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**‘University of Southampton’**

Faculty of ENGINEERING AND PHYSICAL SCIENCES

SCHOOL OF ELECTRONICS AND COMPUTER SCIENCE

**SPENCE: A MODEL OF ONLINE/OFFLINE COMMUNITY**

by

**CAROLINE ANNE HALCROW**

Thesis for the degree of **DOCTOR OF PHILOSOPHY**

[June 2021]

# **‘University of Southampton’**

## **Abstract**

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## **ABSTRACT**

Online and offline community are both studied but not as an intersection. There is a gap in the literature on the nature of community that is blended online with offline and geographically situated.

SPENCE, a Model of online/offline community with measurement principles - *capabilities* - was formulated. It aims to provide an integrated view of residential online/offline community that offers a lens of synthesis. It is based on the definition: *social exchange using channels of digital multi-media and physical expression, leading to permanent social ties connected across social graphs, from proximity informed by a diversity of values, interests and needs, bounded in settlement combining physical and cyber place, curated by an entrepreneur.*

SPENCE has six facets - *settlement, proximity, exchange, net/latticework, channels* and *entrepreneur*; and four *capabilities* - *trust, influence, information and intelligence.*

Two Case Studies, based on online/offline communities in London, deployed the methods of interview, survey and online social network study to discover the nature of online/offline community, how to investigate it and what policy initiatives could be implemented to develop it. The Survey and Twitter Study methods were merged into a Twofold Instrument.

The contributions of the thesis are: the Model SPENCE; novel concepts derived from the Model i.e. *decile fabric*, *net/latticework*, *VINs ratio*, *diverse cohesion*, *specific cohesion*, and *capabilities*, which offer updates on established concepts. The affordances of online/offline community include situated cognition, blended relations between people with cohesions in the social fabric predicated on a greater exchange of informal/formal assets. It is recommended that national digital infrastructure is developed to extend online/offline community, either as independent instances or as an integrated national platform. A twofold investigation method, measuring the national total of *decile fabric*, would offer a pragmatic automated approach to assist a national development programme.



# PREFACE

This PhD is a story about continuity: the personal continuity of work-life themes emerging in research; and the continuity of community in changing circumstances impacted on by technology. The continuity of my personal inquiry centres on the theme of the *Intranet* - a concept and system I helped shape in my career at 'The British Library', creating one of the first *Intranets* in the country in the early 1990s, using web technology. In the *Intranet*, people in organisations experience online/offline community. They engage in social interaction and business activities embedded in the intersection of online and offline communication channels, in a physically bounded place and defined cyberplace.

As Castells argues, communications technology informs and shapes the process of meaning-making in the mind, and I propose that the *Intranet* helps to forge personal and collective meaning in a business community, through situating meaning physically and virtually. It has other beneficial effects and outcomes such as cohering an organisation and diffusing its goals and values. My investigation takes on board how the *Intranet* concept and system, which I observe in generic online/offline community terms, operates in two areas of London, to find out how these and other benefits and features apply and operate in formal and informal social structures and environments.

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# Research Thesis: Declaration of Authorship

Print name: Caroline Anne Halcrow

Title of thesis: SPENCE: A model of online/offline community

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature:

Date:

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# Definitions and Abbreviations

**API** - application programming interface

**ARPANET** - The Advanced Research Projects Agency Network

**BBS** - Bulletin Board System

**CAP** - Community Action Panel

**CS** - case study, CS1, CS2

**FG** - focus group, FG1, FG2

**GUI** - graphical user interface

**ONS** - Office of National Statistics

**OSN** - online social network

**O/OC** - online/offline community

**RQ** - research question, RQ1, RQ2, RQ3

**SPENCE** - settlement, proximity, exchange, net/latticework, channels, entrepreneur

**SDT** - self-determination theory

**SOC** - sense of community

**SNS** - social networking service

**TIII** - trust, influence, information, intelligence

**UX** - user experience

**VINs** - values, interests, needs,

**WWW** - World Wide Web

*Definitions are given in the Glossary and footnotes.*

# Chapter 1 - Introduction

## 1.1 Introduction

The founding sociological theories of community were generated in response to the immense societal change that followed on from the 'First Industrial Revolution' in the 18<sup>th</sup>/19<sup>th</sup> Centuries. This study set out to identify the impact of the affordances of the World Wide Web upon community; how it might have brought about change and where there appears to be continuity. I investigate a social phenomenon that has emerged but is not yet fully in focus - *online/offline community*. I weave the central ideas and concepts from historic and contemporary theory to examine potential shifts in social structures. Combining past and present perspectives enables the exploration of the ways in which we perform and experience community pre and post digital technology. This clarifies and gives flexibility and breadth to the context for framing revised community principles. The Model of *online/offline community* - SPENCE - forms the main contribution of this thesis.

The inquiry into the nature of community has always been a central concern of sociology. But with the affordances of digital and network technology it also crucially involves other disciplines, e.g. computer science, social psychology and computational social science. My thesis is shaped by the discipline of web science that is interdisciplinary and involves the socio-technical analysis of Internet/World Wide Web co-constituted social phenomena.

My inquiry starts by looking at the broad themes of community theory before and after the Internet. With the study of community, it is important to acknowledge the issue of values and value-judgements in the nature of community and its analysis. Community, at a functional level, entails the exchange of values through social ties (Durkheim, 2014; Castells, 2002; Laumann & Pappi, 2013). Consideration of the nature of community is often informed by value-judgements, requiring a holistic and reflexive approach to give a comprehensive view. But if researchers conclude that community is more changed than continuous and focus on the 'loss' and 'end' of community (Williams, 1975; Crow, 2010; Bell & Newby, 1971) leaving out coexisting elements of regeneration or reinvention (Wellman & Berkowitz, 1988), the final picture will be partial. I support the integrated perspective exemplified by Wellman (1979) when he addressed what he termed the 'community question' by differentiating yet combining scholarly views of community, explicitly naming them 'lost', 'saved' or 'liberated'.

In the following historic to modern overview, key aspects from the span of social theory broadly situate the discussion of community. This feeds into specific modern theoretical perspectives

of community in the 25 years either side of the advent of the Internet in 1969<sup>1</sup>. They prefigure the growth of online community leading to online/offline community as Internet/World Wide Web technology begins to afford new forms of communication, social interaction and *virtual settlement*. In conclusion, I clarify the perceived magnitude of the digital revolution impacting on community, to set the context for the definition of online/offline community, predicated on a classification-based description of offline community. The main research questions of my thesis are formulated from a review of a range of questions, generated from the application of historic and modern community theory and the perceived gap in theory, inquiry method and the policy understanding surrounding the social phenomenon of online/offline community.

## 1.2 Theory of community in the 19<sup>th</sup> Century

The effects of machine and steam technology on society and community in the 19<sup>th</sup> Century were profound. The extension of modern industry led to an increase in world commerce, wider naval navigation, more railway infrastructure and more intense use of telephone communications technology. It led to the enlargement of cities, as people who had worked on the land moved to the cities (Giddens, 2013). These effects impacted on social solidarity (Durkheim, 2014); resulted in more varied divisions of labour (Durkheim, 2014); and less access for workers to the means of production (Marx, 2002). Weber argued that industrialisation had brought about 'rationalisation' i.e. a 'methodical-rational orientation to life' (Weber, 2002, p.xliii) that brought 'bureaucratic domination' (Giddens, 2013). Weber believed that 'rationalisation' needed to be balanced by meaningful 'social action', founded on values rather than efficiency, in which people were motivated to benefit the collective. 'Social action', in the Weberian sense, is meaningful to the actor and takes into account the needs of the group.

There was a significant impact by industrialisation on community, which Durkheim and Tönnies offer theories to explain. In his framework, Tönnies (2001) termed individualist, differentiated community in cities, 'Gesellschaft', comparing and contrasting it with the entity of 'Gemeinschaft' that operated in the countryside, in close kinship networks in bounded neighbourhoods. 'Gemeinschaft' is the community expression of the natural will, 'Wesenwille', situated in the rural village in the pre-industrialist past. Tönnies argued that both types of community exist together and are complementary and that 'Gemeinschaft' is succeeded by 'Gesellschaft' (Maier, 2017). He argues his intention was to model both states of the dichotomy

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<sup>1</sup> 'Brief history of the Internet': <https://www.internetsociety.org/internet/history-internet/brief-history-internet/>

to provide neutral tools for analysis. But in his later work 'Geist der Neuzeit - 'The Spirit of modern times' (1935) - his reputation for being an advocate of pre-industrialised rural, place-based kinship bonds is confirmed:

'In the Middle Ages there was unity, now there is atomization: then the hierarchy of authority was solicitous paternalism, now it is compulsory exploitation...'

(Tönnies, 2001, cited in 'Introduction', p.2).

Durkheim (Aldous, 1972) is less critical of the impact of industrialisation, arguing for continuity in social evolution and the value of 'organic solidarity' in city environments. He reuses this term 'organic', coined by Tönnies, but applies it to the social cohesion created in modern urban community through cooperation in differentiation. For Durkheim (Aldous, 1972) community is equally if not more effective in the modern settings of town/city. They both analysed solidarity, but formulated different conceptual frameworks.

Giddens (2013) summarises the trajectory of Durkheim's social theory as the primacy of society over the individual. Durkheim states his original interest as the parallel societal development of individual autonomy and social solidarity:

'Why does the individual, while becoming more autonomous, depend more upon society? How can he be at once more individual and more solidary? Certainly, these two movements, contradictory as they appear, develop in parallel fashion'

(Durkheim, 2014, p.1).

This high-level view of individual autonomy and social solidarity seeds the agency and structure debate that has been so central in the development of sociology as a discipline. Giddens argues that the binary opposition is more complex, pointing to the connections between the views: 'what is "society" if it is not the composite of many individual actions?' (Giddens, 2013, p.87). The agency/structure formulations in modern community theory are discussed below.

Durkheim's interest in the dependencies between people, formed from differentiated labour roles, is significant in the consideration of diverse social relations.

Durkheim's view that:

'The more solidary the members of a society are, the more they sustain diverse

relations, one with another, or with the group taken collectively...'

(Durkheim, 2014, p.3)

is supportive of diverse solidarity which is highly significant in contemporary community. This formulation, with its implications of density ('solidary') with weak ties ('diverse relations') also points to and pre-figures the modern network perspective discussed below.

Durkheim (2014) argued that we were bound in our activities and behaviours by the constraints of 'social facts'. A 'social fact' is external to individual consciousness, manifest in social norms and institutions, in well-defined social organisations, such as legal and moral rules, religious dogmas, financial systems etc. He considered solidarity was a 'social fact' of the first order, although 'it is an intangible phenomenon which does not lend itself to observation'.

In Tönnies' understanding of the 'social fact' of solidarity, it is formed from two types of psychological attribute: 'Wesenwille', 'a mode of consciousness that was "natural", spontaneous and unreflecting' (Tönnies, 2001, p.xvii); and 'Kürwille', 'a mode of consciousness that was artificial, deliberative and geared to pre-meditative "rational calculation"' (Tönnies, 2001, p.xvii). These modes reproduce into the two types of community structure described above: 'Gemeinschaft' and 'Gesellschaft'. Tönnies' analysis involves agency integrally reproducing into structure made up of particular types of bonds that reflect the distinct type of modes of consciousness. Tönnies in using the psychological elements of 'will' combines psychology with sociology.

Tönnies and Durkheim have perspectives focused on a desired continuity of harmony and order, in contrast with Marx and Weber, who held a perspective that Giddens characterised as seeing 'the pervasiveness of conflict as part of the basic fabric of social life' (Giddens, 2013, p.87). Highlighting the divisions, rather than the consensus, Marx's focus was on the new system of production, capitalism, and how it separated the owners of accumulating capital - the ruling class - from the wage-labour who had no means of production - the proletariat or urban industrial working class. Though the classes are dependent, the dependency is not balanced, giving rise to conflict, the class struggle, which Marx (2000) considered the 'motor of history', leading inexorably to a working-class revolution that would bring communal ownership of the economic system.

The complex, interrelated social theory generated by these classic figures of sociology helped make sense of the profound societal shifts that occurred as a result of the 'First Industrial



Revolution' (Giddens, 2013). The expanded city was a place of organic solidarity, mixed with kinship ties, where parallel development of individuality and solidarity, powered by efficiency, calculation, rationalisation and values, held together supported by differentiated labour roles bringing a holistic dependence that countered the tensions between workers and capitalists. The 19<sup>th</sup> Century sociologists pointed the way to the community changes that were occurring in their transforming environments. They analysed the changes out of an academic imperative and societal concern and shaped new possibilities of social relation and interaction, individuality and social structure, warning against tendencies that might be disruptive. Their theories would have significantly contributed to the civic and state policy-making arising from debate in the 'public sphere' (Habermas, 1989).

Their substantial intellectual achievements endure and still vitally influence current thinking. They offer theories that have relevance for and seed modern formulations that assist understanding of the impact of digital technology on community. There are key dichotomies and theoretical elements, e.g. agency/structure, diverse solidarity, consciousness reproducing into structure, that help frame the main research questions in 1.7 and resonate through the course of the thesis.

### **1.3 Modern community theory coterminous with the Internet**

Specific modern theoretical perspectives of community prefigure the growth of online community (1.4) when the Internet/World Wide Web technology begins to afford new forms of communication, social interaction and *virtual settlement*.

#### **1.3.1 Network perspective**

Structural analysis with the 'fundamental intellectual tool' of network analysis emerged as an approach in sociology in the 1970s (Wellman & Berkovitz, 1988, p.4), co-occurring with the beginnings of the implementation of the Internet in 1969. The tool of network analysis evolved from disparate sources, e.g. the sociogram developed by Moreno (1934) and network as an analogy (Barnes, 1954, p.44). The approach of structural (or network) analysis developed into a theoretical perspective. It is often focused on the effects of network properties on the integration of large-scale social systems (Wellman & Berkovitz, 1988), a major concern for Durkheim (2014). Harrison White (1976), a founding structural (or network) analyst, uses the power of the network perspective to interpret and clarify the 19<sup>th</sup> Century binary views of social change. White is interested in the essential type of relationship that each view of large-scale integrations has and the perceived shift in the category attached to the social relation:

‘Perhaps the major thrust of classical social theory was its recognition of the historical dissolution of categorical boundaries for social relations, whether the change was perceived as a transition from status to contract (Maine), from ‘Gemeinschaft’ to ‘Gesellschaft’ (Tönnies), from mechanical to organic solidarity (Durkheim), from traditional to means-rational orientation (Weber), or from ascribed to achieved status (Linton)’

(White, 1976, p.732).

The dichotomies of Tönnies and Durkheim, in which two types of community cohesion or solidarity are contrasted, are clarified in the network analysis perspective by a view of solidarity, based on the type of tie. The network perspective is effective in studying community at the meso level as well as macro, large-scale integration. Wellman and Leighton use network analysis to consider community in three pattern types: ‘lost’ ‘saved’ and ‘liberated’. The ‘lost’ pattern consists in over-reliance on formal institutions, replacing local solidarities; the ‘saved’ in membership of densely knit, ‘all-encompassing solidary groups’ (Wellman & Leighton, 1979) vitally present in the institutionalised environment. In the ‘liberated’ pattern, community is co-created by strong tie cohesion and ramifying weak ties that acquire additional resources through their direct and indirect connections. The solidarity of strong ties is sustained but not shaped by neighbourhood and there are ‘viable network patterns’ for ‘social systems as well as individuals’ (Wellman & Leighton, 1979, p.363), based on ‘selective use of diversified, specialized, sparsely knit social nets’ (Wellman & Berkowitz, 1988, p.135). Wellman’s analysis uses the network perspective as social theory to understand the types of community structure.

Laumann (1973) pioneered the egocentric network analysis method, in his research into urban community. It is used in research into the network-based theory of *personal community* advanced by Wellman, Carrington and Hall (1983). In *personal community* each person is ‘the central node of a potentially complex network of community ties’ (Wellman, 1988, p.126). Wellman et al contributed the theory of *personal community*, as an alternative network view to the sociometric whole picture. They characterise it in network terms, as ‘a composite of a densely knit core-cluster and some more sparsely knit ties reaching to connect with other groups and their resources’ (Wellman, Carrington & Hall, 1983, p.135). The *personal community* is a subset of the ‘personal network’ and only concerns the ties that are meaningful to egos (Chua, Madej & Wellman, 2011). The *personal community* network-based theory has evolved into the theory of ‘network individualism’ (Rainie & Wellman, 2012) that offers an approach to understanding the impact of the Internet on community. Castells (2011) argues that the Internet is material in the construction of effective social structure; that the technical reality of the network, instead of serving as a social metaphor, constitutes social structure

itself. This may be an amplification of its effect, but it is clear that the network perspective is appropriate in exploring the nature of changes in community produced by the Internet because of the alignment of metaphor with technical reality. The perspective helps us to see the co-constructive relationship of communication technology with community.

With the network perspective, community structure can be viewed as a whole, i.e. sociometrically, and as personal, i.e. egocentrically, and in a combined view. The perspective affords extension to multiplex layers (Granell, 2013), in which 'structural crystallizations' (Laumann & Pappi, 2013, p.8) show links between entities in a three-dimensional structure.

### **1.3.2 Resource view**

The network perspective integrally affords the resource view of community. Wellman (1988) considers that community is crucially predicated on access to resources. He emphasises the importance of resource acquisition in community. In his 'liberated' community (1979), the ramified network pattern provides access to new resource.

The concept of social capital provides the resource perspective of community. Putnam (2000) termed social capital the 'cousin' of community but it is a more a 'lens' of community. Social capital evolved as a concept: from its coinage by Hanifan (1916) applied to community involvement in schools; its rediscovery by Jane Jacobs (1961) advocating 'neighbourhood' in the modern city; and its deployment in the 1980s where Bourdieu accentuates the resource embodied in social networks (1986). Bourdieu's view (1986), supported by Fukuyama (1999), is of social capital as resource:

'Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition - or in other words, to membership in a group - which provides each of its members with the backing of the collectivity-owned capital, a "credential" which entitles them to credit, in the various senses of the word'

(Bourdieu, 1986, p.249).

It is in the network - in the social relation - that the resource or institution is embedded. White's structural view of the category attached to the social relation relates to Bourdieu's view of capital. Capital for Bourdieu is predicated on the idea of the 'social world' necessarily involving 'accumulation and all its effects' (Bourdieu, 1986, p.241). So the social relation is of inherent value and as a unit or atom, it accumulates into congregated value, subject to multiplication effects. Bourdieu's valuing of the social relation as resource is explicit. Bourdieu's use of the

network metaphor in his definition of social capital aligns with the structural analytical approach that came to prominence in the 1970s, led by White and Wellman (1988).

The significant reception of Putnam's account of the reduction in social capital in the United States, 'Bowling Alone' (2000)<sup>2</sup>, demonstrates this resource perspective of community. Putnam (2000) started a significant nationwide debate on the loss of social capital in the US when he uncovered how fewer people met face to face in associations and societies in the fields of politics, entertainment, volunteering etc. Bourdieu (1986) and Putnam's view (1993) of social capital is in line with Durkheim's (2014) vision of social solidarity. The resource they conceive of is not a purely economic phenomenon. Putnam (2000) and Coleman (1989) regarded social capital, as a public good. Putnam's definition of social capital precisely identifies the means of effecting social benefit and describes its social capability:

'... social capital refers to features of social organisation such as networks, norms and trust that facilitate co-ordination and co-operation for mutual benefit'  
(Putnam, 1993, p.35).

The shift in terminology from 'community' to 'social capital' highlights a new policy emphasis placed on the diminishing resource of community in the 2000s in the face of perceived social change.

### **1.3.3 Psychological sense of community**

The 'Psychological Sense of Community (SOC)' is a concept advanced by McMillan and Chavis (1986), significantly building on the work of Sarason (1974) and Glyn (1981). It is an 'agency' view that contrasts with the 'structural' resource view of community. Chavis and McMillan argue that the SOC perspective of community necessarily involves '...warmth and intimacy implicit in the term' (McMillan & Chavis, 1986, p.9). SOC is a subjective, cognitive and experiential embodiment of community. It importantly aligns with Anderson's thesis of 'imagined community': '...yet in the minds of each lives the image of their communion' (Anderson, 2006, p.5). But this broad observation is not prevalent in the literature, as evidenced by Gruzds and Wellman's (2011) differentiation of the concepts in their model of online community that I discuss below.

The definition of SOC is difficult to formulate cohesively, maintaining a distinction between the agency and structural views. Scholars have applied a range of experiential, agency

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<sup>2</sup> In his study, he uses a broad 'big data' research methodology. Though pre-digital, it encompasses, detailed content from myriad and heterogeneous sources, though does not use network analysis. He counts the social activity of community institutions to find the shifting proportions in memberships and the scale of reduction of meetings.

components: 'sense of belonging'; 'yearnings for...a communion'; 'the feeling...of being needed' (Brownell, 1950; Minar & Greer, 1969; Cowan, 1975, cited in Glyn, 1981, p.79). McMillan and Chavis' influential formulation involves a complex amalgam of sub-concepts that offer agency-based clarification of SOC:

'membership; influence; integration and fulfillment of needs; shared emotional connection; interactivity, cohesion, meeting needs'

(McMillan & Chavis, 1986, p.9).

They summarise the definition of SOC:

'Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together

(McMillan & Chavis, 1986, p.9).

The 'Integration and fulfilment of needs' is a major sub-concept, worthy of particular focus as an organising principle in community. In it, McMillan and Chavis affirm Weber and Durkheim's historic and White and Laumann's modern argument, that values provide 'the integrative force for cohesive communities' (McMillan & Chavis, 1986, p.13).

SOC contributes to community-making, enhancing the resource of community, and as such constitutes a resource in itself. This is a key theme in SOC scholarship (Glyn, 1981; Darlaston-Jones, 2007). Nowell & Boyd (2014, p.230) consider McMillan and Chavis overstate community as 'a resource for meeting key needs'. They place emphasis on community as a responsibility. Their argument is with McMillan and Chavis's characterisation of the SOC view of the community participant, seeing community as a structural resource that helps to fulfill their needs and not as a resource they should add to and consolidate through responsible behavior. This critique of McMillan and Chavis points to how the social theory of community is comprised of both agency and structural views: SOC personally motivates people to be responsible, and to fulfill their needs and to share values to benefit the collective.

The elements of the perspective of SOC, e.g. its conceptual closeness to and development of 'imagined community', its focus on experiential agency, its value when applied to the enhancement of the collective, contribute to the understanding of change and continuity in community, resulting from the impacts of the Internet/World Wide Web and digital technology.

