
Community responsiveness Joyce and Kraut (2006) Kraut et al. (In Press) Millen and Patterson (2002) McCarter and Sheremeta (2013)	Inclusion strategies Personal opinions, advice and problem solving Emotional support	All posts from existing members that responded to newcomers were analysed for this category. I know how your feeling. We were in the same position 3 years ago only my child's condition was slight different . Are you under Dr gillick? Don't be afraid to bring your baby out, if the	Sorry, I'm afraid I can't help but I'm sure you will get some great mm's who can. Just didn't want to read and pass you by as I can see you are new :bigups: Welcome to mm xxx I know how your feeling. We were in the same position 3 years ago only my child's condition was slight different . Are you under Dr gillick? Don't be afraid to bring your baby out, if the	Posts that responded to newcomer threads. Posts that contained inclusive language (i.e. Welcoming, greetings, thanks.). Posts that contained multiple responses from different users. Posts from existing members that gave personal opinions, advice, stories and resources.

⁷⁰ The keywords were translated into Spanish for the coding of the Ser Padres community. All examples given here are from the Essential Baby and Magic Mum communities due to lack of space for inserting Spanish translation.

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
Arguello et al. (2006)			hospital are happy to leave him till he grows he's not in any danger. Feel free to pm me if you like.	<p>Posts from existing members that attempted to solve newcomer problems.</p> <p>Posts from existing members that invited newcomers into conversations (i.e. by mentioning username).</p>
<p>Socialisation</p> <p>Schneider, Samp, Passant, and Decker (2013)</p> <p>Farzan et al. (2012)</p> <p>Cranshaw and Kittur (2011)</p> <p>Ducheneaut (2005)</p> <p>Choi et al. (2010)</p> <p>Ren et al. (2007)</p> <p>Bauer et al. (2007)</p> <p>Stommel and Meijman (2011)</p>	<p>Resource acknowledgement</p> <p>Clarification and further questioning</p> <p>Identification as a newcomer</p>	<p>Username, thanks, great, advice, helps.</p> <p>Repeated questioning in later posts</p> <p>New, newby, new user, new member.</p>	<p>Thanks so much for the reply it really puts my mind at ease that other mummies have the same experience.</p> <p>Thanks Allys mum for getting back. This was my first ultrasound and scared the sh*t out of me. I hope my resulats are negative.the ultrasound report made me feel that they will be. I wish u well with your pregnancy. Any reason u did not do a fine needle aspiration?</p> <p>HI all at Magicmum :) I only recently came across your forum when I was checking some hols info and am so disappointed that I didn't find ye years ago... :</p>	<p>Posts that acknowledged resources given by the community.</p> <p>Posts that requested clarification from other community members.</p> <p>Posts that quoted a username in response.</p> <p>Posts that used community-specific language and resources.</p> <p>Posts that mentioned moderators.</p> <p>Posts that gave a rationale for being in the community.</p> <p>Posts that identified the user as a newcomer.</p>

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
	Community specific language, structure and norms No response threads Politeness	BFP, MM, MC, DH, DS, MIL, DD, N/A Thanks, hope, perhaps, excuse, slightly, may.	And as the poster above you said, a good night's sleep is more important. As for his MIL I don't bother with her any more full stop, I am civil to her for my DF and daughter and that's about it. Hi Girls: Anyone recommend a VOC free paint they used in their home? Thanks for the replies.	Posts that mentioned the community name. Posts that used community specific acronyms / language. Posts that expressed newcomer experience of community-specific norms, values and language. Posts that did not receive a response. Posts that showed politeness.
Legitimacy Galegher et al. (1998) Stommel and Meijman (2011) Stommel and Koole (2010) Johnson et al. (2006)	Membership claims Burke et al. (2010)	Country-specific locations and hospitals, parent, kid, child, due date, pregnant, husband, wife, relationship, parenting, weeks, months, miscarriage, hospital, labour, doctor, due, home, scan, clinic, hospital, mother, father, Lurk, part of, reading, watching, girl, boy, mother, parent, father, kids,	Can anyone recommend a good creche facility in Stillorgan/Kilmacud area. I have a 2 year old and a 9 month old? I used to live in Lucan up to 2 years ago and now coming back from abroad with a 4month old. I'm getting kind of scared reading about primary schools My son will be 15 months when this baby is born please god and I'm wondering if I would be able to manage without having to buy a double buggy	Posts that mentioned community-specific tools and resources. Posts that mentioned community-specific instructions and procedures. Posts that gave information about previous personal experience of the community topic. Posts that provided personal social network links (i.e. Facebook, Twitter, email). Posts that describe delurking. Post that describe personal information that connects them to the larger social category