### 1.3.4 Significance of place

Tönnies' 'Gemeinschaft' community pattern was close-knit by being bounded by place. It was centred in locality and encapsulated in the home:

'While woods, meadows, and fields are the natural outer sphere, the hearth and its living fire are, as it were, the core and the very essence of the house...'

(Tönnies, 1955, p.62).

Cresswell characterises Tuan's more expansive interest in 'homeliness' driving the making of places:

'the making of places at all scales is seen as the production of a certain kind of homeliness'

(Tuan, cited in Cresswell, 2014, p.24).

The view that community performance was less dependent on geographical area through the affordances of transport and communication technology, expanding the variety of situations for social interaction, is summed up by Webber who announced community is effective without propinquity:

'it is interaction, not place, that is the essence of the city and of city life'

(Webber, 1964, p147).

Bell and Newby (1971) strongly dismiss Webber's assertion, arguing the impossibility of people having no local social interaction. In support of this, they advocate the perspective of 'community of place' to locate sociological inquiry (Bell & Newby, p.19). Darlaston-Jones (2007, p.13) considers that ecology of place is a key factor in SOC, emphasising 'the importance of attending to the complex relationship between community and place' (Darlaston-Jones, 2007).

Wellman's network perspective, however, moved from defining community in terms of 'space - neighborhoods' to defining it in terms of social networks (Wellman, 1999). Castells builds on this, affirming that solidarity and interaction inhere in networks:

'...networks substitute for places as supports of sociability both in suburbs and in cities'

(Castells, 2001, p.126).

Online social networks might appear to replace place but this ignores how subtly it informs the resource of SOC. Gruzdz and Wellman (2011) acknowledge the importance of SOC as a major component in their model of online community (see below). They consider that online provision will not succeed in building community unless it exists (Gruzdz & Wellman, 2011). Surely SOC inherently offers an imagined *located* communion with people so there would be a relationship to physical or virtual place associated with online networks supported by SOC.

The concept of *cyberplace* that I describe below is 'place' in the context of the Internet and World Wide Web. It has the quality of enabling online community performance (Jones, 2006). Virtual place appears to be like the physical:

'a reality to be clarified and understood from the perspectives of the people who have given it meaning'

(Tuan, 1979', p.387).

It is a cognitive/social construct attached to a virtual reality. And like the making of physical place, I would argue, it is also driven by a desire for 'hearth' (Tönnies, 1955) and the experience of 'homeliness' (Tuan cited in Cresswell, 2014).

The perspectives of network, resource, SOC and place all flexibly combine in a weave of elements that interrelate to the 19<sup>th</sup> Century theoretical views and point to areas of inquiry that are explored in 1.7. This mix of elements demonstrates the need to fuse approaches in researching community coterminous with the Internet/World Wide Web, in keeping with a 'development of complementary and synergistic explanations spanning different fields and scales' which Lazer et al (2009, p.721) require of emerging disciplines like web science and computational social science.

## **1.4 Theory of online community**

I touched on the concept of *cyberplace* above and it needs situating alongside the related concepts of *cyberspace* and *cybersphere*. I propose that these terms underpin contemporary theory of online community and the emerging understanding of online/offline community.

The science fiction author William Gibson defines *cyberspace* as 'a consensual hallucination' (Gibson, 1984) which resonates with the agency-based concept of 'imagined community' (Anderson, 2006). The structural definition of *cyberspace* in a standard dictionary definition is

‘the notional environment in which communication over computer networks occurs’<sup>3</sup>. This relates to the UK Government’s statement on *cyberspace*:

‘Our economy, the administration of government and the provision of essential services now rely on the integrity of cyberspace and on the infrastructure, systems and data which underpin it’

(HMSO, 2016).

which emphasises the infrastructural underpinning. Barker’s definition supports this view of a virtual environment predicated on technology. It also combines the structural and the agency views, giving more weight to the former:

‘A spatial metaphor for the “nowhere” place in which the electronic activities of computers, cable systems and other digital communications technologies occur. The concept refers to the virtual space of electronic culture. A computer-generated collective hallucination’

(Barker, 2012, p.635).

So the term *cyberspace* involves environment and structure as a machine/human interconnectivity combined with the agency of cognition as a notional hallucination or ‘imagined community’. Barker (2012) prefers the concept of *cybersphere* which is defined as the sphere of digital information<sup>4</sup>. ‘Sphere’ carries the meaning of Habermas’ ‘public sphere’ (1989):

‘the public sphere as a virtual or imaginary community which does not necessarily exist in any identifiable space’

(Soules, 2011, p.1).

John Perry Barlow proposed that *cyberspace* was the ‘the new home of Mind’ (Barlow, 1996, p.1)<sup>5</sup> but surely that pertains more to *cybersphere*. I suggest that the two terms could be differentiated and interrelated as follows: *cyberspace* is the infrastructure, systems and electronic activities that provision the *cybersphere*. In other words, *cyberspace* underpins the ‘imagined community’ of the ‘public sphere’ in *cybersphere* that is embodied in data within the infrastructure.

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<sup>3</sup> Definition of *cyberspace*: <https://en.oxforddictionaries.com/definition/us/cyberspace>

<sup>4</sup> Definition of *cybersphere*: <https://en.wiktionary.org/wiki/cybersphere>

<sup>5</sup> This invokes the similar concept of ‘psychosphere’, coined by the Russian military. The maintenance of the integrity of *cyberspace*, crucially involves both the *cyberspace* and the *cybersphere*.



Castells (2015) underlines the importance of clarifying these concepts. He unpacks how communication technology constructs meaning in the minds of people. I would like to quote his formulation at length:

'The process of constructing meaning is characterized by a great deal of diversity. There is, however, one feature common to all processes of symbolic construction: they are largely dependent on the messages and frames created, formatted and diffused in multimedia communication networks. Although each individual human mind constructs its own meaning by interpreting the communicated materials on its own terms, this mental processing is conditioned by the communication environment. Thus, the transformation of the communication environment directly affects the forms of meaning construction...'

(Castells, 2015, p.6).

Bourdieu's theory of 'habitus' resonates with this perspective. It bears on the agency view of *cybersphere* as 'mind'. 'Habitus' is a complex concept comprising the principles and dispositions of an individual. According to Lizardo (2004) Bourdieu's concept of 'habitus', draws from Piaget's thinking:

'The essential functions of the mind consist in understanding and in inventing, in other words, in building up structures by structuring reality'

(Lizardo, 2004, p.385).

Lizardo demonstrates how 'habitus' shows this influence in its emphasis on the structured structures of dispositions being generatively structuring of practices. Bourdieu's formulation of 'habitus' shows this:

'Systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them'

(Bourdieu, 1990, p.53).

I propose that 'habitus' relates to the locus or place of cognition in an individual, although it, in part, operates at an unconscious level. The locus of cognition in the present day is arguably

supported, following the concept of the 'extended mind'<sup>6</sup> (Clark & Chalmers, 1998), by 'cognitive technology'. Carr and Harnad (2011) consider how associative thinking may be offloaded onto 'cognitive technology'. Using Google in their view, demonstrates this in the search process, through the use of search term conjunctions (i.e. A 'and' B) when finding resources. This conscious collaboration with Google constitutes the 'extended mind'. Harnad concludes that 'the offloading of brain function onto cognitive technology is now transforming our cerebral lives' (Harnad, 2008, p.21).

This idea that the 'cognitive technology' onto which we offload cognition, may be beginning to structure, in small part, generative principles and dispositions of 'habitus' provides an important building block for modern community theory. Bourdieu argued that the reproduction of the social structure results from the 'habitus' of individuals '...when social and mental structures are in agreement and reinforce each other' (Wacquant, 1998, p.9). If there is 'habitus' that is structured in part by 'cognitive technology', there is a corresponding reproduction of the social structure.

The structuring of 'habitus' has been progressive and in line with the evolution of online community. I would argue that the 'habitus' or locus of cognition, which may be augmented by 'cognition technology', has evolved in step with the development of online community. There is an interdependence. Online community has evolved in the *cybersphere* and through the establishment of the locus of *cyberplace*. *Cyberplace* is constituted when there is online social structure (Jones, 2006; Wellman, 2001) in the *cybersphere*, underpinned by the infrastructure of *cyberspace*. It is formed when there are ties and where:

'...people connect online with kindred spirits, engage in supportive and sociable relationships with them, and imbue their activity online with meaning, belonging and identity'

(Wellman, 2001, p.229).

Jones (2006) equates *cyberplace* with *virtual settlement*. When there is developed, connective social activity in *cybersphere* the interaction in 'virtual common-public-space' becomes *cyberplace*. He moves to a definition of 'virtual community', by arguing that *virtual settlement* demonstrates the existence of 'virtual community'. Blanchard (2002) suggests sharpening his definition of *virtual settlement* or *cyberplace* with the concept of SOC. The definition could also be enriched by Tuan's view (1979) that place is a cognitive/social construct attached to a

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<sup>6</sup> Definition of 'extended mind': '...*active externalism*, based on the active role of the environment in driving cognitive processes' (Clarke and Chalmers, 1998, p.1).

reality, in this case virtual; and by the argument that *cyberplace* is, in part, constituted from and aligned with 'habitus', if 'cognitive technology' enhances 'habitus' that reproduces into social structure.

Jones' definition of *virtual settlement* or *cyberplace* serves as a basis for defining online or 'virtual community'. It identifies key aspects that distinguish it from a virtual group. It clarifies the significant stages of sociality emerging from technical infrastructure. His conditions for a *virtual settlement* are:

'(1) a minimum level of interactivity; (2) a variety of communicators; (3) a minimum level of sustained membership; and (4) a virtual common-public-space'

(Jones, 2006, p.7).

So the *cyberplace* develops into 'virtual common-public space'.

It was Rheingold (1993) who coined the term 'virtual community' in the 1980s. He defines it as:

'...social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace'

(Rheingold, 1993, p.6).

Rheingold enquires into the nature of 'virtual community' arguing for the socialising potential of digital communication technology. He proposes that when data infrastructures are available to people, they will create community from them, in unexpected ways, unintended by the technology. Rheingold and Castells make the case that digital communication technology, pre-Web, at an infrastructural level, enabled the construction of social meaning and community. Their view could be judged technologically determinist. Or it could be argued that data infrastructures or networks constitute *cyberspace*. They afford SOC and social interaction leading to online community: from *cyberspace* to *cybersphere* to *cyberplace*. I would like to reiterate Jones's view (2006) that it is the component of *cyberplace* that crucially enables online community to develop.

Although online social interaction need not be underpinned by *cyberplace*. When Ray Tomlinson extended the functionality of 'ARPANET - The Advanced Research Projects

Agency Network'<sup>7</sup> - in 1972, by adding email, he did not anticipate how socially significant it would become. He modified 'Sndmsg', a closed single computer messaging system, using code from a file-transfer program, so that messages could be sent from one host computer to another throughout the 'ARPANET' system. But he said he knew he was '...providing a way for people to communicate with other people' (Grimes, 2016). Email is an example of a socio-technical service, enabling 'a minimum level of interactivity' that supports one of Jones's requisites (2006) for *virtual settlement*. But it does not have *cyberplace*, 'a virtual common-public-space'.

'Usenet', a globally distributed online discussion system, developed from the general-purpose 'Unix-to-Unix Copy' (UUCP) dial-up network architecture' does involve *cyberplace*. When it added the facilities of the news program to the UUCP network architecture in 1979 to support the professional interaction of 'Unix' programmers in 'newsgroups' it satisfies a *virtual settlement* requisite. Although Lessig, considered it merely the product of a protocol for exchanging messages intended for public viewing and not a network '...except in the sense that the personal ads of a national newspaper are part of a network' (Lessig, 1999). The social organisation of the messages into 'newsgroups' and the 'newsgroups' into subjects clearly makes this 'a virtual common-public-space' (Jones, 2006). The Usenet 'bulletin-board system (BBS)' affords social interaction and the creation of common ties crucially situated in a *cyberplace*.

The common 'BBS' software, developed in the late 1970s, provided a range of *virtual settlement* features as shown in Figure 1.1.

**Figure 1.1: Bulletin Board System (BBS)<sup>8</sup>**

- Menu Systems
- One or more message bases
- File areas
- Voting - opinion booths
- Statistics on message posters, top uploaders/downloaders
- Online games

<sup>7</sup> When the Internet emerged from 'ARPANET', the Internet communications [protocol suite](#) 'TCP/IP' offered the end-to-end feature with 'TCP' ensuring lost or discarded packages were resent so that communications would reach their destination whatever issues affected the routing infrastructure. This could be interpreted as demonstrating a nascent sociotechnical quality, ensuring sender to recipient communication, whatever the obstacle.

<sup>8</sup> BBS features: [https://en.wikipedia.org/wiki/Bulletin\\_board\\_system](https://en.wikipedia.org/wiki/Bulletin_board_system)

- A doorway to third-party online games
- Multi-user chat (only possible on multi-line BBSes)
- Internet email (more common in later Internet-connected BBSes)
- Networked message boards
- Primitive social networking features, such as leaving messages on a user's profile



Sheizaf (1984) considered 'BBS' to be a medium of mass communication. He did not use the term 'virtual community' of the social interaction and tie-creation, even though the software fulfilled all of Jones' criteria for *cyberplace/virtual settlement*. There were precursors to the 'BBS', e.g. 'Community Memory'<sup>9</sup> which was the first public bulletin board system in 1973. It was conceived as a community information database but became a general communications medium, in which users engaged in social interaction, expressing artistic, literary, business and social content. It supports Rheingold's proposition that when data infrastructures or *cyberspace* are available to people, they will create online community from them, even in unexpected ways, unintended by the technology.

After the emergence of the 'Bulletin Board System', affording online community, came the first explicitly designed 'virtual community' 'The Well - The Whole Earth 'Lectronic Link' founded in the spring of 1985, physically situated in San Francisco. It was importantly intended to be an online/offline community (Hafner, 2001). It had this stated goal (Rheingold 1993; Hafner, 1997) but it is mostly referred to using Rheingold's coinage – 'virtual community'. It provided 'a virtual common-public-space' (Jones, 2006) in the 'PicoSpan' text-based conference software. This did not offer an easy user experience, demanding basic knowledge of 'Unix', but it did serve

<sup>9</sup> 'Community Memory' BBS: <http://www.computerhistory.org/atchm/community-memory-precedents-in-social-media-and-movements/>

as *cyberplace*. By 1985, with richer 'graphical user interfaces' beginning to be popular, 'PicoSpan' stayed command based. Steve Jobs was reported to have said it was 'the ugliest interface he had ever seen' (Hafner, 2001, p.17).

With the milestone co-creation of the World Wide Web, in the early 1990s, the digital communication technology allowed more advanced and situated online community features to be developed:

'The Web graph's collection of nodes, edges, hubs and authorities are underpinned by socio-technical interactions between networks of actors who are themselves creating and promoting new kinds of processes, agendas, services and data within a new sphere of Web activity'

(Tinati et al, 2014, p.1).

With the Web, the 'virtual community' phenomenon transformed into the *online social network* (OSN). The enhanced 'graphical user interfaces' provided the features of the *cyberplace* more effectively. The successful early website 'Geocities', established in 1994, and by 1999 the third most visited website in the US, was noteworthy for its appeal to 'homesteaders' to build 'home pages' and 'inhabit' city neighbourhoods, e.g., 'Silicon Valley', 'Hollywood', that matched offline areas. One of the founders David Bohnett aimed to offer 'a rich sense of community, place and interactivity', building on what he perceived as 'the intense interest people have in creating cyber communities all their own, linked to places they know, understand and have a strong affinity for' (Business Wire, 1995). The design of 'Geocities' demonstrates the awareness and understanding of the potential of online/offline community in the early stages of the World Wide Web. 'Virtual community' evolved more sophisticated 'user experience'<sup>10</sup> that was easier to use and organised, e.g.:

'...web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system'

(Ellison, 2007, p.211).

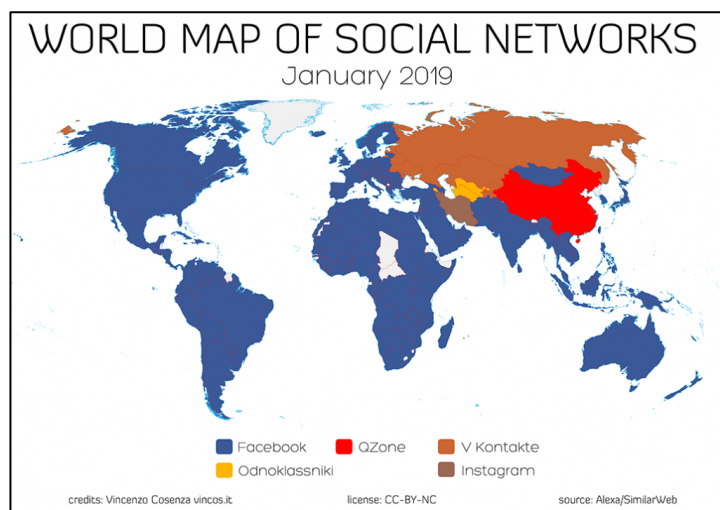
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<sup>10</sup> Definition of 'User experience' (UX): It refers to a person's emotions and attitudes about using a particular product, system or service. It includes the practical, experiential, affective, meaningful and valuable aspects of human-computer interaction and product ownership. Additionally, it includes a person's perceptions of system aspects such as utility, ease of use and efficiency ([https://en.wikipedia.org/wiki/User\\_experience](https://en.wikipedia.org/wiki/User_experience)).

Social networks evolved into platforms with extensive user-bases. In 1997, the social network 'Six degrees', emerged, attracting millions of users. It blended features from other networks, i.e. profiles, friend lists and list, to create a state of the art, exemplary online social network (Ellison, 2007).

From 2003, there was a significant rise in the number of major social networks: Myspace (2003), LinkedIn (2003), Last FM (2003), Orkut (2004), Flickr (2004), Facebook (2004) (Ellison, 2007, p.212). The major present-day social networks have huge user bases e.g. Facebook, the most popular, has 2.375 billion active users. Top social networks include: YouTube (2 billion), WhatsApp (1.6 billion), Twitter (330 million users), Instagram (1 billion).<sup>11</sup> Figure 1.2 shows the global coverage of the most popular international social network services.

**Figure 1.2: World map of social networks**



Source: <https://vincos.it/world-map-of-social-networks/>

## 1.5 Naming the Internet/World Wide Web/Digital 'Revolution'

The 'World Economic Forum' (Schwab, 2016) has called the present-day technological forces of change the 'Fourth Industrial Revolution'. After the first, discussed above, the second, occurring 1870-1914, is characterised by the achievement of mass production through electric power (Mokyr, 1998); and the third, 1950-2010 (Schwab, 2016), is centered on the use of electronics and information technology to automate production. Schwab argues that 'The

<sup>11</sup><https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> (retrieved 8/11/2019)

Fourth Industrial Revolution' is currently impacting on all aspects of society and:

‘...is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres’

(Schwab, 2016, p. 1).

Another naming of forces of technological transformation is the ‘Second Machine Age’ (Brynjolfsson & McAfee, 2014) that telescopes change around two ‘inflection points’. They propose that the ‘First Machine Age’ occurred at the point when Watt overhauled and reconfigured the steam engine, in the latter part of the 18<sup>th</sup> Century, which resulted in the rapid and widespread disruption of mechanical power driven by steam. They put the case that a second inflection point has occurred in the invention of the ‘digital engine’ and we are in the early phase of phenomenal change following it. They argue that its impact will be focused on the boosting of ‘mental power’.

These two namings differently characterise outputs of technological change: 1) a fusion of ‘physical, digital and biological spheres’ (Schwab, 2016); and 2) an augmentation of mental or cognitive facility. As descriptions of technological change they are important in signaling the extensivity of the impact of digital technology. However, in these accounts, the social impact of the Internet and the World Wide Web is assumed, rather than highlighted. It is the ‘Internet of Things’ that is mentioned as a significant development, focusing only on the network as a technical enabler of digitalisation. These views additionally offer pointers to likely areas of social change that are underplayed in these encapsulations of the technological environment.

## **1.6 Theory of online/offline community**

I demonstrated above how online community grew in social infrastructural importance, from the basic *cyberplace* of the BBS to the OSN platform with its sophisticated ‘user experience’; and how new community entities such as ‘The Well’ founded in the spring of 1985, and ‘Geocities’, established in 1994, designed to interdepend on their physical situation, proved effective.

The phenomenal rise of the OSN platforms, in the 2000s, becoming extensively pervasive and achieving global widespread use, is demonstrated in the findings of a ‘Pew survey’ conducted in 2010 (Hampton et al, 2011). The excerpt from the survey below show how online community had become central to a significant proportion of people’s lives in the US:



'In this Pew Internet sample, 79% of American adults said they used the internet and nearly half of adults (47%), or 59% of internet users, say they use at least one of SNS. This is close to double the 26% of adults (34% of internet users) who used a SNS in 2008. Among other things, this means the average age of adult-SNS users has shifted from 33 in 2008 to 38 in 2010. Over half of all adult SNS users are now over the age of 35. Some 56% of SNS users now are female.

Facebook dominates the SNS space in this survey: 92% of SNS users are on Facebook; 29% use MySpace, 18% used LinkedIn and 13% use Twitter.

There is considerable variance in the way people use various social networking sites: 52% of Facebook users and 33% of Twitter users engage with the platform daily, while only 7% of MySpace and 6% of LinkedIn users do the same.

On Facebook on an average day:

15% of Facebook users update their own status.

22% comment on another's post or status.

20% comment on another user's photos.

26% "Like" another user's content.

10% send another user a private message'.

(Hampton et al, 2011, p.3)

The interpretations of the findings draw from offline life to make significance of the online data, e.g. finding out if Facebook users are more trusting or have more close relationships and get more social support. Evidence from offline life is used to confirm aspects of online behaviour, but the focus is not on how the community performances interdepend, as a consequence of the centrality of online community in people's social lives. The phenomenon of online/offline community has a partial account and is under-acknowledged in explicit terms. Hafner's description (2001) of the 'The Well', describes how from the outset, it was intended to be online/offline:

'...the most interesting possibility to arise from knitting electronic dialog into the fabric of everyday life would lie not in championing either the virtual or the human-contact Model but rather in finding the place where they overlapped'

(Hafner, 1997, p.10).