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
		pregnancy, conception, school, children.	as it is another expense he has been walking confidently since 11 months Hi Ladies, ive been a lurker for a while but taking the plunge now and wanted to join in all the chats please!!!	from which the community draws its membership.
Conversation strategies Arguello et al. (2006) Burke et al. (2010) Golder and Donath (2004) Stommel and Meijman (2011) (Burke et al., 2007)	Questioning Help seeking Supplication	Help, what, wondering, advice, how, can anyone, "?", is there anyone, asking, would, can I ask, question, hope, sorry, useless, worthless, no good,	I'm looking for advice please. I've just found out I'm pregnant on number four and would really love a homebirth, I've looked up the homebirth.ie site and text two of the midwives listed but have gotten nowhere and have had no response. Can anyone please advise how I should go about arranging it before it's too late to have the option please??? Sorry this post is like my head, all over the place	Posts that sought information from the community. Posts that sought help and problem solving from the community. Posts that contained help-seeking terms. Posts that demonstrated supplication.
Boundary maintenance Smithson et al. (2011)		Join, member, part of, community, negative emotional phrases.	You are only here a wet day! Cop on. Um how exactly would you know what magicum is like for everyone considering you only joined 4 weeks ago??	Posts that corrected newcomer behaviour. Posts that controlled access to community knowledge. Posts that set out newcomer credentials.

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
Hwang, Singh, and Argote (2012) Jarvenpaa and Lang (2011) Honeycutt (2005) Weber (2011)			What would you know little miss 47 posts...its people like you spouting bile and bullshit that ruin magicmum!	Posts that demonstrated prior newcomer experience and knowledge of the topic. Posts that challenged boundaries of acceptable behaviour and community norms. Posts that demonstrated similarities between newcomer and existing member behaviour.
Social expression Chua and Balkunje (2013) Wijekumar and Spielvogel (2006) Ma and Yuen (2011)	Introduction threads Greetings Sharing personal experiences and examples	My name is, I am, username, personal name, hi, hello, introduce, new, boy(s), girl(s), mammy	First of all my name is anna im a new mum to my baby born. he was born at 33week gestation. Hi eveyone Im new to magicmum, New to this site so I'll start with telling a bit about myself. I'm married with 3 kids aged 7, 4, 2. 2 boys 1 girl,	Posts that contained self-introductions from users. Posts that gave group or topic introductions from the newcomer. Posts that initiated off topic conversations. Posts that contained greetings. Posts that cited personal examples and experiences.
Emotional disclosure Chua and Balkunje (2013)	Self-directed Other directed Lin and Bhattacharjee (2009)	Worry, feel, sorry, understand, rant, lie, ruin, gutted, stress, please god, cope, hope, off my chest, support, think, believe,	Im going out of my mind with worry. i wont leave my son with anyone, i dont even like taking him out of the house. You deserve to be treated much better that how you are being treated, you deserve love and	Posts that expressed emotional feelings and sentiments towards oneself or to others.

Category	Sub category	Keywords ⁷⁰	Examples	Operationalisation
		emoticons, sad, happy,	respect from you DH and you need to start loving yourself,	

Appendix I: Coding agenda for Phase 2 inductive analysis

Category	Sub category	Keywords	Examples	Operationalisation
Legitimacy (category from Phase 1)	Geographical legitimacy	Geographical location, geographically-specific places	Hi there, I'm pregnant with Number 2 (due 18 May) and live in North Brisbane. Got my next doctor's appointment tomorrow to talk through my options, so I'm hoping that will make things a bit clearer. Hoping for the birthing centre at RBH.	Posts that contain geographically specific place names, buildings or locations. Posts that contain geographically specific events, slang or experiences.
Legitimacy (category from Phase 1)	Cultural legitimacy	Colloquial language, national holidays, cultural artefacts.	Because in SA we have a Canteen not a Tuckshop and it is an Order for Lunch hence Lunch Order.	Content that relates to non-geographically explicit cultural artefacts.
Legitimacy (category from Phase 1)	External legitimacy	Facebook, email, twitter, blog, website	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.	Links to social media accounts (i.e. Twitter, Facebook, Google+), personal websites/blogs and email addresses.
Legitimacy (category from Phase 1)	Contextual legitimacy	Baby, mother, parent, pregnancy, contextual acronyms;	I'm 32 and have been TTC for 23 months. We've finally bitten the bullet and booked an appointment with our local fertility specialist in November.	Posts that relate directly to the context of the community (Fayard & DeSanctis, 2010; Galegher et al., 1998)
Legitimacy (category from Phase 1)	Testimonial legitimacy	Name, age, location,	Hi, UpsyDaisy I also have dystonia, cervical dystonia. Symptoms commenced two years ago and	Posts that contain personal information that legitimise contextual elements of the community including demographic information, personal pronoun use, and