But apart from this effective analysis of the importance of the 'overlap', the intersection is

under-documented in academic literature. I am indebted to the work of Gruzd and Wellman (2011) in their study of Twitter online community. It significantly influenced the above account of online community, particularly their emphasis on *cyberplace* or *virtual settlement*. But in their online community scope, they miss the opportunity of making the implications of the blend of online/offline more explicit. In their 2010/11 study, the community sample, determined by acquaintanceship with Barry Wellman and centred in Toronto neighbourhoods and internationally, does not feature the offline dimension of proximate community occurring in the sample population. Their model is of online community only and is presented in Chapter 3, Table 3.1, *Gruzd & Wellman's Model of online community*.

Castells (2002) identifies a key contribution made by Wellman to the sociology of the Internet the point that 'virtual communities' do not have to be opposed to 'physical communities', although they are different forms of communities with different rules and dynamics. Wellman's expertise lies in making the distinction yet acknowledging there not need be an opposition. But he demonstrates in his model that the study of the intersection or blend of online/offline is emergent rather than established.

Castells alerts us to the phenomenon of the 'communication hybrid' that is online/offline community:

'...what we observe in our societies is the development of a communication hybrid that brings together physical place and cyber place...'

(Castells, 2002, p.131).

He references Gustavo Cardoso:

'We are in the presence of a new notion of space, where physical and virtual influence each other, laying the ground for the emergence of new forms of socialization, new life styles, and new forms of social organization'.

(cited in and translated by Castells, 2002, p.131).

But their discovery is not explored in the major new scholarly field of computational social science in which the focus is on online network analysis and statistical aspects, applied across the range of social sciences - psychology, social psychology and sociology. In much of the literature, the question of offline interaction and networking is begged but not addressed. The intersection of online/offline is under-acknowledged. There are the beginnings of analysis in this new discipline but the theoretical basis is non-assembled. There are, however, areas of research, emerging from the different perspectives, of computer science and urban

geography. Hristova (2015) addresses the research into social brokerage in social capital:

‘...network studies of social capital have often neglected the interplay between online and offline interactions, and have concentrated primarily on a single layer. Here, we propose a geo-social multilayer approach to brokerage that casts light on the integrated online and offline foundations of social capital’

(Hristova, 2015, p.1).

The multi-layer network views of online/offline offer a useful method. De Freitas explores intersecting public spaces and finds:

‘...a new urban public spatial realm that is neither physical nor digital, rather, an intricate and relational combination of the two’

(De Freitas, 2010, p.1).

De Souza investigates what he terms ‘hybrid spaces’ in which ‘the use of mobile technologies as connection interfaces blurs the traditional borders between physical and digital spaces’ (De Souza, 2008, p.261), bringing social networks into physical urban spaces that are reconfigured socially. The social phenomenon of online/offline community is emerging into academic focus from existing in plain sight. But the ‘communication hybrid’ that Castells and Cardoso acknowledged, grown from the increased centrality of online community in everyday life, deserves a rigorous and dedicated lens of attention.

### **1.6.1 Definition of community pre-Internet**

The context for the definition of online/offline community, is referenced by *Gruzd and Wellman’s Model of online community* (Chapter 3). It provides the important building block of the generic definition of offline community. The definition of community before the revolution of the Internet is a complex concept that attracts layers of difference and yet it has essential components. It is contested in sociology as it is used so ‘variously’ that it is considered by some academics to be imprecise or without meaning and therefore not useful (Abrahams, 1978; Delanty, 2010). I would like to counter this perceived imprecision by using the rigour of the classification approach. Classification, which is allied to the ontological perspective<sup>12</sup>, aims to define the essential components of a concept. It was used by Hillery (1955) in his seminal, widely cited authority (Gruzd & Wellman, 2011; McMillan and Chavis, 1986; Bell and Newby,

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<sup>12</sup> Definition of ontology: ‘a set of concepts and categories in a subject area or domain that shows their properties and the relations between them’ (<https://en.oxforddictionaries.com/definition/ontology>).

1971; Glyn, 1981; Darlaston-Jones, 2007), in which he reviewed a total of 94 definitions of community to find the common denominators. He concluded that the three essential components that make up community, agreed across the 94 definitions, are: *geographic area*, *social interaction* and *social ties*. He follows the classification rules that require that the classes/categories are orthogonal i.e.:

‘clearly defined, mutually exclusive, and collectively exhaustive aspects, properties or characteristics of a class or specific subject’

(Taylor, 2015, p.679).

He intended a heterogeneity of scope, snowballing his literature focus outward from the references of each work he analysed. His selected definitions are mostly drawn from sources dated 1930-55 and so are helpfully centred in the offline, pre-digital age. He used explicit discursive definitions of community. He did not weight them, according to frequency of use in the review corpus as he wanted the widest scope. He identified common elements that co-ordinated in combinations in the definitions. Figure 1.3 gives an adaptation of Hillery’s ‘A Classification of Selected Definitions of Community According to Content’ (Hillery, 1955, p.18). It is a classification arrangement of key ‘idea elements of community’, expressed in high levels of abstraction, derived from the review of 94 definitions.

**Figure 1.3: Hillery’s classification of selected definitions of community**

|  |
|--|
| Generic community:   |
| A. Social interaction  |
| 1. <i>Geographic area</i> : Self-sufficiency; Common life – Kinship; Consciousness of kind; Possession of common ends, norms, means; Collection of institutions; Locality group; Individuality |
| 2. <i>Presence of some common characteristic, other than area</i> : Self-sufficiency; Common life; Consciousness of kind; Possession of common ends, norms, means                              |
| 3. <i>Social system</i>  |
| 4. <i>Individuality</i>  |
| 5. <i>Totality of attitudes</i>  |
| 6. <i>Process</i>  |
| B. Ecological Relationships  |

The generic definition describes what the essentials of community are. It is a technical view and pertains to the basic components of community. It holds its contemporary salience when applied to recent definitions e.g. the framing of 'the basis of community' by Crow in 'The Encyclopedia of Sociology' (Ritzer, 2010). Crow's definition is reducible to two of the generic elements: social connections in geographic area; aspatial social connections based on common interests and identities held in an occupational group. This discursive definition of the concept 'community' in a contemporary sociological authority demonstrates the term is definable, sustains generic meaning and has a significant function in sociology.

### **1.6.2 Definition of online/offline community**

An apparent pivotal moment for the definition of offline community occurred in the 1970s (1.3.4), when geographic region had less importance through improved transport and interest/work-based community. The consequent definition of offline community focused on the proliferation of personal and ramified networks with non-local ties (Gruzd & Wellman, 2011).

I argue above that social networks do not remove place from the definition as SOC is necessary for community and social networks are informed by cognitive place - the located 'imagined communion' (Anderson, 2006). In online community, this intersects with the 'user experience' features in online social network platforms in *cyberplace*. So the definition of the 'communication hybrid' of online/offline community leverages the located 'imagined communion', OSN *cyberplace* and geographic region. This threefold concept of place integrated with Hillery's 'classification' (figure 1.3) informs the definition that underpins the SPENCE Model of online/offline community.

Online/offline community is formed from the intersection of online and offline performance of community. In the intersection the online and offline community performance activities and behaviours blend at a 'chemical' level, to give a new compound. In this meld the online and offline activities and behaviour actively interinfluence each other. In the SPENCE Model, the online/offline community is based on the potential equivalence of online and offline in a 'communication hybrid'. This scopes the definition to residential online/offline community. Other forms of online/offline community - 'community of interest' and personal community - discussed below have less substantive physical locatedness. So the following definition of online/offline community upon which SPENCE is predicated is considered the most substantive expression of online/offline community (see 1.7.3):

*social exchange using channels of digital multi-media and physical expression, leading to permanent social ties connected across social graphs, from proximity informed by a diversity of values, interests and needs, bounded in settlement combining physical and cyber place, curated by an entrepreneur.*

The social interaction, proximity behaviours and *net/latticeworks* (see Chapter 3) of online/offline community are bounded by cyber/physical place.

These key theoretical components in the Model - SPENCE - are described in detail in Chapters 3 and 4. SPENCE offers an interdisciplinary amalgam of interdependent facets. Hillery's components of 'geographic area', 'social interaction' and 'common ties' seed three of the Model's facets: *settlement*, *exchange* and *net/latticework*. Each facet is a blend, applying to both online and offline community. Three additional facets were added: *proximity*, *channels* and *entrepreneur*. These facets are more than accretions; they are integral to the architecture. Within *net/latticework*, there is the sub-component - *capability* - which forms the measurement principle (Chapter 4).

## **1.7 Research questions**

Some of the elements from the 19<sup>th</sup> Century founding sociologists combine with the perspectives of modern community theory and inform the questions that bear on the nature of online/offline community. The elements and perspectives raise particular issues and point to inquiry areas.

For example, the area of agency reproducing into structure is important in the study of online/offline community. The agency of Tönnies' (1955) 'Wesenwille' and 'Kürwille' reproduce into two types of community structure - 'Gemeinschaft' and 'Gesellschaft'. In this view, agency is not parallel with structure as with Durkheim's theory (2014). Tönnies' analysis of 'will agency' integrally reproducing into community resonates with Bourdieu's idea of 'habitus', reproducing into social structure. Bourdieu's concept of 'habitus' is helpful in understanding the augmented cognition provided by 'cognitive technology' (Carr & Harnad, 2011). If 'habitus', as a locus of cognition, has become augmented and structured by and structuring of communication technology, how does it operate in online/offline community?

## **Broad questions**

The following broad questions are significant and relevant to a consideration of contemporary community. They show how potentially ranging an inquiry into online/offline community could be and suggest a variety of approaches:

- *Human/machine interface.* How is the restructuring of the social structure in online/offline community played out in terms of the human/machine interface? For example, within the settlement of online/offline community, is the 'habitus' in part structured by machine algorithms? Castells (2015) argues that communications technology enables '...the construction of meaning in the minds of people' (Castells, 2015, p.6). If meaning is part-structured by algorithms, what are the implications for community?
- *Company town.* With the entrepreneurship (social or commercial), needed to sustain the major global online community platforms, are online/offline community participants, who volunteer data and generate content as their price of membership, engaged in employer-employee transactions? Is online/offline community part-founded on the concept of the company town (Tufekci, 2010)? Do major corporations part-own online/offline community? Is there a 'Kürwille' brought to bear from external parties - the community owners - on the solidarity of online/offline community?
- *Marxist interpretation.* If the social relations and the communication in the performance of online/offline community can be viewed as employer/employee transaction, does the Marxist perspective have relevance? Does the 'employee' or community participant need less separation from 'the means of production' through knowledge of the workings of the human/machine interface? Would there be 'revolutionary' consequences if ordinary participants - 'the working class' - of online/offline community began to distrust the platforms on which online/offline community is part-founded, and their owners - 'the ruling class' of digital entrepreneurs?

### **1.7.1 Scope**

But the scope of my thesis is tightly defined in local urban contexts and so does not address these broad questions in explorative terms, although key aspects are discussed in Chapter 8. Using the methods of focus group, interview, model, survey and Twitter study, I investigate the nature of online/offline community. I have gathered the viewpoints of social entrepreneurs and social brokers, aligned with observations of their behavior and activity in local online social networking environments.

### 1.7.2 Cohesion

The key questions that gather into the main research question - 'what is the nature of online/offline community?' - concern the quality of cohesion or solidarity. Solidarity in the local case studies of the main experiment is *observable* as a 'social fact', unlike in the 19<sup>th</sup> Century. With online social networks, we now have the opportunity of observing cohesion or solidarity close-up, in real time. In Durkheim's (Aldous, 1972) concept of 'organic solidarity', the social relation is a dependency, predicated on differentiated labour roles, driven by holistic values to complete the social whole. Does this theory of social relation as dependency apply to present day community? Current social relations necessarily continue to be connected by values, but work role, though highly differentiated, is a background factor. Is the modern connective social relation in online/offline community non-role-differentiated and essentially informal? And does this lead to dependency being driven by basic homophily rather than an integrative diverse holistic force? Discovering the nature of the social relation dependency in online/offline community is encompassed by this first main research question.

### 1.7.3 Physical congregation with personal/collectiveness

The Case Studies I deployed use a Survey and Twitter Study to consider the predominantly informal nature of place-based or residential online/offline community. The selection of this type of online/offline community was determined by the degree of physical congregation. If I had chosen to focus on the connective relation of work role, the case studies selected would have looked at the type of online/offline community generated in company Intranets. With less physical locatedness, but still online/offline to a degree, the 'community of interest'<sup>13</sup> could have been studied. Alternatively, the agentic ego network or personal community of Facebook could have been the type of online/offline community selected but the degree of physical congregation of the ego network is far less extensive or substantive than with the residential online/offline community. The residential online/offline community permits a cohesive equilibrium in which potentially all inhabitants have an online/offline relationship. So although there are different types of online/offline community - Intranet, personal community and 'community of interest' - the residential kind studied in the thesis is considered the most substantive instance and is therefore generally not prefixed by the descriptive term 'residential'.

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<sup>13</sup> <https://www.encyclopedia.com>: 'A community of interest, or a Col, is described as a network of people who share the same interests, knowledge, and understanding of the best practices for any given subject matter. A community of interest can be either a live "actual" community of individuals who meet to discuss and exchange information, or it can be a virtual community that meets, discusses, and exchanges information via the Internet and various messaging tools'.



The degree of collective cohesion as opposed to personal ego network cohesion is another factor in the choice of the online/offline community type to study. Castells framed the 'me-centred society' formed from individuation, that reconstructs social relationships on the basis of individual interests, values, and projects (Castells, 2013). Rainie and Wellman's theory of 'network individualism' (2012) sets out how individuals have an expanded membership of multiple communities and so larger personal communities.

Does online/offline community evidence an integration of agency/structure or personal/collective community? Durkheim (2014) considered that the relationship between individual agency and the collective structure formed a parallel development. With the Twitter platform studied locally the ego and the collective network are combined. They are cohesive rather than in parallel. The questions here invite the main research question of 'how should we investigate online/offline community?': to what degree should the main experiment involve the observation of *both* collective and personal online community?

In the main experiment's Twitter Study (Chapter 6), the tactical sampling method (Chapter 5) enables both, where the linked exchanges of 21 social brokers living in the same area show how the personal and collective intersect. The Survey method asks social brokers for their subjective views which come from their personal agency perspective; the Twitter Study gives both the personal and the collective perspective. Both the Survey and Twitter Study are necessarily organised by the Model of online/offline community - SPENCE - which provides the conceptual foundations of the investigation. Case studies of other types of online/offline community with less physical congregation and personal/collective intersection, such as the Facebook personal community based on the ego network, could also work with SPENCE (see Chapter 5 and Chapter 9), though the data is less easy to gather for academic research because the Facebook application programming interface (API) is more limited than Twitter's (Nugroho et al, 2020).

So it is the significance of cyberplace joined with physical congregation and the cohesion of personal and collective community that are the major factors in this consideration of contemporary hybrid community. The Case Studies are of two online/offline communities in London that have substantive residential place in which personal/collective online/offline community is performed.

Delanty presents a view of community without sufficient virtual/physical place:

'community today is abstract and lacks visibility and unity... more an imagined

condition than a symbolically shaped reality based on fixed reference points'

(Delanty, 2010, p.188).

This points to the need for the bounded reality of cyber/physical place. I made the distinction earlier between 1) *cyberspace* as technical infrastructure, 2) *cybersphere* as collective virtual discourse, and 3) *cyberplace* as virtually situated social interaction. The difference between 2) and 3) concerns their relationship to space/place. When *cyberplace* is aligned with physical place i.e. when it is virtually and physically 'grounded', does it form more effective community interaction than collective virtual discourse?

#### **1.7.4 Measurement of effectiveness**

My thesis investigates residential online/offline community to measure its effectiveness and decide if it offers benefits distinct from less location congregated types of online/offline community (i.e. personal community, 'community of interest') or the non-place-based *cybersphere*. The Case Studies enable the evaluation of the effectiveness to address the research question - 'what are the policy implications for online/offline community development?'. Does the virtual/geo alignment in online/offline community offer particular social effects that lead to improvements in civic activism, local amenities, social cohesion and collective wellbeing etc.? Without aligned cyber/physical place would there be a lessening of respect for institutional authorities, failures of social trust, and decreased collective wellbeing? I do not empirically study the collective virtual discourse of the non-placed-based *cybersphere* nor the other types of online/offline community: I focus exclusively on situated and physically congregated online/offline case studies.

Policy initiatives for community development are informed by measurements of community effectiveness, e.g. 'Community Life Survey' (2014b). The measurement of the effectiveness of residential online/offline community is afforded by online platforms which enable quantification of social interaction and connectivity, e.g. the measure of cohesion or solidarity (1.7.2). Which insights into the nature of social capital are offered by online/offline community through online platform quantification of cohesion?

As discussed above, the need to be reflexive with an *interpretative flexibility* is important in community research. Measuring the effectiveness of online/offline community involves 'norms' but should not be underpinned by an over-idealised perspective. Wellman and Leighton's perspectives (1979) of 'lost', 'saved' and 'liberated offline community provide explicit value frames, flexibly dependent on network views of degrees and shapes of solidarity afforded by

social institutions, that together provide a rounded comprehension of community issues.

### **1.7.5 Research questions**

In this chapter, perspectives of modern community theory, i.e. the network view, the resource approach, SOC and the significance of place, have been woven with elements of 19<sup>th</sup> century community theory, e.g. the dichotomies of personal/collective, informal/formal role, diversity/homophily and commercial/social entrepreneur motivation.

The following research questions address the mix of these historic and contemporary theoretical aspects and touch on broader factors:

RQ1 What is the nature of online/offline community?

RQ2 How should we investigate online/offline community?

RQ3 What are the policy implications for online/offline community development?

The imperative for the study is based on the view that online/offline community is an important social compound and 'communication hybrid' grown from the impact of the Internet/World Wide Web. The stage is set for the description, purpose and justification of the methodological approach adopted to shape the inquiry.

# **Chapter 2 - Stage 1 Methodology - Pilot and Model**

## **2.1 Introduction**

This methodology is both the organisation of the process of research and an area of inquiry. It is divided into two stages, designed to produce the main research outputs: the SPENCE Model; the Twofold Survey/Twitter Study Instrument based on it; and the Interview Series. Stage 1 sets out how SPENCE was formulated; and Stage 2 describes what the Case Studies involved and how the Twofold Instrument was designed using the Model, providing a further evaluation and refinement of the Model in the organisation and analysis of the findings. Stage 2 includes the method for the Interview Series, which was also structured using the Model in its design and results.

The overview of the methodology and the framework for Stage 1 are given in Chapter 2 which precedes the description of the SPENCE Model in Chapters 3 and 4. The design method for the Model SPENCE involved a literature review and the evaluation by two Focus Groups. The theory derived from the literature review, is explicated in Chapters 3 and 4.

The methodology for the Case Studies and Interview Series is given in Chapter 5 which precedes the findings in Chapters 6 and 7. The SPENCE Model is applied in both the development of the Survey and Twitter Study instruments which are combined into a twofold approach in one of the Case Studies. The results of the Twofold Instrument and the Interview Series are organised by the SPENCE Model in Chapters 6 and 7, affording evaluation and refinement of the Model.

### **2.1.1 Research design**

The research design necessarily involves a diversity of social theories to address the targets of the Research Questions:

RQ1 What is the nature of online/offline community?

RQ2 How should we investigate online/offline community?

RQ3 What are the policy implications for online/offline community development?

The design mixes and melds theories and methods. I combine pragmatism, social constructivism and community-based participatory research theories (CBPR). Mixed methods (MMR) are threaded through these theories. Indeed, in some cases, they are concurrently performed, as e.g., qualitative/quantitative (qual/quant) methods, to yield pragmatic outputs that address the policy implications of developing online/offline community.

The aim, purpose and scope of each Research Question helped the choice between qualitative and qual/quant methods. RQ1 is broad in scope, using a range of methods, as it addresses the complex nature of online/offline community. This breadth required methods that were either qualitative or qual/quant. RQ2 is specific, focusing on the means of investigation of online/offline community and the evaluation of those means. It recursively reflects on and evaluates the investigation methods used to address RQ1. RQ3 involves the policy environment and draws from the results of RQ1 and RQ2 in the recommendation of new policy approaches.

Cresswell (2014) defines three types of MMR research design: *explanatory* - in which a quantitative method step is followed by a qualitative method step which explicates it; *convergent* - in which the data separately collected from qualitative and quantitative methods are analysed in combination; and *exploratory* - in which the qualitative first stage builds into the quantitative second stage.

In my method, the broad pattern of research design combined the *exploratory* with *convergence*. The study began by using the literature review of the first year as the partial theoretical basis for a reconnaissance project - a Pilot - to prepare for the main experiment. This followed the *exploratory* pattern, Cresswell (2014) identifies.

The Pilot demonstrated a lack of community theory underlying the inquiry. Its review (Appendix 2.1) led to the formulation of the Model in Stage 1 and to the selection of existing online/offline communities as the Case Studies in Stage 2.

The Model informed the design of research instruments including the Twofold Instrument that involved a convergence of methods. This centrepiece was qual/quant and offered a novel approach to the investigation of online/offline community as well as providing indicative findings about it.

## 2.2 Research Stages

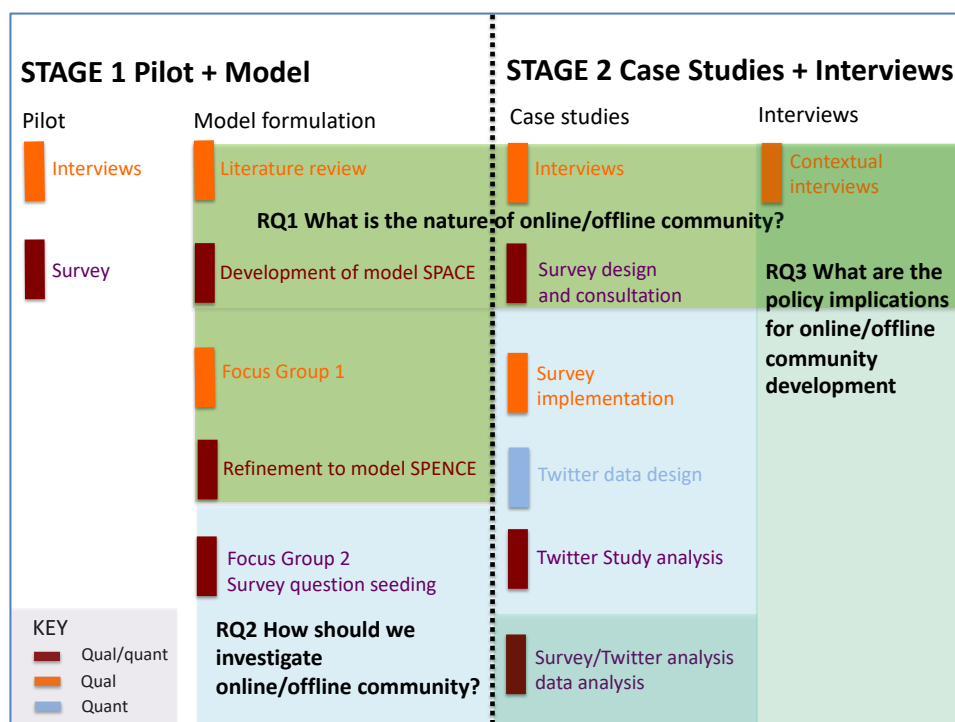
### 2.2.1 Overview

In Figures 2.4, and 2.5 the stages of the research design are shown. In Figure 2.4, the qualitative or qual/quant nature of each research product is indicated in colour coding given in the Key. In Stage 1, the Pilot was a rapid project that took 3 months to create and implement; the literature review/Focus Group informing the Model and metrics took a year. Stage 2 took 3 years and has been the most complex stage, involving a range of different qualitative and qual/quant products.

In Stage 1, the Pilot was designed as a case study, involving both qualitative methods - interviews - and qual/quant research methods - survey. The Model was formulated from a literature review in an integrated process of induction and deduction. It was qualitatively evaluated in the first Focus Group (FG1). FG2 tested the Model's metrics and contributed to the Survey instrument. It was configured to be qual/quant.

In Stage 2, the design of the instruments for the Case Studies was based on the Model and afforded further evaluation and refinement. The methods used in the Case Studies were qualitative, quantitative and qual/quant.

**Figure 2.4: Research Design**



### ***RQ1 What is the nature of online/offline community?***

The question addresses how the complexity of issues raised in Chapter 1, e.g. agency reproducing into structure and the intersection of personal and collective effects (1.7), manifest and are revealed in an investigation involving: Model formulation, an Interview Series and a Survey combined with Twitter Study.

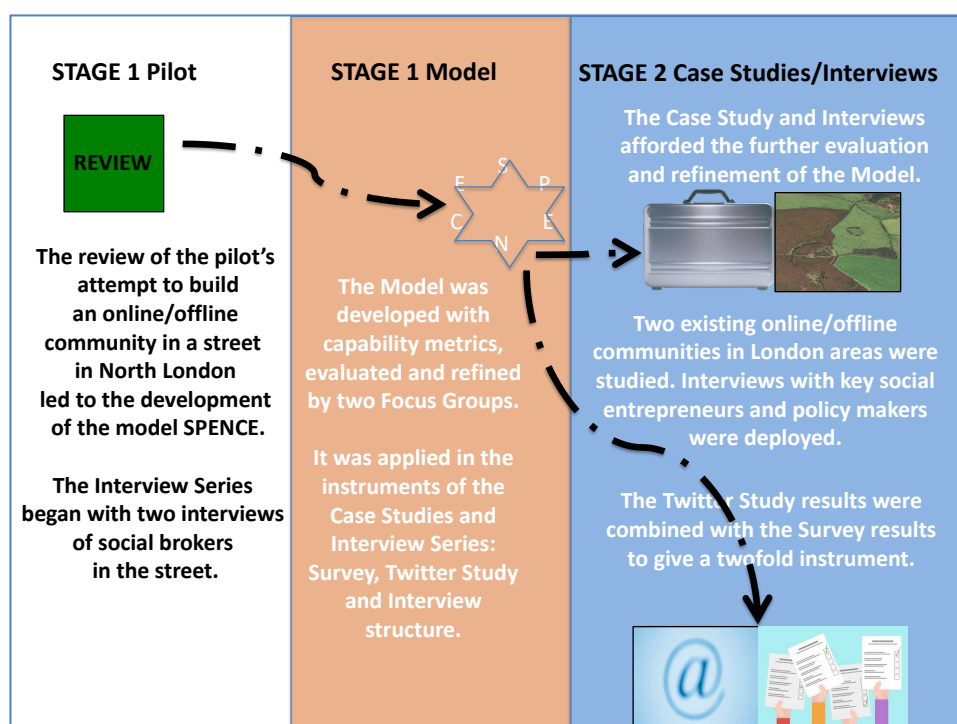
### ***RQ2 How should we investigate online/offline community?***

The research methods offer comprehensive qual/quant analysis, observation and exploration. The investigation depends on the case study approach using a Survey of community social broker views and observation of their behaviour in online social media i.e. a Twitter Study. The Survey and Twitter Study combine into the aligned Twofold Instrument, based on the Model. The methodology was designed in a stepped approach, involving iterative consultation in the creation of outputs, and evaluations of their effectiveness.

### ***RQ3 What are the policy implications for online/offline community development?***

The main experiment's Case Studies throw light on community development approaches through comparative assessment of local online/offline communities. The Interview Series gleans insights from builders of community; and from policy makers, measuring community or producing tools to develop it more effectively.

**Figure 2.5: Stage process and outputs**



### **2.2.2 Ethical approach**

Ethical applications were made and authorised for the stages of the research. The application for Stage 1 is given in Appendix 2.4 and for Stage 2, in Appendix 5.4. The approaches vary according to the stage method adopted and the detail in the account of each method justifies and explicates the ethical approach.

For all the stages, summary participatory information, setting out the way in which the data would be used, stored and the duration of the storage, was given clearly to participants for each of the methods to ensure that their consent was informed.

The means of giving the participatory information and receiving consent varied according to method, e.g. in the case of the two Focus Groups, the information was directly provided by email with written or digitally signed consent forms returned; in the case of the online Survey in Stage 2, the participant information was set out in the introduction to the Survey, and the consent statement was a tick box that accompanied the completion and submission of the form.

In Stage 1, each Focus Group had a different application. This was due to FG1 leading to FG2. The focus on metrics in FG2 emerged as a research need from the results of the FG1. In the transcript of both Focus Groups, the members are intentionally not identified. The excerpts of both groups cannot be traced back to particular individuals. The participants in FG1 were social entrepreneurs of four London online/offline communities.

### **2.2.3 MMR to qual/quant**

Johnson et al identify the goal of breadth in MMR:

‘Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration’

(Johnson et al., 2007, p. 116).

Cresswell (2014) underlines the distinction between mixed methods and ‘multi method research’: the former requires the integration of findings from both approaches; and in the latter, the findings can be separate. With the blended nature of online/offline community, there



is a need for an integrative investigative approach. The interdisciplinary nature of web science - the perspective of my thesis - also suits the MMR approach. The amalgam of disciplines (the meta-epistemology even) is demonstrated in the formulation of the Model in Stage 1.

In the main experiment in Stage 2 (Chapter 5), the Survey, usually deployed quantitatively, is deployed as a qual/quant instrument. The Survey used a number of purposively chosen recipients termed *social brokers*. It is a small sample and the instrument is nearer in approach to an interview in its duration and depth of inquiry. It does not resemble the conventional quantitative survey, deployed to a large population of randomly chosen individuals, intended to be statistically generalisable and representative. The Instrument affords pseudo-quantitative data analysis. This approach is also used in the Twitter Study that was designed to complement the Survey. The two qual/quant methods are then converged, supported by the SPENCE Model.

## **2.3 Social theory of methodology**

### **2.3.1 Integrated theory approach**

Combining social theories in a mix threaded through by a MMR-based research design may appear novel but the theories interrelate in important ways that is required by the nature of the sociotechnical phenomenon being investigated. Key features from each theory i.e. pragmatic problem-solving, community assets engagement and the creation of useful, socially influential outputs combine. The foundations of the community assets-based approach join with the sociality of the community-based participation, the co-constitutionality of social constructivism and the experience-based nature of pragmatism described as 'context bound, embodied and emotional, and thoroughly social in nature' (Morgan, 2014). This fine integration affords a research design that was pragmatically responsive to co-constitution by the participants. In line with Cresswell's (2014) observation that a research process can originate from a broad philosophy, my use of MMR methodology originated from the broad philosophy of pragmatism. Feilzer (2009) concludes pragmatism is the approach most commonly associated with mixed methods. Pragmatism is the base from which the MMR design emerged and I use an integrated mix of social theories, through which MMR is threaded.

### **2.3.2 Pragmatism**

The flexibility of the pragmatic inquiry, as originated by Dewey (2013), is '...a continuous process that may involve many cycles between beliefs and actions before there is any sense of resolution' (Morgan, 2014, p.1047). Informed by pragmatism the research design afforded

a range of functionalities, appropriate to the complexity of the object of inquiry and provided a rounded approach for eliciting evidence. Pragmatism underpinned the goal to achieve reusable research outputs.

I aimed for flexibility giving cumulative insight that could redirect and reshape design. At each stage of my research, a review point gave the option of iteration to adjust or revise the design. Pragmatism was both concerned with the quality of systematic practicality and the quality of ethics. The former is often mistaken for the operating principle of pragmatism in MMR (Morgan, 2014), but the latter quality was as important in the formulation of my research outputs. Morgan argues that ‘...pragmatism provides a strong match with the advocacy of social justice’ (Morgan, 2014, p.1050). Though there is ‘a natural fit between pragmatism and many versions of transformative or emancipatory research’ (Morgan, 2014, p.1050), I limited myself to the generic social justice goals of ‘openness, fairness, and freedom from oppression’ (Morgan, 2014, p.1050) supported in the pragmatic approach. The measurement instrument output of the thesis, created to compare across online/offline communities, has the important metrics of *roundedness* and *diverse cohesion*. This embeds within the instrument normative ideals of social justice.

### **2.3.3 Community based participatory research (CBPR)**

The perspective of CBPR is often used in the health sciences. Cresswell (2014) defines CBPR as an important theoretical orientation or lens in MMR. Stakeholders or community members ‘...become active participants in many phases of the research - helping to determine the problem, assisting in the design of the research questions, collaborating in data collection and analysis, and serving to disseminate the results’ (Cresswell, 2014, p.31).

The orientation has emerged from an extensive variety of interrelated ‘participatory’ research endeavours. Wallerstein and Duran (2003) describe how the CBPR concept unites two research traditions at opposite ends of a continuum: the researcher driven problem-solving for societal transformation with community-based collective shaping of research elements. I chose this social theory, commonly used in community health research, because a key concern in my inquiry is the policy implications for developing *effective* online/offline community.

My use of CBPR was focused on ‘...improving the cultural sensitivity, reliability, and validity of measurement tools through high-quality community participation in designing and testing study instruments’ (Flicker et al, 2007, p.4).

I wanted to mix CBPR theory with the allied theory of pragmatism and social constructivism to problem solve for improved community benefit through measurement of online/offline community, reflexively driving co-constitution in key aspects of the design of a novel instrument. CBPR supports innovation:

‘The blending of more traditional forms of knowledge production with “lived experience” has led to increasingly progressive and innovative methodologies’

(Flicker et al, 2007, p.4).

I anticipated that the ‘lived experience’ of the *social brokers*, purposively sampled in my Pilot and main experiments, would shape the evaluation and design of pragmatic research outputs.

### **2.3.4 Community assets-based theory**

The theory also known as ‘ABCD - asset-based community development’ is well researched and supported (Green & Haines, 2015; McKnight & Kretzmann, 1996; Mathie, 2003). It was formulated to reconfigure community development from a needs perspective to an assets strategy. With human assets as a major theme, in principle, everyone has the individual capacity to be an active community participant with ‘skills, talents, and experience’ (McKnight & Kretzmann, 1996, p.9). The expert proportion of the community - i.e. a stratum of self-selecting individuals - contribute as individuals or collectively in formal or informal community associations or organisations, providing a source of power and community leadership (Green & Haines, 2015). The theory underpins the sampling of the main experiment and contributes towards the formulation of the Model SPENCE and its *capabilities*.

### **2.3.5 Social constructivism**

I use social constructivism theory to address the intersectional nature of online/offline community that is crucially predicated on technology. The theory is currently applied to the interpretation of science and technology. Online/offline community is not science or technology, but it is a hybrid that is performed with social technology. Pinch & Bijker (1987) argue for ‘an operationalization of the relationship between the wider milieu and the actual content of technology’ (1987, p.429) but with social technology the relationship is operationalised inherently in its nature. The perspective of social constructivism is important, relevant and insightful and informs my understanding of the co-constitution of the sociotechnical artefacts that form online/offline community. Developing with ‘an alternation of variation and selection’ (Pinch & Bijker, 1987), the micro socio-technical artefacts (and their interpretations), used to support *sociality* in online social media or ‘social machines’ (Smart,

2014) and other digital communication channels, shift with the performance of sociality, with the potential of deepening sociality and sociotechnical functionality. They evolve in 'a multi-directional view' that Pinch & Bijker regard as 'essential to any social constructivist account of technology' (Pinch & Bijker, 1987, p.411). My inquiry is concerned with the evolving nature and intersection of sociality and sociotechnical functionality.

### **2.3.5.1 Interpretative flexibility**

I use the multi-directional focus or *interpretative flexibility* that is a central plank of social constructivist theory. *Interpretative flexibility* is traditionally defined as 'the capacity of a specific technology to sustain divergent opinions' (Sahay & Robey, 1996, p. 260, quoted in Doherty, 2006). Applied to my research, the concept expands to encompass the specific form of 'sociality technology'.

I use the concept of *interpretative flexibility* in the Twitter Study method of my main experiment (Chapters 3, 4 and 5). The affordances of Twitter are socially constructed by the social group of Twitter users. Pinch and Bijker elucidate the implications:

'...the sociocultural and political situation of a social group shapes its norms and values, which in turn influence the meaning given to an artefact'

(Pinch & Bijker, 1987, p.428).

Meyer & Schulz-Schaeffer's refinement of the concept of *interpretative flexibility* (2006), proposes three forms - truth, usefulness and relevance - aiming 'to contribute to a better understanding of the different meaning of *interpretative flexibility* within different situations of social construction of scientific facts and technological artefacts' (Meyer & Schulz-Schaeffer, 2006, p.27).

## **2.4 Stage 1 - Pilot and Model SPENCE**

I chose the Pilot as a method because I hypothesised that the investigation of a new social phenomenon - online/offline community - would be iterative. The Pilot is used as a 'temporary intervention with set goals and means', relying on 'small ad hoc structures' (Raphaël, 2010, p.3). I chose the case study basis for the Pilot with the methods of survey, interview and online social media. The methods rested on loose, emerging conceptual structures about online/offline community without formal theory. The Pilot aimed to rapidly test and give insights

into the methods. It involved developing online/offline community, using an online 'street message board' to observe community behaviour and discover people's views about online/offline community. It deployed two surveys. Cresswell defines the case study method:

'it explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information... and reports a case description and case themes'

(Creswell, 2014, p. 97).

The street as a unit is tightly bounded geographically, with a small population. It provided a small-scale Pilot case study: 'boundaries around places and time periods define cases' (Ragin, 1992, p. 5). These could be added to by other variables, e.g. the boundaries of the personal or the collective.

I had previously lived for 12 years in the street - 'Lordship Park' - in the London Borough of Hackney. I intended to study the nature of online/offline community by attempting to build a group of active community participants in this familiar street. I adopted the CBPR approach, involving a group of active online/offline community participants. I chose a *purposive sample* of around 20 street residents who met socially offline and communicated online via email. I conducted two interviews with three of the residents.

### ***Review of Pilot***

The iterative flexibility of the social theory of pragmatism affords reviews. The review of the Pilot's methodology offered useful pointers that informed the main experiment. In summary, the Pilot was only partially successful but there were a number of basic findings that emerged from its implementation that redirected my research design. The main findings were:

- the case study method would work for the main experiment
- online/offline community could not be built rapidly, instead existing instances had to be used
- robust theory on online/offline community was required to improve the effectiveness of investigation
- the interview method was useful and yielded two effective interviews (Chapter 7)

The detail of the review is in Appendix 2.1 with the Pilot surveys embedded in the 'Ethics Application form' in Appendix 2.4.

### **2.4.1 Model with metrics**

The online survey in the Pilot, though using elements of the Cabinet Office's 'Community Life Survey' (2014a), was not structured by coherent online/offline community theory. The interviews addressed the nature of online/offline community but lacked an *interview guide* structured by theory. The Model formulation built on the discoveries of the Pilot, provided a bridge to the main experiment of Stage 2. A literature research into community theory provided the groundwork for the Model's formulation. The literature review was interdisciplinary and yielded facets, broadly based on a convergence of disciplines. The first iteration of the Model - SPACE - was evaluated using the method of a focus group - FG1. This review resulted in its refinement to SPENCE which was evaluated by a second focus group - FG2.

The theory of the Model is set out in Chapters 3 and 4. The analysis of the Focus Group results is set out in Appendices 2.2 and 2.3 which include selected excerpts and summary analysis of the data gathered.

#### **2.4.1.1 Literature base**

With the Gruzdt and Wellman Model of online community (2011), as a starting point, I investigated the different components of online/offline community. The Model is necessarily an interdisciplinary construct, drawing from perspectives that include geography, sociology, computer science, cognitive psychology, social psychology, business science, network science, data science and web science. Gruzdt and Wellman (2011) set out to define online community in Twitter and formulated a Model of online community, distinct from online/offline community, based on the concepts of 'Imagined communities' (Anderson, 2006), 'sense of community' (McMillan & Chavis, 1986) and 'virtual settlement' (Jones, 2006).

In the literature review, an interconnecting range of social phenomena were surfaced, which are described in detail in Chapter 3. The Model was evaluated by FG1 (Appendix 2.2). The transcript analysis led to another stage of literature review in which key aspects of the Model were revised. SPACE became the six faceted SPENCE. FG2 was held to test the metrics that led to a final iteration of the Model.

#### **2.4.1.2 Model formulation method**

The formulation process for the Model did not deploy a formal, detailed theory of development. But it did follow a distinct frame of phases of development. The Model was formally evaluated by the Focus Groups. Smart's study (2014) outlines an approach, based on the Nickerson

(2009) taxonomy development method. The first two stages of Smart's approach broadly fit with the design approach I used. They also align with the classification approach used by Hillery (1955), described in 1.6.

### **Phase 1 - Empirical-to-deductive**

The Stage 1 Pilot served as an empirical 'launch pad' with loosely structured theory on online/offline community, informing the survey design and interview approaches. The Pilot provided context for a focused, systematic literature review, used in conjunction with a classification approach. A combination of two important sources of prior art determined the shape of the Model: Hillery (1955) who concluded three essential components make up community - geographic area, social interaction and social ties; and Gruzd and Wellman (2011) in their study of Twitter online community emphasise the elements of 'imagined community' (Anderson, 2006), 'sense of community' (McMillan & Chavis, 1986) and *cyberplace or virtual settlement* (Jones, 2006).

Rigour in classification requires classes/categories are orthogonal i.e.

'clearly defined, mutually exclusive, and collectively exhaustive aspects, properties or characteristics of a class or specific subject'

(Taylor, 2015, p.679)

I followed Hillery's heterogeneity of scope, in which he snowballed the literature focus outward from the references of each relevant work analysed in the literature review. Hillery (1955) arrived at a classification arrangement of key elements of community, expressed in high levels of abstraction, derived from a review of 94 definitions of community. So I used the technique of classification in combination with the literature review in the first phase. Following Smart's (2014) process, I examined the subset of related objects extracted from the literature review base, i.e. definitions of community and of online community, along with the historical mapping of instances of online community; research on communication theory; analysis of social psychological phenomenon; computational sociology themes and its approaches to the study of online community. I built on the three orthogonal categories of Hillery, and translated the online community concepts of Gruzd and Wellman (2011), adding two new facets. The output of this stage was a Model - SPACE - with a set of orthogonal facets, concepts and metrics.

### **Phase 2 - Deductive-to-empirical phase**

The facets/concepts/metrics elicited in the empirical-to-deductive phase were progressively refined and enriched, through the discussion of the Model by experts using Shadbolt's

categories of experts (1995) in Focus Groups 1 and 2 (Appendices 2.2, 2.3). SPACE became SPENCE, following the review, with a third facet added and two facets reshaped. The new Model afforded a holistic facet interdependence.

#### **2.4.2 Focus group method**

The method efficiently affords an informal group discussion (Beck et al, 1986) or a group interview (Vaughn et al, 1996) organised to address a particular topic or topics in depth (Byers & Wilcox, 1988; Krueger, 1986)) creating ‘...a candid, normal conversation’ as an integral process.

For each of the Focus Groups, I chose participants who had key characteristics in common. This shared character enabled the participants to experience ‘a similar, concrete situation’ (Merton & Kendall, 1946) although presenting individually not as ‘group mind’ ((Vaughn et al, 1996). The membership of four for each focus group was sufficient to generate an in-depth group interview.

In FG1, the first draft Model SPACE was evaluated; and in FG2, the metrics of the revised draft of the Model, SPENCE, were assessed. Both focus groups were organised and formal (Vaughn et al, 1996), each using the steer of a presentation slide script which ordered the discussions.

With FG1, I invited four online/offline community practitioners to participate using a snowball approach in which the first practitioner approached, recommended the next and so on. I also invited a neutral facilitator to chair the proceedings to ensure that I did not ‘oversell’ the Model and that the group was robust in review. The experienced practitioners of online/offline community responded to the Model from an expert perspective, in critical engagement and debate.

FG2 took the form of asking potential online/offline community builders to formulate user requirements using the principles underlying the metrics. The ease with which they managed this indicated the intelligibility of each metric. The analysis of the results informed the further development of the metrics as they iterated into a Framework. The Model’s metrical theory reduced into four main strands, which I termed *capabilities*, which inhere in *net/latticework* (Chapter 4), supporting *interpretative flexibility*.



Both focus groups were successful in facilitating candid conversations that addressed the nature of online/offline community and the suitability of the Model and its metrics. As a consequence of FG1, the Model was transformed from SPACE to SPENCE. The results of FG2, which tested the intelligibility of the SPENCE Model and metrics, contributed to the design of the Survey for the main experiment. The focus groups also functioned as group interviews and selected findings are included in Chapter 7. The detail of the FG1 and FG2 method is set out in Appendix 2.2 and 2.3.

# Chapter 3 - The Model SPENCE

## 3.1 Introduction

As discussed in Chapter 1, in the 1970s, the geographic region in community became less important with the proliferation of ramified and personal networks with non-local ties (Gruzd & Wellman, 2011). This was the consequence of, e.g., improved transport infrastructures and work/interest-based community networks. But with the take-up of the World Wide Web in the 1990s, community has increasingly afforded the potential to reembody place as a blend of cyber/physical.