Category	Sub category	Keywords	Examples	Operationalisation
			Can anyone recommend a good crèche facility in Blackrock/Stillorgan area. I have a 2 year old and a 9 month old?	personal contributions (Arguello et al., 2006; Burke et al., 2010; Dove et al., 2011).
Legitimacy (category from Phase 1)	Lurking legitimacy	Words such as 'lurk', 'reading', 'logging on', following	I have also been following the thread but wanted to wait until after everything was confirmed at my scan this week.	Content that refers to lurking and de-lurking (Baym, 1993; Fayard & DeSanctis, 2010; Lave & Wenger, 1991)
Conversation strategies (category from Phase 1)	Joining request	Join, enter,	I have finally decided to join this group after some very worrying couple of weeks. I am due 17th May, 2014 (our 6 year wedding anniversary!!), this will be #4 and was quiet a surprise - but I like surprises.	Posts that ask the community whether the newcomer can join in a thread. Posts that mention the word 'join'.

Appendix J: Personal reflexive note on identification as a newcomer NBM category

Many newcomers identified themselves as such by using terms such as 'new to this', 'newby' 'new to EB', 'new to using forums', and 'new to this'. It showed that there were different types of personal understandings of being a newcomer; being new to using forums (technical), being new to the community (social), being new to being a mother (contextual) or being new in general either to being a mother, using a forum or joining a community (combinatory).

When these newcomers identified themselves as such, they also provided personal information, including age, number of children, estimated due date (EDD) and medical conditions. Personally-directed emotional language was also included as well as information seeking questioning behaviour. They also included community specific abbreviations, which showed the community that they were aware of some community norms and dialogue.

Similar to the two other communities, many of the newcomers identified themselves as such through using words such as 'soy nueva', 'novata' or by saying that they had never been part of a forum before. Some also revealed that it was their first post on the forum. It is interesting that so many tell the community that they had never written in a forum before. Rather than just saying that they were new to that community, they also say that they are new to forums. This adds an extra layer of newcomer identification as not only as they are new to that particular community but also new to the structure of online forums. Perhaps this part of newcomer acculturation could be sub-categorized as identification as a community newcomer and identification as a forum newcomer. This could be important as if the newcomer is telling them that they are new to a forum as well as the community, it shows that they are not au fait with how forums themselves work, and may need more guidance than just those that are community newcomers.

Combined with this identification as a newcomer, they would sometimes let the community know that they were community lurkers. They would also give a rationale as to why they were posting to the forum, including wanting to conceive, becoming pregnant, having the time to post and seeking help.

Appendix K: Node counts from NVivo

Newcomer Behaviour Model Category	EB Total Newcomers	EB newcomers coded at that node	MM Total Newcomers	MM newcomers coded at that node	SP Total Newcomers	SP newcomers coded at that node	Total newcomers coded at that node	Total Newcomers
Information Process								
Information Seeking	71	44	59	50	69	49	143	199
Information Giving	71	25	59	30	69	35	90	199
Conversation Strategies								
Supplication	71	7	59	2	69	14	23	199
Questioning and Help Seeking	71	47	59	48	69	54	149	199
Joining Request	71	7	59	4	69	2	13	199
Emotional Disclosure								
Other-directed	71	19	59	11	69	32	62	199
Self-directed	71	21	59	18	69	30	69	199
Socialisation								
Community Specific Language, Structure and Norms	71	25	59	10	69	29	64	199
Resource Acknowledgement	71	20	59	27	69	19	66	199
Clarification and Further Questioning	71	5	59	7	69	2	14	199
Politeness	71		59		69		0	199
Identification as a Newcomer	71	21	59	26	69	32	79	199
No Response Threads	71	7	59	4	69	8	19	199

Newcomer Behaviour Model Category	EB Total Newcomers	EB newcomers coded at that node	MM Total Newcomers	MM newcomers coded at that node	SP Total Newcomers	SP newcomers coded at that node	Total newcomers coded at that node	Total Newcomers
Boundary Maintenance	71	6	59	8	69	0	14	199
Legitimacy								
Testimonial Legitimacy	71	40	59	25	69	54	119	199
Geographical Legitimacy	71		59		69		0	199
Cultural Legitimacy	71	22	59	15	69	10	47	199
Contextual Legitimacy	71	47	59	37	69	53	137	199
Lurking Legitimacy	71	5	59	5	69	7	17	199
External Legitimacy	71	1	59	3	69	9	13	199
Social Expression								
Introduction Threads		5353		3500			9105 ⁷¹	
Greetings	71	52	59	31	69	51	134	199
Sharing Personal Experiences and Examples	71	58	59	49	69	63	170	199
Community Responsiveness								
Inclusion Strategies	71	28	59	26	69	40	94	199
Personal Opinions, Advice and Problem Solving	71	26	59	18	69	31	75	199
Emotional Support	71	22	59	15	69	25	62	199

⁷¹ These are the total introduction threads on each community rather than just those sampled.

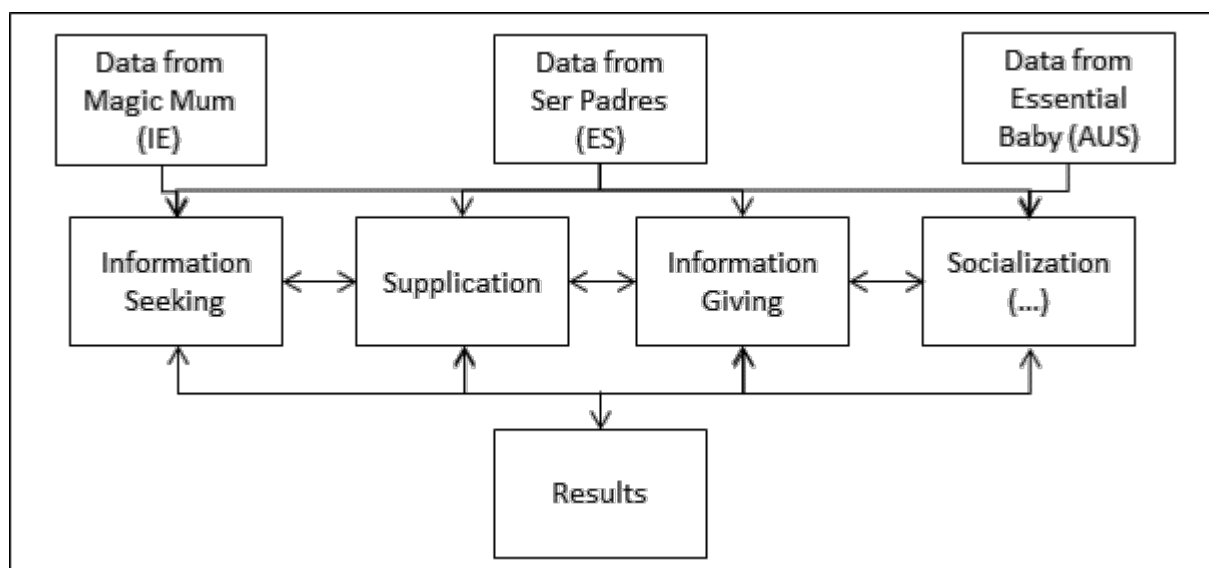
Appendix L: Acronym comparison

Magic Mum	Essential Baby	Ser Padres
AF - period	2WW - 2 week wait (wait after ovulation when TTC)	FPP - Fecha Parto Positivo
AF = Aunt Fanny.	AC - Assisted Conception	SBR - Síndrome de la Buscadora Rabiosa
AF meaning Aunt Flo	AF - Aunt Flo (periods)	TE - Test de embarazo
AFAIK - As far as I know	AFAIK - as far as I know	TO - Test de ovulación
AIBU = am i being unreasonable	AI - Assisted or Artificial Insemination	FIV - Fecundación in Vitro
BD=Bold Deed	AID - Artificial Insemination with Donor Sperm	
BF - boyfriend (can also mean breastfeeding)	AIH - Artificial Insemination with Husband's or Partner's sperm	
BF - breastfeeding	AIO's - All In One's - Cloth Nappies	
BFN - big fat negative (pregnancy test)	AI2's - All In Two's - Cloth Nappies	
BFP - big fat positive (pregnancy test)	AP - Attachment Parenting	
BIL - brother in law	ART - Assisted Reproductive Technology	
BTW - by the way	BBT - Basal Body temperature	
DD - darling/dear daughter	BCP - Birth Control Pill	
DH - darling/dear husband	BD - Baby Dancing (sex)	
DP - darling/dear partner	BG - Buddy Group	
DS - darling/dear son	BF - Breast Feeding	
FAF = Fucking absent father	BFN - Big Fat Negative (pregnancy test)	
FFG means 'Freshly F**ked Gri	BFP - Big Fat Positive (pregnancy test)	
FIL - father in law	B/T - Blood Test	
HTH - hope that helps	BTW - By The Way	
IMHO In my honest/humble opinion	BW - Blood Week (periods)	
IMO In my opinion	CC - Controlled Crying	
IYKWIM - If you know what I mean	CCC - Child Care Center	
LMAO - laughing my arse off	CD - Cycle Day	
LOL - laughing out loud	CHN - Child Health Nurse	
MIL - mother in law	CIO - Cry it out	