In Chapter 1, I coin and define this new social phenomenon - online/offline community: *social exchange using channels of digital multi-media and physical expression, leading to permanent social ties connected across social graphs, from proximity informed by a diversity of values, interests and needs, bounded in settlement combining physical and cyber place, curated by an entrepreneur.*

In Chapter 2, Appendix 2.1, *Pilot review*, I described the first stage of my field work which led me to acknowledge that a Model of online/offline community needed to be developed to guide research. I formulated the Model - SPENCE - as an instrument of analysis to guide investigation into the nature of online/offline community. The following account of SPENCE offers a conceptual framework that deconstructs this social phenomenon in order to facilitate interpretation and measurement.

SPENCE is a faceted Model which is informed by the measurement principles of *capabilities* (Chapter 4). It has a logic of interdependency between the facets providing a lens which gives an integrated perspective. Within SPENCE theory themes are embedded that hold value judgments about what forms ideal online/offline community elements, e.g., *roundedness* of values, interests and needs (VINs), *universalism* and *diverse cohesion*. SPENCE affords the comparative consideration of case studies of online/offline community (Chapter 5), pointing to the potential for beneficial social effects. An intended outcome and output is support for public, private and third sector policy-makers in generating diversely coherent social fabric through community development initiatives.

SPENCE has six facets and four capabilities. The following account describes five of the facets: *settlement*, *proximity*, *exchange*, *channels* and *entrepreneur*. The fourth facet

*net/latticework* is set out in Chapter 4 as it involves the Model's measurement principles which need to be considered separately in detail.

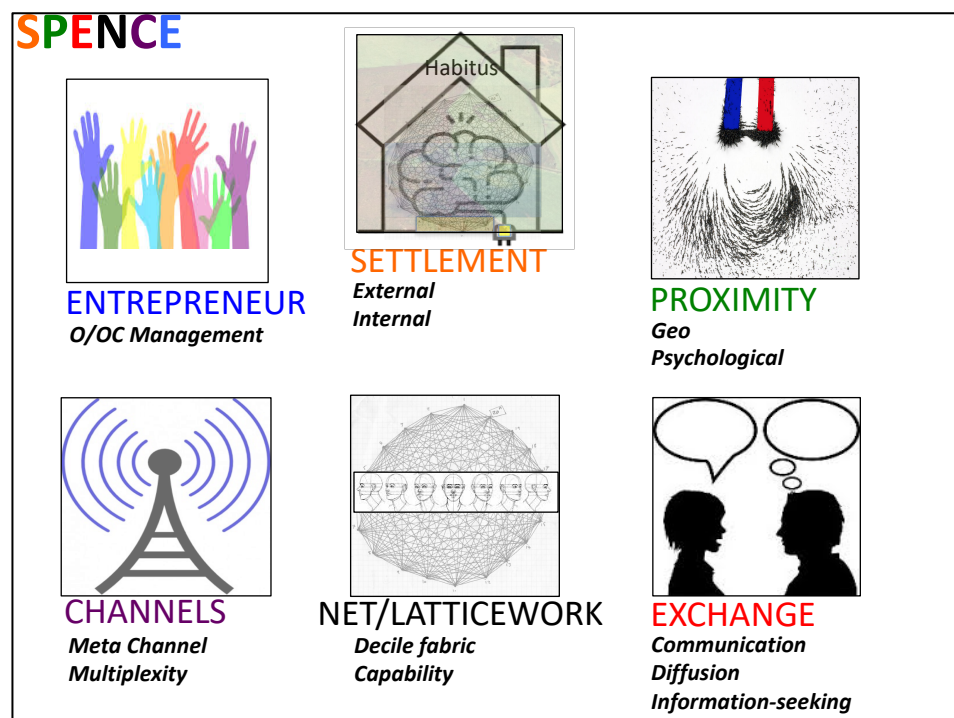
## 3.2 SPENCE

SPENCE offers an interdisciplinary amalgam of generic, interdependent facets. In Hillery's (1955) classification of community there are the components of: geographic area, social interaction and common ties. These seed three of SPENCE's facets.

|                |                    |            |                 |
|----------------|--------------------|------------|-----------------|
| <b>Hillery</b> | Social interaction | Area       | Common ties     |
| <b>SPENCE</b>  | Exchange           | Settlement | Net/latticework |

The three additional facets - *proximity*, *channels* and *entrepreneur* - are more than accretions; they are integral to the architecture. Each SPENCE facet, except *channels*, applies to the blend of online/offline community. The facet of *channels* describes the online and offline modes that the other facets interweave.

**Figure 3.6: Model of online/offline community - SPENCE**



Gruzd and Wellman's Model (2011) of online community, involving the three dimensions of Anderson's 'Imagined communities' (2006), McMillan and Chavis's exploration of the concept 'sense of community' (1986) and Jones' investigation of 'virtual settlement' (2006), also

significantly informs the Model SPENCE. The three main concepts below apply to the Model's *settlement* and *proximity* facets.

**Table 3.1: Gruzd & Wellman's Model of online/offline community (2011)**

| 1. Imagined community                | 2. Virtual settlement    | 3. Sense of community                  |
|--------------------------------------|--------------------------|--|
| Common language                      | Interactivity            | Membership                             |
| Temporality (i.e. common time)       | Variety of communicators | Influence                              |
| High centres (i.e. popular entities) | Common public place      | Integration and fulfillment of needs   |
|                                      | Sustained membership     | Shared emotional connection            |
|                                      |                          | Interactivity, cohesion, meeting needs |

### **Social phenomena in SPENCE**

In the Model development methodology's literature review described in Chapter 2, an interconnecting range of social phenomena were surfaced which include, e.g.: the intersection of digital and physical space (De Freitas, 2010); the 'propinquity/proximity principle' (Newcomb, 1956; Festinger, 1950); the concept of social capital (Hanifan, 1916; Putnam, 2000; Bourdieu, 1986; Coleman, 1989); the infrastructure of trust (Sherchan, 2013; Fukuyama, 1995); the construct of social cohesion (OECD, 2012); the properties of information diffusion (Weng et al, 2013); link properties in networks (Barabási, 2002); latent to weak tie conversion in online social networks (Ellison, 2011); channel multiplexity (Haythornthwaite, 2001); and social entrepreneurship (Leadbeater, 1997).

In SPENCE, the key components from the models of Hillery (1955) and Gruzd and Wellman (2011) are reconfigured in combination, adding new determinants. SPENCE is an interdisciplinary amalgam, providing novel integrative theory in a coherent system or 'a lens of synthesis' (Halcrow, Carr & Halford, 2016). It is faceted (Dawson, 2006) and conceptual. It is faceted at the top level with mutually exclusive facets which interdepend. At the next level within the facets are 'concepts' and within the 'concepts' at the third level, are 'sub-concepts'. They are not orthogonal, overlapping in some cases, e.g. in *proximity*.

**Table 3.2: SPENCE facets, concepts and sub-concepts**

| Facet                        | Concept   | Sub-concept  |
|------------------------------|---|--|
| <b>Settlement</b>            | External<br><br>Internal                          | Virtual<br><br>Physical  |
| <b>Proximity</b>             | Geographical<br>Psychological                     | Values<br>Interests<br>Needs<br>Demographic status                         |
| <b>Exchange</b>              | Communication<br>Diffusion<br>Information-seeking |  |
| <b>Net/latticework</b>       | Decile fabric<br><br>Capability                   | Cohesions<br>Closures<br>Trust<br>Influence<br>Information<br>Intelligence |
| <b>Channel</b>               | Meta channel<br>Multiplexity                      |  |
| <b>Entrepreneur (social)</b> | O/OC Management                                   | Content management   |

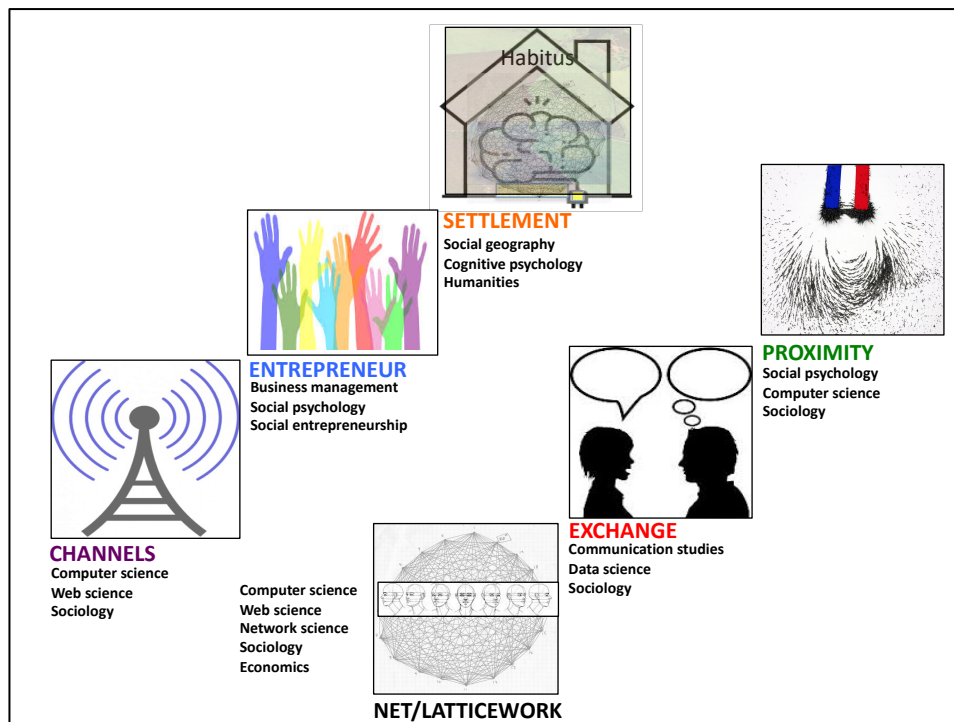
### Facet synthesis

There is an interrelationship between facets that has a dynamic. The *entrepreneur* driver leads to the creation of *settlement* using *channels*, which enables *proximity* that drives *exchange* that creates *net/latticework*. When *proximity* is engendered through the featured affordances of the *settlement*, *exchange* is generated that develops into *net/latticework*, in which capabilities inhere. *Entrepreneur* maintains the lifecycle of the online/offline community by managing its development to ensure new and adjusted elements in *settlement* that drive *proximity* etc.

### Interdisciplinarity

The Model is necessarily an interdisciplinary construct, drawing from perspectives that include geography, sociology, computer science, cognitive psychology, social psychology, business science, network science, data science and web science.

**Figure 3.7: Interdisciplinary nature of SPENCE**



### 3.3 Facet descriptions

In the following account of SPENCE the fourth facet - *net/latticework* - is explicated in Chapter 4 as it involves the measurement principles which afford an assessment of the effectiveness of online/offline community.

Each facet below is introduced in summary with a) *definition*, b) *facet interdependence*, and c) *sub-concepts*, followed by a detailed description, drawing from relevant literature.

#### 3.3.1 Settlement

The first facet situates the populations in online/offline communities. They inhabit place, forming it from space through geographical and social interaction. Place becomes *settlement* as the interaction burgeons.

- a) **Definition:** *settlement* is defined as continuously or temporarily inhabited, boundaried place, which is external (virtual/physical) and internal (cognitive), enabling the performance of community.
- b) **Facet interdependence:** online/offline *settlement* can be designed, created and/or founded by social entrepreneurs to enable online/offline community.
- c) **Sub-concepts:** *external settlement*; *internal settlement*.

### 3.3.1.1 External settlement

It exists in varying degrees of online/offline. The definition of physical settlement is: a place, where people establish a community. Offline *settlement* is implicitly identified by Wellman in his definition of community as 'a spatially compact set of people' (Wellman & Leighton, 1979) and Hillery (1955) as a geographic area bounding social interaction.

As Cresswell (2014) suggests, citing Tuan (1979), physical place is bound up with the making of meaning:

'What begins as undifferentiated space becomes place as we get to know it better and endow it with value...The ideas space and place require each other for definition. From the security and stability of place we are aware of the openness, freedom and threat of space, and vice versa'

(Tuan, 1977, p.6).

Tuan in 'Space and place' (1977) defines place through a comparison with space: 'place can be as small as the corner of a room or as large as the earth itself' (Tuan, 1974, p.245). Relph distinguishes it from space: 'space is amorphous and intangible and not an entity that can be directly described and analysed' (Relph, 1976, p.8).

As detailed in Chapter 1, there is an important distinction between *cyberspace* and *cyberplace*. Jones makes the distinction between place and community in his analysis of *virtual community*: '...the need to distinguish between a virtual community's cyber-place and the virtual community itself' (2006, p.7). He identifies *cyberplace* as 'a virtual common-public-space' (Jones, 2006, p.7). Jones' virtual settlement is encompassed in the SPENCE sub-concept - *external settlement*.

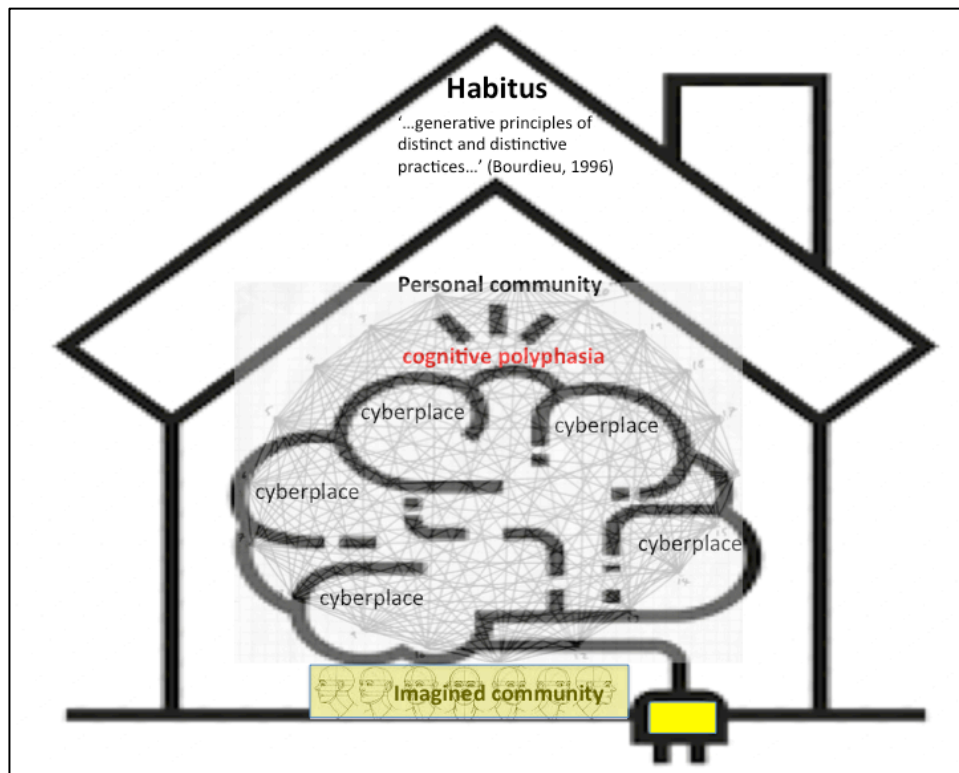
Cresswell (2014) argues, in the spirit of Heidegger's dwelling (*dasein*) that places are *experienced*. From the perspective of phenomenological philosophy, Relph (1976) argues that place *determines* our experience; that places are 'profound centres of human existence' (Relph, 1976, p.42). In Chapter 1, I alluded to how Tuan considered 'homeliness' to drive the making of place: 'the making of places at all scales is seen as the production of a certain kind of homeliness' (Tuan, cited in Cresswell, 2014, p. 24). Casey expands on the idea of local place as home, applicable to both physical and virtual situations: 'To live is to live locally, and

know is first of all to know the place one is in' (Casey, 1996, p.18).

To summarise, using Tuan's view of place, *external settlement* is 'a sophisticated human construct' (Tuan, 1979, p.389). It is both physical and virtual place inhabited by a sustained membership that entails experience and local knowledge.

### 3.3.1.2 Internal settlement

**Figure 3.8: Internal settlement**



The phenomenological view of *settlement* is of course *internal*. Anderson argued that community is imagined: '...yet in the minds of each lives the image of their communion....' (Anderson, 2006, p.5). Anderson originally applied this conceptualisation to nation-states, arguing that languages through the spread of printed communications unified and gave a history to *exchange* that created a national consciousness in people.

I argue that 'the image of communion' in a nation that Anderson (2006) explores, emanates from the *internal settlement*. It is a cognitive place. Gupta supports this idea of the imagining of community coming from an internal place by suggesting the felt and experiential: 'structures of feeling...pervade the imagining of community' (Gupta, 1992). *Internal settlement* is a 'home'



in cognition where we make meaning of community<sup>14</sup>. It equates to Bourdieu's concept of 'habitus'. Bourdieu defines 'habitus' in individuals (1977) as:

'...a system of lasting, transposable dispositions which integrating past experiences, functions at every moment as a matrix of perceptions, appreciations and actions and makes possible the achievement of infinitely diversified tasks...'

(Bourdieu, 1977, p.83).

In Chapter 1, *cyberspace* is 'the notional environment in which communication over computer networks occurs' and *cyberplace* is the *external settlement* that is bounded and populated. In the first years of the Internet, 'ARPANET', email and 'USENET' forums provided *cyberplaces*. With the richer GUI features of social media services, Facebook, Twitter etc have evolved into institutional *cyberplaces*. I propose that our understanding of community is situated in our *internal settlement* where multiple *cyberplaces* are experienced. As a community, we have a 'consensual hallucination' (Gibson, 1984) formed from the imagining of community but it is predicated on external and internal place, giving it boundaries.

Bourdieu (1990) argued that the reproduction of the social structure results from the 'habitus' of individuals. The reproduction of *external settlement* in online/offline community follows from our individual capabilities of making meaning of space, transforming it into place. McMillan and Chavis' work on collective 'sense of community' (1986), emphasises the importance of values in community in cohering and unifying social activity and behavior. In the *internal settlement* or 'habitus' it is an individual's values that animate, cohere and underpin the 'image of communion' (Anderson, 2006) and determine, in part, choice of community membership.

The collective structure reproduced from the individual structure is considered from the viewpoint of the personal by Rainie and Wellman (2012). Their account of 'network individualism' (2012) argues there is an increase in 'personal community' in which the individual is the autonomous centre. It involves expanded membership of multiple online/offline communities. They argue that this gives rise to a more multifaceted and personal sense of community than in previous times.

Gupta's view that people are in a state of homelessness through the deterritorialisation of space 'in a world of diaspora' (1992) aligns with key elements of Foucault's views and theories of space.

His concept of 'heterotopia', resonates with the concept of online/offline in the 'mirror thought experiment' in which the physical mirror combines with the virtuality of the reflection. But it is his less formulated view on an anxiety of space which adds a dimension to this consideration of making place from space. His anxiety arises from two perspectives - the relations in place (see 3.3.2 Proximity) and the infinite extensivity of space that defies place-making and pushes against place boundaries. He considers '...the anxiety of our era has to do fundamentally with space' (Foucault, 2004, p.2). He considers the boat an extreme type of heterotopia but I think it represents implicitly, in summary, his general idea of the anxiety of space: 'the boat is a floating piece of space, a place without a place, that exists by itself, that is closed in on itself and at the same time is given over to the infinity of the sea' (Foucault, 2004, p.9).

Moscovici's concept of 'cognitive polyphasia' - a coexistence of different and even contradictory modes of thinking (Moscovici, 1976; Wagner, 2000) - is relevant in thinking about *internal settlement*. I propose that the issues of the 'world of diaspora', anxiety of space and 'cognitive polyphasia' are countered and settled by the 'homeland' blend of the 'habitus' or *internal settlement* working with the *external settlement*. Drawing from Foucault's poetic metaphors, the *SPENCE settlement* could be viewed as a mirror blending online and offline or a physical boat moored in *cyberplace*.

An expanded membership of multiple communities yields an extensive hybridity or 'post-modern hyperspace' (Gupta, 1992) in which various online/offline communities are sensed and performed. Within online/offline community investigated in the Case Studies the variety of community membership elements within the *settlement* are congregated by social entrepreneurs.

### 3.3.2 Proximity

The second facet is concerned with how people within a *settlement*, are physically and psychologically close. Their *internal settlements* have a balance of values, interests and needs drawn from and consistent with their performance in online/offline communities.

- a) **Definition:** *proximity* is the *geo-physical/virtual* or *psychological proximity* attraction between people (from the Latin *propinquitias*, 'nearness').
- b) **Facet interdependence:** *proximity* is brought into being with online/offline *external settlement* siting inhabitants physically close to each other, and *internal settlement* determining psychological closeness.
- c) **Sub-concepts:** geo-proximity; psychological proximity.

### 3.3.2.1 Geo-proximity

It was originally considered that geo-proximity was the cause of interpersonal attraction:

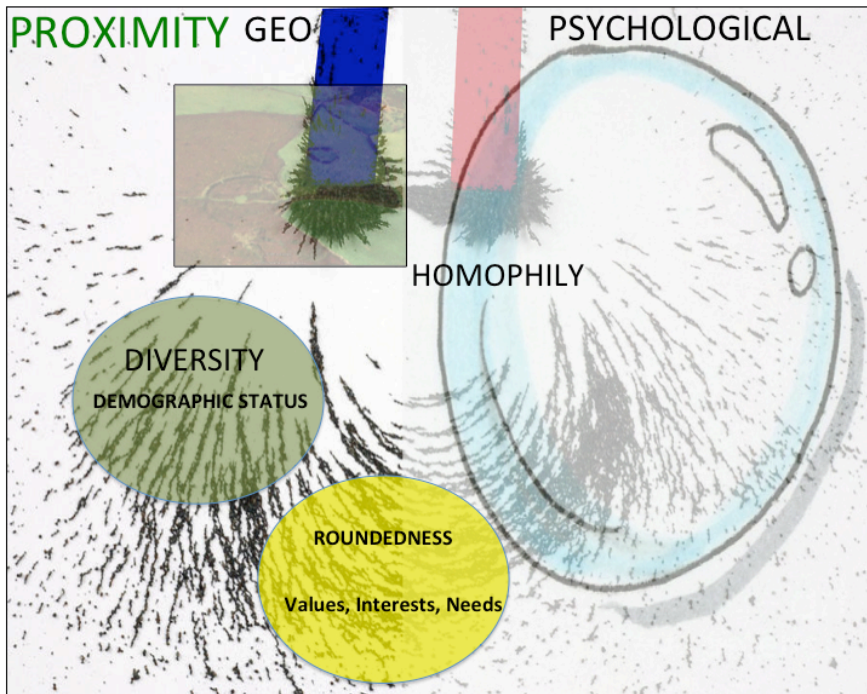
'Perhaps the simplest... of the notions concerning determinants of positive attraction is that of proximity'

(Newcomb, 1956, p.575).