NIP - nursing in public	CM - Cervical Mucus	
OH = other half	CP - Cloth Pads	
PG - pregnant	CVS - Chorionic Villus Sampling	
PHN = public health nurse	DC - Daycare	
PIL - parents in law	D&C - Dilation & Curette	

PMPL - Piss my pants laughing!	DFS / DFD - Dear Foster Son / Dear Foster Daughter	
ROFLMAO - Rolling on floor LMAO	DGS / DGD - Dear Grandson / Dear Granddaughter	
SIL - sister in law	DH, DS, DD, DF, DB, DP - Dear Husband, Dear Son, Dear Daughter, Dear Fiance, Dear Boyfriend, Dear Partner	
TBH - To be honest	DSD, DSS - Dear Step Daughter, Dear Step Son	
TKS - Thanks	DI - Donor Insemination	
TTC - trying to conceive	DPO - Days Past Ovulation	
TTFN - thats that for now	EBM - Expressed Breastmilk	
WIPES (Women in Paid Employment	ECHN - Early Childhood Health Nurse	
WTF - what the fuck	ED - Egg Donation	
XH - ex husband	Em D - Embryo Donation	
XP - ex partner	Endo - Endometriosis	
	EP - Ectopic Pregnancy (also EPS Ectopic Pregnancy Syndrome)	
	ER - Egg Retrieval	
	ET - Embryo Transfer	
	ETA - Edited To Add	
	EW or EWCM - Egg White or Egg White Cervical Mucus (description of cervical mucus at ovulation time)	
	FET - Frozen Embryo Transfer (or fertilised egg transfer)	
	FSH - Follicle Stimulating Hormone	
	FWIW - For What It's Worth	
	FYI - For Your Information	
	g - Grin	
	GIFT - Gamete Intrafallopian Transfer	
	GD - Gestational Diabetes	
	GYN - Gynaecologist	
	HPT - Home Pregnancy Test	
	HTH - Hope This Helps	
	ICA - Inter Country Adoption	
	ICSI - Intracytoplasmic Sperm Insertion	
	IKWYM - I Know What You Mean	
	IMO - In My Opinion	
	IMHO - In My Humble Opinion + 30 more	

Appendix M: Preliminary inter-category analysis

Between category comparative cross cultural newcomer behaviour analysis



The following sections are a selection of reflective notes on how some of the NBM categories could be interrelated, and could be the basis of future research.

- **Information seeking and Socialization**

It was interesting that many newcomers also sought information about other community members rather than just contextual information. For example, in the “TTC” and “Due in” threads the structure would aid this type of information seeking whereby newcomers would use the member’s username followed by their request. This provides evidence of rapid socialization of newcomers or even that this community is not just about parenting but it is a community of persons supporting each other. It is how they support each other and how newcomers learn how to do this (via information seeking) that is important.

- **Questioning and personal legitimacy**

All of the questioning was in context (i.e. about parenting) and often related back to personal legitimacy, with examples of personal information common.

- **Questioning and emotional support**

The types of questions that were posed were mainly contextual (i.e. about parenting, conception or child rearing) however, in the TTC and Due In threads there was also questioning directed towards the members themselves and how they were. This added an emotional supportive

element to the community. Although this is not really questioning 'something' it is more like questioning 'someone'?

- **Information giving, personal legitimacy and socialization**
 - Personal information is important for socialization and legitimacy
 - Contextual information is important for legitimacy
 - Not only text is given, but also social objects such as videos, URLs and images. These social objects are a good method of socialization.

- **Emotional Disclosure and Shared Personal Experiences.**

Positive emotions towards both individual members, and the community as a whole when other members revealed a positive result in the TTC threads was often displayed. Members were encouraged to give their results to the community whether they were positive or negative.

- **Joining requests and personal legitimacy**

The joining requests are almost always accompanied by legitimating personal information. One of the joining request posts also includes information that that user was a lurker prior to posting. This shows the potential links between legitimacy and joining requests.

- **Greetings and Politeness**

Initial welcoming posts were also often suffixed with 'un beso', 'suerte', showing the almost ritualistic and polite form of this community. This community seems way more polite and has stricter norms than the other two in a strange way. Although it is more open and receptive to newcomers it uses rules that are common (and one could say strict) to each post.

- **Boundary maintenance and politeness**

giving personal information is an important sub-category for newcomer socialization, legitimacy and supporting contextual knowledge sharing.

- **Greetings and politeness**

Perhaps it is used as a formality to present themselves to the community. It could also be a polite way for the newcomer to ask a question because they haven't integrated into the community yet. What is interesting about the Essential Baby valedictions was that the word 'Thanks' was almost always used by newcomers. This demonstrated the politeness of the

newcomers in this community. Some newcomers also sign off with their username, again this was not something that existing members would have done.

- **Introduction threads and legitimacy**

Another point of interest, is in some of the no response threads, there was little personal introduction, showing the importance of introducing oneself to the community before seeking or providing information. Presenting introductions is almost like a community norm or ritual that must be done. This could be an example of personal legitimacy and how it works and does not work i.e. if you don't provide personal information it is much less likely that the community will interact with you.

- **Community responsiveness and personal expression**

Personal experiences are also important for community responsiveness; looking at the non-response threads, many of these did not have personal experiences within them showing the importance of this expressive behaviour for community interaction.

- **Emotional disclosure and personal expression**

Personal expression is also related to emotional disclosure, with much of the more serious emotional disclosures are accompanied with personal experiences and examples.

Yeah so that meant i would have conceived on the 11th may as baby measured from 27th april. Me and my husband had sex on the 12th may but apparantly i ovulated on the 11th? So confused and my husband is really making me feel bad and i'm starting to doubt myself even though i know i havent cheated<newcomer54>

Appendix N: Addressing the research questions

Research Question / Aim	Addressed?
RQ1: Does the behaviour of newcomers differ depending on the national cultural origin of an online community?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ2: Are there similarities in newcomer behaviour across online communities from different national cultural origins?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ3: Can existing cultural theories explain the similarities and differences in newcomer behaviour found in online communities from different national cultural origins?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ4: Does a cross-cultural comparative analysis of online community newcomers validate and support existing theory?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ5: Does a cross-cultural comparative analysis of online community newcomers expand on existing theory?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ6: Can models of newcomer behaviour be developed to explain, explore and describe national cultural differences in online community newcomer behaviour?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
RQ7: Does national culture have an impact on the behaviour of online community newcomers?	Yes Chapter 5 – Comparative Case Studies Chapter 6 - Discussion
SA1: Investigate cross-cultural online community literature to identify conceptual patterns and emergent issues for mapping out research direction, delimiters and guidelines.	Yes Chapter 2 – Literature Review
SA2: Develop a sampling framework for online community cross-cultural analysis.	Yes Chapter 3 - Methodology
SA3: Develop a directed model for structuring comparative analysis of newcomer behaviour in online communities.	Yes Chapter 4 – Model Building
SA4: Develop culturally specific models of online community newcomer behaviour derived from the cross-cultural analysis.	Yes Chapter 5 – Comparative Case Studies
RA1: To explore the effect of national culture on the behaviour of the online community newcomer	Yes Chapter 3 – Methodology Chapter 4 – Model Building Chapter 5 – Comparative Case Studies Chapter 6 - Discussion