Festinger coined the 'proximity effect' (1950) and Newcomb the 'proximity principle' (1956). Their argument was alternatively explicated as the 'least effort' or power law principle (Zipf, 1949). The concept of propinquity or geo-proximity was a central plank in community theory until the pivotal moment of 'community without proximity' (Webber, 1963). This view, shaped in the 1960s, was attributed to the growth of the personal network (Rainie & Wellman, 2012), expanded transport infrastructure, extensive broadcast media, and the advent of the Internet and Web.

### 3.3.2.2 Psychological proximity

Figure 3.9: Proximity with key concepts



With psychological proximity, also defined as 'homophily' (McPherson, 2001), attraction is conditioned by demographic status or values. People who are similar are attracted to each

other. McPherson (2001) distinguishes two types of homophily: *status homophily* and *value homophily*.

### **Status homophily**

This is where:

‘...similarity is based on informal, formal, or ascribed status...Status homophily includes the major sociodemographic dimensions that stratify society - ascribed characteristics like race, ethnicity, sex, or age, and acquired characteristics like religion, education, occupation, or behavior patterns’

(McPherson, 2001, p.419).

### **Value homophily**

This type of homophily is more complex than *status homophily*. People are attracted to people with shared values: values, attitudes, and beliefs (McPherson, 2001) bring people together. McMillan and Chavis set immense store by the effect of values on community: ‘Shared values, then, provide the integrative force for cohesive communities’ (1986, p. 13). Rheingold (1993) considers values the bedrock of personal friendships:

‘How does anybody find friends?...we search through our pool of neighbors and professional colleagues, of acquaintances and acquaintances of acquaintances, in order to find people who share our values and interests’

(Rheingold, 1993, p.24).

Rokeach defines values as ‘...core conceptions of the desirable within every individual and society’ (Rokeach, 2008, p.15). He regards the concept of values as a fundamental social science building block:

‘...the value concept, perhaps more than any other in the social sciences, is meaningful at all levels of social analysis’

(Rokeach, 2008, p.14).

He sees values as guiding action, choice and appraisal. In the *proximity* facet, Schwartz’s ‘Value theory’ (2012) forms an integral part. It is formulated as a system in which values are given priority by a person. They are often congruous or in conflict (see Figure, 5.18). An example of opposing values are the conflicts of *universalism/benevolence* with *achievement/power*. Schwartz suggests that an individual who prioritises multiple values,

including those that are competing, would discover interrelationships and trade-offs at a basic level, in order to influence action. Schwartz (2012) argues that values are in a motivational continuum. He sums this up as: 'The *relative* importance of multiple values guides action' (Schwartz, 2012, p.3). As with Rokeach (2008), he considers values are relevant to many disciplines involving social analysis. He defines them as 'core conceptions of the desirable' and as such motivational. He prioritises the value of *universalism* because it affords moral inclusiveness (Schwartz, 2007) in which people who hold this value view people not in their in-group as having valid values.

I propose that *universalism* is the keystone value that provides the potential for deep integrity in the values system as it demonstrates an integrative force that builds on the basic level of interrelationship between values.

Schwartz considers values to relate to need (see below) because they are grounded in 'universal requirements':

'...they are grounded in one or more of three universal requirements of human existence with which they help to cope. These requirements are needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups'

(Schwartz, 2012, p.4).

The set of values identified by Schwartz (see Figure 5.18) are: *self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence* and *universalism*.

### **Interest homophily**

In addition to *value homophily*, I suggest *interest homophily* is also significant. Krapp (2005) considers *interest* to be a 'content specific motivational disposition', based on a focused engagement with content and its affordances, which is related to the fulfillment of innate psychological needs. Castells (2002) argues sociability is constructed around specific interests. Silvia (2008) considers interest is 'a source of intrinsic motivation for learning' (Silva, 2008, p.58). Calhoun (1998) considers online community in particular coheres in interest groups. He observes that they tend to be segmented into single themes rather than mixes of different interests. The implications for this are that online community groups tend to be mono-themed through *interest homophily*.

Silva (2008) also considers interest to be an emotion. Krapp (2005) defines fundamental

characteristics of interests as:

‘specific cognitive and emotional aspects such as feelings-related and value-related valences’

(Krapp, 2005, p.382).

There is a synergy between *values*, *interests* and *needs* (VINs).

### **Needs**

I consider *needs* as another key concept in psychological proximity. In ‘Self Determination Theory’ (SDT), a macro theory of human motivation and personality, concerning people’s inherent growth tendencies and their innate psychological needs, the emotions-based concept of *relatedness* is a core concept. According to Deci (2000):

‘Relatedness refers to the desire to feel connected to others - to love and care, and to be loved and cared for...relatedness is a fundamental need, and the idea of relatedness as a need is central to, although not widely discussed in the field of attachment...Indeed, many empirically based theories assume a desire or tendency for relatedness even if they do not explicitly formulate it as a need’

(Deci, 2000, p.231).

The other major *needs* identified in this theory are *competence* and *autonomy*; respectively, the motivation to experience efficacy or competence; and to self-organise in keeping with one’s integrated sense of self (Deci, 2000). The definitions for these concepts are embedded in the Survey (question notes in Chapter 5, Q2.7).

Castells refers to ‘affinities’ as a complementary community integration entity alongside values and interests (2002) but does not expand on the concept. As Deci suggests *relatedness* as need is not explicitly formulated in empirical social science theory. I take ‘affinities’ to imply connectivity through attraction from the need for *relatedness*.

### **Values, Interests, Needs (VINs)**

VINs are the deep-seated human qualities that inform and condition our attractions to each other in our ‘imagination of community’ locally and nationally. They are not orthogonal. There is an interplay between them, e.g., both values and interests are motivational; and interests develop from needs. As mentioned, ‘need-related experiences’ affect the development of interest; and Schwartz’s idea of ‘universal requirements’ in values translates to the innate

psychological need for *relatedness*. *Value homophily* and *interest homophily* interrelate driven by *autonomy*, *relatedness* and *competence*, to contribute to 'growth oriented activities' (Deci, 2000) in online/offline community. *VINs* could be considered core 'generative principles' in Bourdieu's (1978) 'habitus', reproducing into social structures.

### **Roundedness**

There is a *roundedness* that can occur when there is a multiplicity of competing or diversity of values and interests. With the Schwartz system, opposing values can be accommodated in trade-offs, influencing behaviour and action.

Colleoni (2014) examines Twitter political publics of left- and right-wing affiliated users to find differing levels of homophily in values, given that political positioning involves adherence to a set of values (Halcrow & Zhang, 2015). He considers the interests of users detectable by their discussion topics (Colleoni, 2014), on the Twitter platform that is viewed as both social and newsy (Kwak et al, 2010). When comparing the two groups he found a variety of practice but overall concluded that political values-based publics have more homophily than interest-based ones. His approach shows the importance of differentiating homophily in groups by values and interests. The variety of practice with the overall view that values dominate as a homophily factor point to the importance of the *roundedness* of values and interests in diversity. A wide variety of values, accommodating opposing values, and different interests, moved by the need for *relatedness*, demonstrates *roundedness* in a community. I propose that *roundedness* is a measurement of community effectiveness factor.

The theoretical account of *VINs* above does not touch specifically on offline aspects. With offline community, people congregate together residentially as a consequence of the interplay of their *VINs* and demographic status, including importantly income, neighbourhood, community features and public goods. Schelling's theory (2006) that 'community sorting' leads to segregation tipping points, particularly in the case of ethnic orientation, shows that key individual preferences determine a skewed equilibrium, involving the offering of public goods, in an ongoing, recursive, shifting process. But I suggest that with online/offline community, rounded *VINs* can help counter the potential for bias in homophilies.

### **Problems with psychological proximity**

Foucault identifies proximity as a problem:

'In a still more concrete manner, the problem of siting or placement arises for mankind in terms of demography. This problem of the human site or living space is not simply

that of knowing whether there will be enough space for men...but also that of knowing what relations of propinquity...should be adopted in a given situation in order to achieve a given end'

(Foucault, 2004, p.2).

In my thesis, the 'given end' is effective community and there are a number of concerns with the potential lack of balanced diversity in values or interest homophily.

### **Filter bubble**

Pariser coins the term 'filter bubble' for the homophily of values and interests. He suggests that Google's launch of the personalised search in 2009 created 'parallel but separate universes'. In their bubbles, each person is at the autonomous centre of their online social networks, making friends only with people who share a limited set of values. The interpersonalised content operates as an 'identity loop' (Pariser, 2011, p.201). The rise of 'network individualism' (Rainie & Wellman, 2012), at the expense of collective community, combined with the effects of the 'filter bubble' is problematic. I suggest that there are a number of issues that could arise, e.g. the bubble's 'emotional world' of content has a persuasion effect that rivals authoritative fact (Pariser, 2011); the emotional nature of content in 'filter bubbles' can impact on *relatedness*; and an amplified 'emotional world' with 'network individualism' could lead to social isolation in a 'filter bubble'.

### **3.3.2.3 Diversity in demographic status**

How does diversity in demographic status counter the 'filter bubble' effects? With effective community, *roundedness* in *VINs* works alongside diversity in demographic status. Diversity in community involves heterogeneity in demographic status and *VINs*. Putnam holds up diversity in community as an ideal, referencing Toqueville through Wuthnow and Putnam:

'What interested Tocqueville about voluntary organizations was...their ability to forge connections across large segments of the population, spanning communities and regions, and drawing together people from different ethnic backgrounds and occupations'

(Putnam, 2000, p.78).

Cantle's (2012) advocacy of 'interculturalism' argued that it develops community effectiveness:



‘...heritage and identity are dynamic and that cross-cultural interaction in increasingly globalised and diverse societies is inevitable and desirable’

(Cantle, 2012, p.38).

Calhoun (1998) emphasises the high importance of diversity in community, defining community itself as ‘a mode of relating’ which is necessarily variable (Calhoun, 1998, p.391). He argues online community, in cohering around *interests* in ‘disparate enclaves’ is not sufficient in itself and it is a supplement to dense, multilayered local offline face-to-face community.

The ‘filter bubble’ of different online homophilies combining with filtered demographic status would be countered by forging wider connections through *exchange* and networking across different segments of the population in online/offline community.

### 3.3.3 Exchange

The third facet is concerned with how people sited in *settlement*, near to each other physically and psychologically, choose to interact.

- a) **Definition:** *exchange* happens between humans or between human and machine and involves communication, diffusion and information-seeking. *Communication* is the origination of content expressions motivated by *relatedness*; *diffusion* comprises generation and transmission of information/data and the dissemination of knowledge; and *information-seeking* consists in the searching for and discovering of information.
- b) **Facet interdependence:** *proximity* correlates with *exchange*. When people are attracted to each other in *proximity* through homophily or in *roundedness*, they are likely to start interacting.
- c) **Sub-concepts:** communication; diffusion; information-seeking.

*Exchange* provides three interdependent functions: 1) *communication* serves the basic psychological need for *relatedness* (Deci, 2000) and the construction of meaning (Castells, 2015); 2) *diffusion* of information and knowledge serves the development of knowledge structures (Lizardo, 2004; Simon, 2015; Zhang, 2014); 3) *information-seeking* supports resource/data discovery to build knowledge structures. The functions support the understanding, confirmation and transformation of reality (Piaget & Duckworth, 1970;

Bourdieu, 1990).

Theory from cognitive science is important in the understanding of the *exchange* facet. Cognitive processes such as collaborative meaning construction and experiential knowledge building are central to *exchange*. Cognitive science was formed as a heterogeneous discipline in the 1960/70s, comprising six core disciplines (Miller, 2003) - philosophy, psychology, computer science, neuroscience, anthropology, linguistics. 'Information processing' is a key concept (Milkowski, 2015; Lizardo, 2004) that sets out how knowledge is acquired. Information processing is a step in knowledge structure-building 'transforming perceptual stimuli into more abstract representations of the environment' (Lizardo, 2004, p. 383). Zhang (2014) summarises the knowledge structure-building process in a Model that includes: iterations of gap-filling, tuning, accretion, intertwined information/knowledge looping.

The distinctions between the *exchange* sub-concepts are: *communication* involves sending/receiving meaningful messages mind to mind; *diffusion* concerns transferring information/data mind to mind; and *information-seeking* is a combination of both processes.

### **3.3.3.1 Communication**

Dewey places great importance on *communication* in *exchange*:

'There is more than a verbal tie between the words common, community, and communication. Men live in a community in virtue of the things which they have in common; and communication is the way in which they come to possess things in common'

(Dewey, quoted in Carey, 2013, p.6).

Dewey also uses the concept of transmission:

'Society exists not only by transmission, by communication, but it may fairly be said to exist in transmission, in communication'

(Dewey, quoted in Carey, 2013, p.1).

Williams (1961) supports this view: '...the process of communication is in fact the process of community'.

I propose that *communication* involves the construction of meaning through the individual or

collective original expression of content. It aims for bilateral or multilateral understanding, driven by people's need for *relatedness* (Deci, 2000). Craig views the communication principle as 'a constitutive process that produces and reproduces shared meaning' (Craig, 1999, p.7).

Castells develops the idea of how social meaning in online communication draws '...on the messages and frames created, formatted and diffused in multimedia communication networks' (Castells, 2015, p.6).

Carey (2008) expressed the traditional view pre-Internet that language was secondary and reality primary. But with online social meaning construction, in the same way meaning in place is formed in *settlement* as 'a sophisticated human construct' (Tuan, 1979, p.389), reality could be said to constitute a blend of experiential *embodied cognition* situated in external physical reality. The messages in online networks are expressions of thought representing reality. Through *embodied cognition*, language in online social media seems as primary as physical reality.

Castells emphasises the process of constructing meaning in *communication* and how it is characterised by a great deal of diversity (Castells, 2015). This diversity in the blend in communication is important throughout community or as Calhoun's asserts community requires a 'necessary variability' (1998).

### **3.3.3.2 Diffusion**

*Diffusion* is the gathering and transmission of information/data/knowledge using online/offline social *net/latticework* processes. An important ideal outcome of *diffusion* is knowledge-structure building and consolidation as a result of information/data being exchanged or transferred into knowledge. Piaget & Duckworth (1970) propose a model that bodily/mental knowledge is flexibly formed from 'the construction of transformation systems' where the outcomes are knowledge-structures. I propose that the act of understanding is comprised of a generative matrix of knowledge- structures.

The *diffusion* of information and knowledge as with *communication*, involves the construction of social meaning, but more through conglomeration than origination. Conglomeration is an assembly and repetition of existing information/data/knowledge. *Diffusion* is fundamentally a transmission process: it is separate from the information/data that it carries. With transmission in *communication*, the content is formed from the iteration of expression, shared and exchanged bilaterally or multilaterally, as the content becomes more known collectively.

Bandura (2009) summarises the innovation transmission concept coined by Rodgers (2010) as based on a mutuality of feedback giving reciprocal understanding. Bandura (2009) considers *diffusion* to be a part of mass communication that he sees as media links working through 'socially mediated pathways' to influence cognition and behaviour.

### **Driver mechanisms**

*Diffusion* to be effective needs particular techniques or driver mechanisms. It is predicated on a purpose i.e. social influence. *Diffusion* through social influence involves sociotechnical mechanisms in online social networks. The driver mechanism patterns follow the models of *exchange* set out below (3.3.3.4), i.e. transmission, marketplace, social cognition and situated cognition. The styles can be combined. The first model uses a sender/receiver pattern; the market place is network; the social and situated cognition are *net/latticework* (Chapter 4) based. I suggest that with the *latticework* patterns in social cognition and situated cognition, new driver mechanisms are evolving.

### **Examples of network diffusion driver mechanism**

There are many factors in *diffusion* dynamics. Myers et al (2012) argues that topic-similarity, temporal-exposure, user-familiarity principles, rather than social influence, drives *diffusion* in open networks, e.g. large-scale social networks like Twitter. Myers et al (2012) propose that in open networks, there are cooperating and competing diffusion processes in which:

'competing contagions decrease each other's probability of diffusion, while cooperating ones help each other in being adopted'

(Myers et al, 2012, p.1).

They argue that the cooperation of contagion components is topic similarity based - i.e. contagions with similar topics are cooperative; and exposure based - i.e. the user's familiarity with the topic in a time window predisposes them to diffuse the information. With this cooperative effect, *diffusion* occurs driven by topic similarity, familiarity and interestingness and it operates regardless of social network structure, local dependencies and social influence. Myers et al (2012) propose that information has an 'inherent interestingness' which is termed 'content virality'; Weng et al (2013) discuss the attraction of information volume, according to the preferential attachment principle. He proposes users follow the most actively diffused sources of content.

### **Cascades**

Watt (2002) concluded that cascades occur in 'sparse interaction networks' in which communications are not developed and which have poor authoritative sources of information.

So, there is an important relationship between *communication* and *diffusion* in *exchange*. Where there is both, cascades are less likely to occur. In cascades individuals herd together in 'filter bubbles' (Pariser, 2011) making decisions based on social dependencies through *proximity* rather than based on robust information. The robustness of knowledge contrasted with information is a useful distinction that bears on the cascade phenomenon. The marketplace driver mechanism is increasingly used for knowledge as well as information in a way that reduces diverse knowledge transmission at a time when the value of information has overtaken the value of knowledge (Horowitz, 2017).

Network-based diffusion driver mechanisms such as information cascades/contagion/ herding can be deployed to leverage social influence by circulating unsubstantiated content or deliberately false information. The concept of the online 'filter bubble' (Pariser, 2011) is transformed by Thurston (2018), using a psychoanalytical perspective, to a 'narcissistic bubble' of 'hypersensitive subjectivism and solipsism' (Thurston, 2018). He considers 'social dislocation, narcissism, and post-truth' as modern-day outcomes of a convergence of political and social forces. He talks of the 'states of high emotional arousal' (Thurston, 2018, p.163) resulting from 'hyper-subjectivism' which informs the 'public sphere', disallowing different perspectives. It is not subjectivity but the manipulative intention that informs recent trends in *diffusion* in online social media. 'Fake news' is defined as 'news articles that are intentionally and verifiably false, and could mislead readers' that are widely shared on social media (Allcott, 2017, p.212). It is a recent online social phenomenon and Facebook, Twitter, have admitted to diffusing false information.

Carey (2008) characterised news as:

'...not information but drama. It does not describe the world but portrays an arena of dramatic forces and action; it exists solely in historical time; and it invites our participation on the basis of our assuming, often vicariously, social roles within it'  
(Carey, 2008, p.6).

This effect of drama is developed in the 'fake news' phenomenon: content is diffused in a targeted way, deploying psychological profiles generated from social media use (Kosinski et al, 2013) to reinforce 'filter bubbles' and amplify emotionality. The outcomes impact on social fabric. 'Fake news' is generated by state actors, e.g. Russia in the 2016 US Elections, to achieve tactical geo-political advantage:

‘A malicious intent to harm the political process and cause distrust in the political system was evident in 2,752 now-deactivated Twitter accounts that were later identified as being tied to Russia’s “Internet Research Agency” troll farm’

(Badawy, 2018, p.2).

### **3.3.3.3 Information-seeking**

*Information-seeking* combines *communication* and *diffusion*. The importance of information in community is paramount. Gruzd and Wellman identified access to information as one of the most important reasons for people to stay and join in an online community (Gruzd & Wellman, 2011). Information is a *capability* within community as described in Chapter 4. The process of *information-seeking* is more regulated by pattern or protocol than *communication* and *diffusion*, i.e. a question is asked of a person/system which is responded to. It is a type of communication which brings about third-party communication/diffusion. In *information-seeking*, resources are sought using communication expressions with ‘information protocols’ to meet ‘content-oriented needs’ (Song, 2004) and are received in targeted communications or *diffusion*.

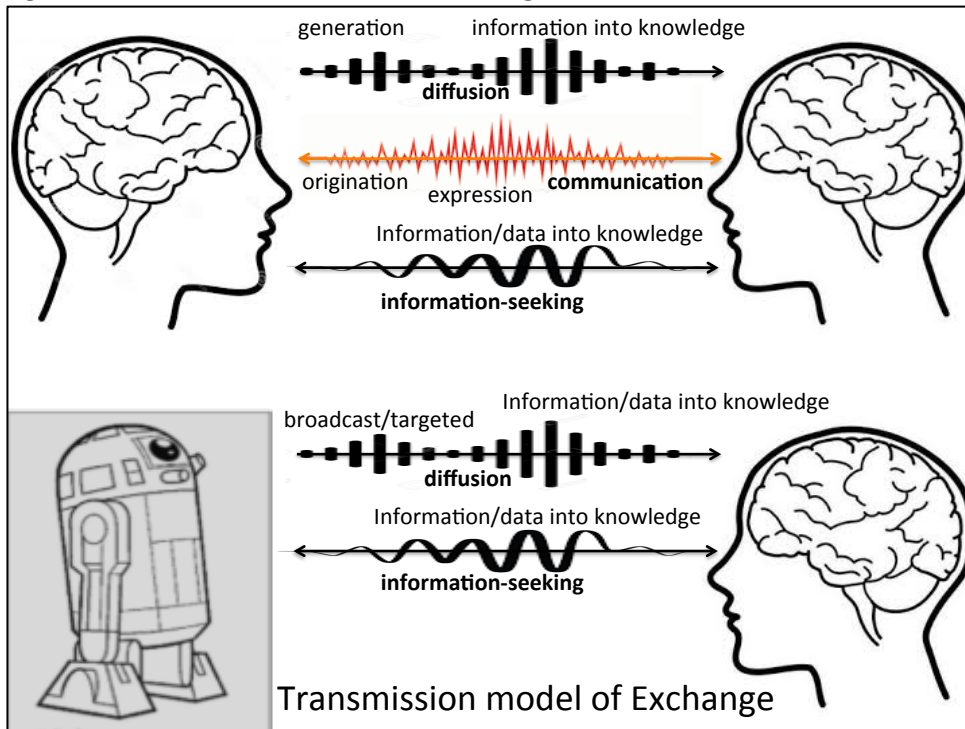
Individual online searching using a search engine is a form of *information-seeking* for community resources held centrally. It requires search protocol expertise and the results are entirely dependent on the efficiency, effectiveness and integrity of the search platform and are grouped in a priority order determined by the algorithms of the search engine, e.g. preferential attachment in the case of Google. As described, the diffusion of ‘fake news’ has emerged in recent years as a social phenomenon. It impacts on *information-seeking* when people are persuaded that fake information has authority.

With offline environments, *information-seeking* can be community-based, collaborative and collectively embodied, driven by social and situated cognition (Bhanushali, 2017). Zhang et al describe (2012) the ‘background crowd-powered search’ by Web users, e.g. the ‘Human flesh search (HFS)’, originated in China in 2001. In the offline environment, there are formal established and situated channels of resource in communities. e.g. libraries, citizen advice bureaux, local councils, police, businesses. A key role of these organisations is to meet individual or collective information-seeking needs.

### 3.3.3.4 Models of exchange

#### Transmission Model of exchange

Figure 3.10: Transmission model of exchange



The model in Figure 3.14 is based on the traditional 'transmission model' but also includes the other functions of *exchange* - *diffusion* and *information-seeking*. This adaptation of the traditional transmission and informational model of *communication* addresses the three main SPENCE functions in *exchange*. Carey (2008) argued that the transmission view of sending, transmitting or giving information to others is fundamental to the process of understanding.

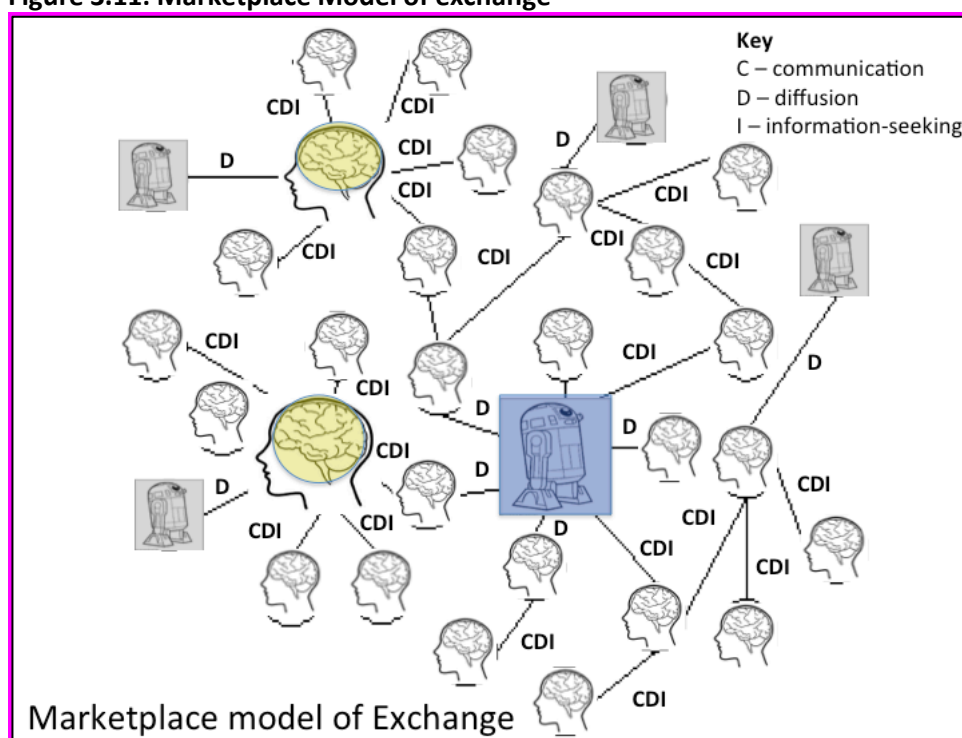
Craig clarifies this view as:

'communication is a process of receiving and sending messages and transferring information from one mind to another'

(Craig, 1999, p.125).

### Marketplace model of exchange

Figure 3.11: Marketplace Model of exchange



The pattern of *communication* exchange post-Internet can be configured as a marketplace (Bhanushali, 2017) of content expressions co-constructing meaning. It operates alongside the transmission model in *exchange* in a multi-layered process.

There are many types of content expression, e.g., phatic or in-depth conversation, online community post, tweet, chat, post, observation, opinion, sentiment, photograph, profile, link, music, video, like, event-invite, joke, essay, article, story, poem, greeting etc. The 'opinion' and 'idea' are key units of expression in communication. Newman (2001) studied the academic opinions/ideas communications of scientists in networks and concluded they work according to power law theory (Barabási, 2002). The scale free pattern of communication exchange sheds light on how social meaning can be constructed (Barabási, 2002).

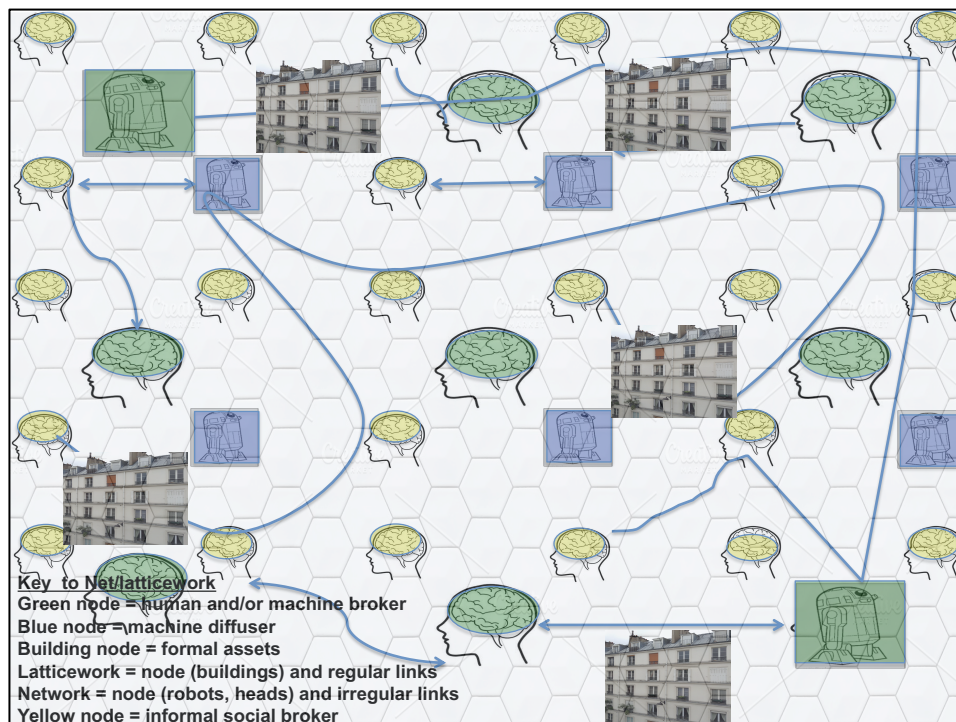
### Social cognition model of exchange

In Habermas' formulation of the concept of 'public opinion' (1989) opinions are a part of the public discourse, generated in the 'public sphere' (Habermas, 1989). The *exchange* in *cybersphere* is equivalent. I propose that opinions operate as *social cognition* in a community, unbounded by *external settlement* but underpinned by 'imagined community' (Anderson, 2006).



## Situated cognition model of exchange

Figure 3.12: The situated cognition model of exchange



Opinion-forming in the centuries of the 'Age of Enlightenment' <sup>15</sup> was bounded or situated, e.g. in coffee houses, that Oldenburg (1989) would have called 'great good places'. Oldenburg defines the 'third place' as not the first place of home nor the second place of work. It is rich with comprehensive *exchange*:

'neutral ground provides the place, and leveling sets the stage for the cardinal and sustaining activity of third places everywhere. That activity is conversation'

(Oldenburg, 1989, p.26).

The coffee house as a place for community and conversation demonstrates the situation of knowledge acquisition in cognition. I suggest that situated cognition is the collectively embodied, co-constituted and online/offline grounding of social cognition produced by *exchange*. I have set out above how *exchange* involves the *communication* of meaningful expression combined with the *diffusion* of knowledge/information. Seeley Brown's view is that 'knowledge' is a key constituent of *exchange* in situated cognition, i.e., it is

<sup>15</sup> Age of Enlightenment: 'an intellectual and philosophical movement that dominated the world of ideas in Europe during the 17th to 19th century'. [https://en.wikipedia.org/wiki/Age\\_of\\_Enlightenment](https://en.wikipedia.org/wiki/Age_of_Enlightenment).

'...inextricably *situated* in the physical and social context of its acquisition and use'  
(Seeley Brown, 1989, p.4).

I propose that in online/offline community, collective knowledge is informally and formally situated. It may gather in the *cyberplace* of local Twitter exchanges and community website forums or the physical library and cafes. Tuan viewed place or *external settlement*, as 'a sophisticated human construct' (Tuan, 1979, p.389). The situated knowledge resources contribute to the construction.

Tuan considered that the sense of 'homeliness' (Tuan, cited in Cresswell, 2014) is integral to the human construction of place. Casey identifies local place as home: 'To live is to live locally, and know is first of all to know the place one is in' (Casey, 1996, p.18). Oldenburg emphasises the homelike nature of the third place:

'Though a radically different kind of setting from the home, the third place is remarkably similar to a good home in the psychological comfort and support that it extends'  
(Oldenburg, 1989, p. 42).

In my working definition of online/offline community:

*social exchange using channels of digital multi-media and physical expression, leading to permanent social ties connected across social graphs, from proximity informed by a diversity of values, interests and needs, bounded in settlement combining physical and cyber place, curated by an entrepreneur*

there is intended to be this sense of *exchange* being grounded or 'brought home' in cyberplace and physical place in order for it to reproduce into personal and collective knowledge.

In the *net/latticework* facet, the structural aspects of *exchange* in *settlement* are considered. I suggest that situated cognition is represented by the *net/latticework* pattern (see Figure 3.17). The different models of *exchange* - transmission, market, social cognition and situated cognition - combine and form into *net/latticework*. The fixed formal features of an online/offline community environment, e.g. local council websites, local third sector provision, police services, NHS services etc. reside in the *latticework*, and the informal conversations in Twitter are shaped by social network patterns.

### 3.3.4 Net/latticework

*Net/latticework* is the fourth facet of SPENCE but as it encompasses the Model's measurement principles, it requires a separate focus, set out in Chapter 4.

### 3.3.5 Channels

The fifth facet is concerned with the means of *exchange* in an *external settlement* that is necessarily multiplex. The diversity of established channels is added to by the new institutions of online social media that are embedded within traditional channels.

- a) **Definition:** *channels* is the interwoven infrastructure of distinct human-to-human communication channels in online, offline or online/offline forms. The basic channels operate in parallel or combined ways. They are: face-to-face (FtF); telephony (audio/video); postal mail; and digitally mediated communications.
- b) **Facet interdependence:** channel multiplexity underpins online/offline *exchange* in the *external settlement*.
- c) **Sub-concepts:** meta channel; multiplexity.

#### 3.3.5.1 Meta-channel

I propose that online/offline social networks, e.g., Facebook and Twitter, have become institutional because of the huge size of their user-bases and the intensive rate of daily/monthly user engagement. Searle (2005) defines an institution as an entity to which status and function have been assigned by 'collective acceptance', which exercises constitutive rules and 'deontic powers' (e.g. rights, duties, obligations, authorisations etc.). He charts how entities become institutions:

'There is a gradual transition from informal but accepted assignments of status functions to full-blown established institutions with codified constitutive rules'

(Searle, 2005, p.10).

Facebook and Twitter, and other major online/offline social networking services, could be regarded as institutions as they have been assigned functions and status by the collective acceptance of thousands of millions of users; their identity sharing with other services could be considered as 'deontic powers'; and their likes, shares, privacy settings etc. could be viewed as 'constitutive rules'.

### 3.3.5.2 Multiplexity

'Multiplexity' is a concept, coined by Wellman and Haythornthwaite (2001). It describes the interweave of *channels* or 'polymedia' (Madianou, 2013) used by people. It constitutes the degree of interconnected multi-use of *channels*. Wellman and Haythornthwaite propose that people with stronger ties tend to communicate using more channels (Gruzd, 2011). Madianou (2013) proposes that different *channels* are deployed in combination or multiplexity according to social need. *Channels* in 'digitally mediated communications' include: email, web, instant messaging, mobile, video/audio telephony. They can have degrees of convergence, e.g. web and video telephony. There is an array of channel devices, e.g., computers, tablets, smartphones, headsets, watches etc. that also serve channel convergence. For example, the smartphone provides web, instant messaging, SMS, email and telephony.

### 3.3.6 Entrepreneur

For online/offline community to develop, an entrepreneurial agent needs to create a *virtual settlement* or *cyberplace*, usually in the form of a website, and then congregate the *meta-channels* such as Facebook and Twitter, and stimulate blended *exchange* online/offline to promote effective performance of community amongst active community participants and *social brokers*.

- a) **Definition:** the *entrepreneur* is involved in the design, creation, curation, management and maintenance of an online/offline community. They are an agent or organisation. The *entrepreneur* is engaged in the initiation, management and maintenance of online/offline community. They can be a single agent or a leadership group.
- b) **Facet interdependence:** the *entrepreneur* acts as service manager, ensuring the *cyberplace* is provisioned with features to support *proximity*. They deploy *meta-channels* to instrument the *settlement* to generate content in *exchange*.
- c) **Sub-concept:** management.

Online/offline communities are necessarily founded by agents, who are likely to have entrepreneurial qualities of ambition, drive, creativity, and effectiveness (Leadbeater, 1997). They deploy online social media as a *channel* platform for online community and link this to offline community channels, forging an intersection between them.

The online/offline community manager is likely to be a *social entrepreneur*. In the Case Studies

in Chapters 6 and 7, the managers demonstrate this approach. They build online *settlement* and promote social *exchange* in the digital platforms they establish and configure. They create and maintain the provision that enables the performance of online/offline community.

The *entrepreneur* is distinguishable from the *social entrepreneur* by the quality of motivation. Mair (2006) defines social entrepreneurship as a social change catalyst, meeting an important social need, that is not dominated by direct financial benefits. Instead, the endeavour is motivated by a desire to achieve social change through acquiring and deploying social and economic capability effectively. Social entrepreneurs can be purely non-profit or can start in this way and convert to entrepreneurship. For example, 'Mumsnet'<sup>16</sup> began as a non-profit based social entrepreneur-led start-up. Conversely, non-profit motivated provision can result from successful commercial social media, e.g. the 'eBay' entrepreneur's creation of the 'Skoll Foundation'<sup>17</sup>.

### **3.3.6.1 Management of online/offline community**

Mair (2006) considers that the process of social entrepreneurship, often involves the creation of organisations, that are associated with social change, but are distinct from more loosely structured activist movements (Mair, 2006). With, significant social capital, the social entrepreneur develops local leverage, influence and advocacy that becomes formalised, linking to local/national institutions.

#### **Content management**

Building, managing and maintaining online/offline community involves the allocation of roles, e.g., moderators or content providers. The creation and curation of content, e.g. 'home page' articles, e-newsletters. Content would comprise of local news and social interactions of *exchange* generated by members. Management could involve removing and reshaping inappropriate online content -'spamming', 'flaming' or 'trolling' - in a moderation process

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<sup>16</sup> <https://www.mumsnet.com>

<sup>17</sup> <http://skoll.org>

## Chapter 4 - Net/latticework

This is the fourth SPENCE facet. It follows *settlement*, *proximity* and *exchange* in an order that expresses an interdependence. It is described here, separately, to give emphasis to its important role as the measurement facet. Within *net/latticework* there are four *capabilities* that apply metrics to the measurement of online/offline community effectiveness.

In the following account the metrics are illustrated by their application in the Twitter Study. In Chapter 6, the Twitter metrics are aligned with Survey elements using the Table in Appendix 4.3.

- a) **Definition:** *net/latticework* is the blend of informal and formal social structures, formed from *exchange*, represented in two types of graph: network and latticework, respectively. Their intersection occurs through triadic closures. *Net/latticework* encompasses the *decile fabric* proportion of community which holds community assets. This integrates with the 90% of 'ordinary' community. So, there are two blended combinations: the intersection of graphs; and the integration of the *decile fabric* with the 90% of community.

Embodied within *net/latticework* are four measurement principles or *capabilities*: *trust*, *influence*, *information*, *intelligence*. They inhere and operate as infrastructure in the *decile fabric* and in the whole of online/offline community.

- b) **Facet interdependence:** the social bonds of *net/latticework* are formed from *exchange*. *Channel multiplexity* underpins online/offline *exchange* in the *settlement*.
- c) **Sub-concepts:** *decile fabric*; *capability*.

### 4.1 Graphs

#### Graph

A graph consists in nodes and edges. A graph is a collection of nodes and edges that represents relationships:

**Nodes** are vertices that correspond to objects.

**Edges** are the connections between objects.

The graph edges sometimes have weights, which indicate the strength (or some other attribute) of each connection between the nodes. And the nodes have a degree that is their number of edges.

There are two types of graph pattern - *network* and *lattice*. Barabási in his analysis of power-law or scale free networks distinguishes between the network graph and the

‘large but ordered graphs, such as the lattice formed by atoms in a crystal or the hexagonal lattice made by bees...’

(Barabási, 2002, p.13).

#### **4.1.1 Network**

As set out in Chapter 1, the graph pattern of the network has underpinned the sociological study of community since the 1970s. Network analysis emerged as a ‘fundamental intellectual tool’ in sociology in the 1970s (Wellman & Berkovitz, 1988, p.4). It evolved from disparate sources, e.g., the sociogram developed by Moreno (1934) and network as an analogy (Barnes, 1954, p.44). Barabási (2002) considers most networks to be scale free, formed of hubs and ordinary nodes, held in the 80:20 pareto pattern, ruled by the power law of preferential attachment.

#### **4.1.2 Lattice**

If the network is assumed to be the dynamic, power law driven graph, then the *lattice*, is the stable, non-power law graph. The concept of *lattice* is significantly less explored than *network*, where there is an extensive body of literature, constituting the discipline network science. I would like to introduce the concept of *lattice* below and in Appendix 4.1.

The social relations of the *lattice* are in regular topographies. The definition of *lattice* is: ‘a regular geometrical arrangement of points or objects over an area or in space *specifically*, the arrangement of atoms in a crystal’.<sup>18</sup> *Lattice* is a concept that applies to social organisations as well as scientific description of crystal structures. Fleetwood uses the concept to describe *social structures*: ‘a social structure is a lattice of internal relations between entities...’ (Fleetwood, 2008, p.262). In my account, it is institutions that suit the description of *lattice* and social structures that are shaped by networks.

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<sup>18</sup> <https://www.merriam-webster.com/dictionary/lattice>

The ordered graph of the *latticework* is not to be confused with the term *meshwork* which has a number of meanings: local network topology in computing, in which nodes are directly, dynamically and non-hierarchical connected; the self-organising pattern of 'rhizome and tree' (Deleuze & Guattari, 1987). In SPENCE, *latticework* is not random and heterogeneous. It is homogeneous and grows in a regular fashion like a crystal or honeycomb. Indeed, in my differentiation between network and *latticework*, a *random network* is nearer to the concept of the Deleuzian *meshwork*.

The growth of the Internet is characterised by De Landa (1998) as meshwork-like. In contrast, Barabási's thesis argues that the Internet is a scale free network. In the scale free network, growth occurs from preferential attraction in a hub formation following the 80:20 rule.

*Latticework* is nearer to Herbert Simon's (1991) *organisation* with command hierarchies which he opposes to *markets*. But again, the 'simple stochastic growth mechanisms' that Simon (1991) suggests for organisation does not apply to the *latticework*. With the *latticework* concept close to that of organisation, I suggest the growth is regular. The organisation in e.g. the private sector might grow in a power dynamic manner; but in the public sector, would grow more regularly and steadily.

I suggest that the intersected entity of *net/latticework* grows in triadic closure (4.2.2.): strong ties are bonded through repetitive contact that reinforces the ties. They form from *proximity* attraction. Weak ties bridge and widen contacts across circles.

## 4.2 Decile fabric

### 4.2.1 Informal with formal

With online/offline community, the *decile fabric* is made up of 'community assets', following the 1% rule (Van Mierlo, 2014), actively effecting and affecting the whole community. I propose that within this stratum, *social brokers* are more likely to interact with and link to formal community institutions than 'ordinary community participants' are.

Online/offline community has a greater informal/formal interconnectivity than online or offline community when separate because institutions and formal organisations have dual representation online/offline. In the *decile fabric*, there is the most *cohesive* interlinking between network and *latticework*, as the social broker hubs are more engaged online/offline with the doubly represented formal entities.



*Social brokers* and civic activists are informal 'community assets' (Kretzmann & McKnight, 1993; Mathie, 2003) who link with formal community structures such as local government. In the Case Study of Herne Hill in Chapter 6, the formal node of the Herne Hill 'Amenity and Civic Society' is a part of the *latticework* linking to the informal nodes of the network of *social brokers*, e.g., café and shop owners and civic activists.

### **Social capital**

The concept of social capital is discussed in Chapter 1 where it is defined by Bourdieu. Capital for Bourdieu is predicated on the idea of the 'social world' necessarily involving 'accumulation and all its effects' (Bourdieu, 1986, p.241). So the social relation is of inherent value as a unit or atom, it accumulates into congregated value, subject to multiplication effects. It is in the network - in the social relation - that the resource or institution is embedded.

*Decile fabric* is related to the concept of social capital, but offers an update on it suited to the new social phenomenon of online/offline community. With the structural cohesions of informal and formal social relations in the *decile fabric*, there is an accumulation of resources, drawn from bridging between *network* and *latticework*, that is effective for the whole community. The formal institutions align with the informal in online/offline channels to diffuse or cascade resources around the 90% of less proactive and connected participants in community. The cascade occurs through the online/offline social activity, bridging between clusters and the sharing of the value of *universalism*. The sampling method described in Chapter 5 (5.2.8) is predicated on the intuition that observing the behaviour of the *decile* of active community contributors gives indicative insights into the behaviour of the whole population because the 10% stratum brings benefits to the whole of community.

### **4.2.2 Triadic closure**

Triadic closure drives the progression towards the intersection of *network* with *latticework*. This is a triadic intersection of two layers or 'inter-layer coupling' (Pastor-Satorras et al, 2015, p.54). Growth means increased *net/latticework* cascading from the *decile fabric*.

Simmel's intuition (1961):

'...that two individuals with mutual friends have a higher probability to establish a link'  
(Weng et al, 2013, p.2)

is backed by Leskovec et al.: 'most new edges span very short distances, typically closing

triangles' (2008, p.9). In triadic closure, strong ties bring about new weak or strong ties.

In closure a *network* node linked with a *lattice* node would have an enhanced value. For example, the degree of the *network* node would add to the degree of the *lattice* node. The links are two-way transitive, i.e. the degree capital of the *lattice* node would be given to the *network* node and vice versa. The amplification of effects would be two-way. The *lattice* node that is aligned to a high degree social broker would have boosted *influence*; and a *network* node with a moderate degree, linked to a *lattice* node, would also have a boosted *influence*.

With triadic links, there would be different degree valency effects according to whether two points in a triad were from the *network* or *lattice*. The regular triadic closures of the *lattice* (see Appendix 4.1) would boost the *network* effects through the multiplication of weak link brokerage.

### 4.2.3 Cohesions

In Chapter 1, 1.7, the nature of community cohesion or solidarity is first addressed. With the *decile fabric* - a stratum of social brokers which is interconnected by formal/informal roles - three types of Cohesion are considered, giving measurements of the quality of the connectivity. The Cohesions are predicated upon the work that was done in Twitter data analysis in Chapter 6, 6.4. Provenance details are also given below in 4.3.5.2, *Twitter Metrics Codebook*.

- a) *general cohesion* is the reciprocal links between the nodes (whether net or lattice) divided by the population's possible reciprocal links.<sup>19</sup>
- b) *diverse cohesion* is the degree to which the general cohesion has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked
- c) *specific cohesion* is the reciprocal links between net and lattice nodes divided by the population's possible reciprocal links.

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<sup>19</sup> *General cohesion* is another expression of *density* which 'refers to the "connections" between participants. Density is defined as the number of connections a participant has, divided by the total possible connections a participant could have'.

[https://en.wikipedia.org/wiki/Social\\_network\\_analysis#Key\\_terms](https://en.wikipedia.org/wiki/Social_network_analysis#Key_terms)

The three Cohesions engage with the four *capabilities* described below. In the interconnection, the *capabilities* inhere as infrastructures in the cohesion. Semantic codes and features from social networking platforms are used as currency codes to formulate the cohesions. The Twitter codes used for metrics and to calculate cohesions are described below in 4.3.5, *Twitter metrics*.

## 4.3 Capabilities

The *capabilities* derive from the activities and effects scoped by the SPENCE facets. The extent of the *capability* effects in the *decile fabric* is the focus of the SPENCE measurement approach. *Capabilities* are measures of online/offline community effectiveness.

*Capabilities* are dynamically impacted by environments and events. The SPENCE concept of the *capability* measure involves the ‘dynamic capability’ theory in organisations.

### ***Dynamic capability***

With ‘dynamic capability’ (Teece, 1997), there is the sense of adaptation of social resource. The concept comes from organisation theory developed for commercial businesses. It might seem like an inappropriate fit with community theory because of the commercial impetus, but, the argument that resource is adaptable works in both contexts. Preece’s definition of ‘dynamic capability’

‘the firm’s ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments’

(Teece, 1997, p.516).

is applicable to the challenge of change in both online/offline companies and communities. Teece (1997) sets out a framework for dynamic capabilities that involves *organisational processes* (i.e. integration, learning, reconfiguration), shaped by asset positions (i.e. financial, knowledge, reputational, relational, technological, structural, institutional, boundaries) and moulded by evolutionary and co-evolutionary paths (i.e. path dependencies, technological opportunities).

The online/offline community’s *capabilities* need to respond flexibly in a dynamic *evolutionary path* to social and technological challenges.

### **Capability metrics**

The metrics approach (see 4.3.5) involves a normative assessment of community effectiveness. Effective online/offline community involves high levels of the capabilities of *trust*, *influence*, *information* and *intelligence*, in a dynamic mutually reinforcing configuration that is affected by socio-political-economic context and environment.

### **Aggregation**

The *capabilities* are aggregations of individual qualities in line with Vătămănescu's view:

‘the configuration and process of value creation from the individual’s micro-universe to the entire social system, by linking people, knowledge, information, expertise, competence and know-how within complex and dynamic social networks’

(Vătămănescu,, 2016, p. 601).

Collective *capabilities* underpin ‘ideation in its collectivity’ (Moody, 2002) and ‘imagined community’ (Anderson, 2006). The *capabilities* are combinative and flexibly balancing. The metrical interpretation is important, to arrive at a holistic view. The *capabilities* necessarily overlap as well as complement each other. Dynamic *capability* interdependence would indicate an effective community and a settled context. When there is a settled environment, there is maximum interdependence between *capabilities*. When events disrupt the community context, particular capability views would become dominant.

### **4.3.1 Trust capability**

Putnam argues *trust* is an essential component of social capital (Putnam, 2000). In SPENCE, *trust* is a *capability* infrastructure denoting the *proximity* of social brokers, situated in their *settlement*. *Trust* is a dynamic component of online/offline community, present in the *decile fabric*. It is formed from *diverse cohesion*, *settlement trust*, and *roundedness* of VINs.

Trust is a bond, that makes social capital socially productive (Coleman, 1989). Sherchan, drawing from Coleman (1988) and Putnam (2000) defines the concept of social trust as: ‘an important aspect of social capital that represents the cooperative infrastructure of a society’ (Sherchan, 2013).

As the *trust capability* generates social productivity and bonds or links, it is central to the evaluation of community effectiveness. High *trust capability* denotes effective online/offline community. Sherchan has formulated a classification of trust in the context of social media. In

it, the main facets of *trust* are: calculative, cognitive, emotional, relational, dispositional, institutional. The 'dispositional trust' concept encapsulates a popular understanding: trust is extended to everyone whether or not the trustworthiness of the trustee is known to the trustor and it has a 'cooperative tendency' (Huang, 2007). Trust is inherent in McMillan and Chavis' theory of 'sense of belonging' (1986) that involves 'shared faith' in collective needs fulfillment. Sherchan's 'cooperative infrastructure' equates to Fukuyama's idea of the 'radius of trust': '...the circle of people among whom cooperative norms are operative' (Fukuyama, 1999, p.2). Fukuyama considers *trust* to be a representation of social capital, when there are group structures of ethical norms.

### ***Social cohesion***

The concept of *social cohesion* is deployed in socio-geo-political environments by policy-makers and is central to the *trust capability*. The SPENCE Cohesions of the *decile fabric* are different from *social cohesion* in that they are structural within *net/latticework*.

The 'Department of Communities and Local Government' (DCLG, 2008) uses the concept of *social cohesion* in an interdisciplinary approach that combines network analysis and a community studies perspective. In the community studies perspective, it has a foundation in trust and a diversity perspective, like *roundedness*. In SPENCE, the concept of social cohesion is integrated and reconfigured. The *trust capability* depends on the structural sense of social cohesion - strong ties, weak ties, diversity - to sustain and generate connective bonds. DCLG's (2008) definition of and vision for an integrated and cohesive community, analysed by Cattle (2012), focuses on equality, diversity, civic responsibility, a sense of institutional legitimacy, sense of community and belonging with an emphasis on effective relationships between people from different backgrounds. So the *trust capability* depends on these collective qualities for bonds to form in the cooperative infrastructure that underpins online/offline community.

The SPENCE concept of *roundedness* (see 3.3.2.2) is based on the diversity of *VINs* and is equivalent to *social cohesion*. The complementarity of *roundedness* occurs when there is a multiplicity or diversity of values and interests. Opposing values can be accommodated in trade-offs influencing behaviour and action (Schwartz, 2012). A wide variety of values, accommodating opposing values, and different interests, moved by the need for relatedness, demonstrates *roundedness* in a community. Rounded *VINs* helps counter the potential for bias in homophily and builds trust between dissimilar circles.

### **Settlement trust**

In Chapter 1, 1.3.4, I explore the concept of place and in the SPENCE facet *settlement* in Chapter 3, *external* and *internal settlement* are considered. *Settlement trust* is a coinage to describe the relationship between *external* and *internal settlement*. Tuan considered 'homeliness' to drive the making of place (Tuan, cited in Cresswell, 2014) and Casey expands on the idea of local place as home, applicable to both physical and virtual situations: 'To live is to live locally, and know is first of all to know the place one is in' (Casey, 1996, p.18). I suggest that *internal settlement* is a 'home' in cognition where we make meaning of community. It equates to Bourdieu's (1978) concept of 'habitus'. From the perspective of phenomenological philosophy, Relph (1976) argues that place determines our experience; that places are 'profound centres of human existence' (Relph, 1976, p.42). So in online/offline community, the *trust capability* crucially involves the bond with place.

### **Measuring trust**

It is an established principle from an extensive body of literature, that trust provides a measure: '...trust is a measure of confidence that an entity or entities will behave in an expected manner' (Sherchan, 2013, p.2). Fukuyama's 'radius of trust' is a trust measurement approach. Fukuyama developed trust metrics based on the concept 'radius of trust', i.e. 'the circle of people among whom cooperative norms are operative' (1999). Fukuyama's vision of society was a series of concentric and overlapping radii of trust. He proposed a formula for calculating the value of a society's total stock of social capital, drawing from Putnam's method. In the computation of trust in online social networks, there is substantial research and innovation. Key concepts include, 'referral' and 'functional' trust; and 'global' and 'local' trust systems (Jiang, 2014).

### **Trust metrics**

The *trust capability* is measured in metrics which are given in the *Twitter Metrics Codebook*, 4.3.5.2. In Appendix 4.2, Twitter semantics including code relevant to trust metrics is discussed in depth. In the main experiment, the *trust capability* is measured using the 'hashtag' code in the Twitter Study: the 'hashtag cluster' represents a trust group. In Appendix 4.3, the *capability* metrics are mapped to SPENCE facets so the Survey results on the *trust capability* can be aligned with those in the Twitter Study.

### 4.3.2 Influence capability

I have discussed key aspects of *influence* in earlier discussions, e.g. in the *proximity* facet, the discussion of 'echo chambers' and 'filter bubbles', shows how the homophily effect proves significant in people's receptivity to influence. In the *exchange* facet, a detailed account is given of how *diffusion* is important in *influence* as it propagates information through online and offline networks, machine to human, human to human.

Rogers (2010) argues that the mutuality of *influence* in interpersonal communication is important:

'People share information, give meaning by mutual feedback to the information they exchange, gain understanding of each other's views, and influence each other'

(quoted in Bandura, 2009, p.291).

*Influence* is a bidirectional concept (McMillan & Chavis, 1986) with people influencing as well as being influenced. Chavis proposes that cohesion in community affects the bi-directionality:

'...one might expect to see the force of both operating simultaneously in a tightly knit community'

(McMillan & Chavis, 1986 p.11).

They suggest that a community's capability to enable people to be influential is a feature that attracts people. They also align implicitly with the concept of *roundedness* (3.3.2.2):

'People who acknowledge that others' needs, values, and opinions matter to them are often the most influential group members, while those who always push to influence, try to dominate others, and ignore the wishes and opinions of others are often the least powerful member'

(McMillan & Chavis, 1986, p.11).

*Social contagion* is another key concept that relates to *influence*: people receive and initiate rumour/contagion as a form of *influence*. In the significant body of literature on the contagion process, divided into theory and empirical studies, key topics include the modeling of the spread of information i.e. the diffusion/propagation process, the threshold perspective of the receiver of information, and theory about the initiator of rumour/contagion (Pastor-Satorras et al, 2015).

In summary, I propose that the key concepts to consider with *influence*, are diffusion, reception, impact, and power.

### ***Diffusion***

Rogers (2010) in his discussion on the diffusion of innovations, argues that diffusion necessarily involves new ideas and uncertainty and it is 'a kind of social change' (Rogers, 2010, p.6). With SPENCE, *diffusion* is the means by which *influence* is delivered. With the focus on newness, the fresh information proposition leads the process of *influence*.

### ***Reception***

For *influence* to occur, people must receive, accept and adopt new ideas. The new idea creates uncertainty in the mind of the potential influencee. Rogers (2010) discusses the adoption factors of innovation that apply also to the general process of acceptance in *influence*: relative advantage, compatibility, complexity, trialability and observability. These suggest a thorough weighing up of factors before being influenced. Rogers assumes the decision-making process is grounded in a social system, e.g. in this case in an online/offline community context. With SPENCE, I have argued in the *proximity* facet, that *roundedness* in values, interests and needs (VINS), gives a balanced reception to *influence*. I propose that receptivity to new ideas is unlikely to involve credulity or gullibility in the blended experience of online/offline, where there is the social system of social brokerage supported by community institutions.

### ***Impact***

If *online influence* impacts on the offline world, the *influence* becomes tangible. *Influence* online and offline intersect with two-way impacts. When this process is embedded in the social system of online/offline community it has a different impact than if it is not. With social influence accruing from online/offline community activity, the impacts are leavened by trusted institutions. *Influence* is a product and an activity - a noun and a transitive verb. McMillan and Chavis (1986) argue it is also 'a bidirectional concept' and people need to have influence in a group and be receptive to a group's influence and this operates concurrently. Although there is bidirectionality, the impact of in-group influence needs to be distinguished from out-group influence.

Online-led influence has proven to yield problematic aspects in e.g. socio-political situations in a global context. An online information cascade, started by a social influencer or opinion leader, is an example of a mass external influence effect that depends on a balance of network



topology, the receptivity thresholds of individuals, and the persuasion skills of the influencer.

### **Power**

As Russell (2004) proposed in abstract, 'power is the production of intended effects' (2004, p.23). He considered *influence* as the method by which power is levied. With the community context, McMillan and Chavis (1986) argue that power and *influence* determine the formation and functions of community, ensuring integration and cohesion. If power and *influence* are shared and expressed collectively, e.g. in voluntary association activity, it sources 'sense of community'.

### **Trust and influence**

Fukuyama, Putnam and Coleman agreed that *trust* was a component of social capital but they did not align it with *influence*. But I propose that in online/offline community, *trust* and *influence capabilities* are interdependent. *Influence* directs the meaningful communication or diffusion of information and data to achieve an end. *Trust* is necessary for *influence* to take place. *Trust* can be forged by effective *influence* or already present in a community so that *influence* occurs. The inter-dependence of the two *capabilities* is an important consideration. They inhere in a blended way in the process of communication and therefore the process of community (Williams, 1961), as well as existing as independent forces.

### **Influence metrics**

The *influence capability* is measured in metrics which are given in the *Twitter Metrics Codebook*, 4.3.5.2. In the Twitter Study, the 'tweet' is considered to be an influence expression and an information resource. It uses different twitter code elements to inform and influence. In Appendix 4.2 an account of the significance of Twitter codes by Bruns (2011) is considered and compared with the SPENCE interpretative approach.

### **Influence threshold**

The contagion or cascade *threshold* that Granovetter (1978) identifies applies here, expressed as a *VINs* threshold perspective. The person who is both a receiver of information and initiator of rumour/contagion (Pastor-Satorras et al, 2015) has a 'three point threshold', in which a *VINs* ratio would determine strategy for and reception to influence.

This 'three-point threshold' accounts for degrees of resistance to information spreading. In the process of information diffusion, a person would need to accept in-group or out-group *VINs* before they received the influence.

### **Dynamic thresholds**

It is suggested that people in online/offline community have thresholds (Granovetter, 1978) that are flexibly responsive to competing dynamics. Modern social contagion theory asserts the interplay or coevolution between the network properties and contagion processes that involve the '...the adaptive behavior of individuals in response to the dynamical processes they are involved in' suggesting the significance of 'feedback among different and competing dynamical processes' (Pastor-Satorras et al, 2015, p.53).

### **Roundedness and diverse cohesion**

If there is a *roundedness* (see 3.3.2.2) in the *VINs* ratio, with no category significantly dominating so a community expresses values, interests and needs in a balance, online/offline community would be both *effectively* influential and not easily influenced in contagions or cascades.

### **Balanced diffusion**

A *net/latticework* with *diverse cohesion* and *roundedness* would diffuse information less rapidly than a community that had a skewed *VINs* ratio. The latter case could be more easily influenced because of homophily and a non-balanced *VINs* ratio. With rounded *VINs*, contagions would be slowed down because influencing information would be negotiated discursively in social exchange; and diffused information would be filtered by discursive interaction in the threshold ratio.

### **4.3.3 Information capability**

The *information capability* definition combines information, data and knowledge. They are separately categorised by Bellinger et al (2004). The *capability* is concerned with 1) human to human interface i.e. the processes and behaviours around information/data/knowledge giving and gathering; 2) the data effects of the human/machine dynamic interface in relation to the online/machine stores of information/data/knowledge.

The *information capability* inheres in *net/latticework* and provides social benefit as Gruzd & Wellman assert: '...access to information is one of the most important reasons for people to stay and join in an online community...' (Gruzd & Wellman, 2011, p.1311). Case (2012) defines *information* from three interrelating views: information need, information-seeking, information behaviour. He considers information-seeking to be the central concept associated with *information* and characterises it as conscious effort, responding to a need or gap (Case, 2012).

Case references the view of Zerbinos (1990) whose definition of information-seeking is based on long-term stored memory knowledge prompting active interest in finding related information. He contrasts it with the simpler definition of Krikelas (1983) in which information-seeking behavior is prompted by awareness of need which when satisfied is resolved. Sawant (2015) agrees with Marchionini (1995) that information-seeking is about acquiring knowledge. In the *information capability*, these three approaches are combined: information-seeking is an awareness of interest that arises from stored knowledge and motivates enquiry to acquire more knowledge to cumulate. Krikelas argues that uncertainty drives information-seeking. Case (2012) interprets Krikelas's 'need-creating event/environment' as stimulating information gathering. Krikelas regards information gathering more generally as 'an attempt to continually construct a cognitive environmental "map" to facilitate the need to cope with uncertainty' (quoted in Sawant, 2015, p. 83).

### ***Information metrics***

The *information capability* metrics are concerned with measuring the extent of information need and the embedded information stores in an online/offline community. Following the Krikelas Model (Case, 2012), they measure social 'information giving' and 'information gathering' behaviours.

In the *Codebook*, 4.3.5.2, key metrics address information giving and gathering. In the Twitter analysis approach, the retweeting trends are considered to be *information-seeking events*, which stimulate need. The *information-seeking event* addresses the nature of the trending 'tweet' or topic - and the interpretation is that the event signals the organic collective interest in a topic.

Information-seeking in and by a community, as represented in the behaviours in Twitter tend to concern everyday information and are unlikely to involve highly specific business or scientific data. The pre-web Krikelas Model of information-seeking, set out by Case (2012) in a comparison of the main Models makes the argument for people's observations and memories as valid information sources. Twitter information sources are likely to be both framed in informal communications and comprise people's observations and memories. The information base is also a knowledge repository that comprises explicit knowledge. In Nonaka's Model (Nonaka, 2000; adapted by Razmerita, 2014), applied in industry and commerce, there is a dynamic conversion of tacit knowledge into explicit knowledge, through social interaction.

The Twitter interpretative frames in the *Codebook*, 4.3.5.2, provide insight into the information

giving and gathering behaviours of community participants. Knowledge is created dynamically in a continuous cycle through people externalising and combining knowledge in online/offline social interaction. The Twitter analytical approach embodies the *personal knowledge transfer* and the *broadcast knowledge transfer* metrics.

### **Data effects**

Information is diffused as a part of *exchange* and by data effects. With influence-driven diffusion, in well-connected networks, information is socially propagated. The information behaviours of information-seeking are human. The focus with data effects is the machine/human interface dynamic of information giving and gathering. Examples of this interface include virality, auto-suggestions/recommendations, timeline algorithms etc.

An example of a virality data effect is the attraction of information volume, according to the preferential attachment principle (Weng et al, 2013). Weng et al propose the rules of information diffusion in which 'users follow the most active sources of content', i.e. they are attracted to information volume. Myers et al (2012) propose the data effect of 'inherent interestingness' that they term 'content virality' and the effect of the cluster that increases virality of a topic. Their enquiry is into the influence of the machine interface that represents data effects to the human user of online social network information bases.

The data cascade is an effect that occurs in environments with a sparse interaction network (Watts, 2002). The Twitter metrics do not address data effects, but the *decile fabric* cohesion measures would indicate environments in which cascades through data effects would be more likely to occur. A *decile fabric* without significant cohesions, would be one in which data would be more likely to cascade. The *information capability* in SPENCE focuses on *exchange*-based information diffusion. The Twitter Study metrics approach does not measure the degree to which data effects caused by virality impact on information giving and gathering.

### **4.3.4 Intelligence capability**

The concept of 'intellectual capital', allied to human and social capital, is defined by Nahapiet & Goshal as:

'...the knowledge and knowing capability of a social collectivity, such as an organization, intellectual community, or professional practice'

(Nahapiet & Goshal, 1998, p.243).

The concept closely relates to the *intelligence capability* which is essentially collaborative and combinatorial, produced through teamwork and social interaction.

Vătămănescu (2016, p.18) advances the new construct 'network-based intellectual capital'. He defines it as:

'an intricate configuration and consistent interaction among people, knowledge, information, expertise, competences, know-how within complex and dynamic online social networks'.

(Vătămănescu, 2016, p.18).

The *intelligence capability* involves 'intellectual capital' as structural, human and relational capital (Dean, 2007; Nahapiet & Ghoshal, 1998). It inheres in the structure of the *net/latticework* as resource, shaped by a range of individual attributes and qualities in aggregate and by differing relational strengths. In the business organisation 'intellectual capital' is seen as 'the future basis of sustained competitive advantage' (Perez & Ordóñez de Pablos, 2003, p.82). But in online/offline community the *intelligence capability* has a different motivation from 'sustained competitive advantage'. It is more closely associated with Sen's perspective, in Nussbaum's 'The Central Human Capabilities' (2003). There is the category of 'Senses, Imagination and Thought' which Nussbaum expands to mean: 'Being able to use the senses, to imagine, think, and reason - and to do these things in a "truly human" way...' (Nussbaum, 2003, p.14). This 'truly human way' of being intelligent resonates with the essential sociality involved in this and the other *capabilities*. Carneiro adds the base of knowledge as the primary source of intellectual assets, but 'knowledge levels can be an asset only if they are enhanced and efficiently used' (2000, p.88), that is if the *intelligence capability* is deployed to leverage knowledge-based resources (Vătămănescu, 2016). The flexible use of knowledge resources in a dynamic leverage occurs through social interaction and the cooperation engendered in the *decile fabric*. The knowledge and knowing capability of a social collectivity flexibly combine through social interaction and coactivity (Nahapiet & Ghoshal, 1998).

As described above, the *information capability* is concerned with the store of information/data/knowledge and processes and behaviours around information/knowledge giving and gathering. The *intelligence capability* is concerned with the leverage of the information store, processes and behaviours.

The *intelligence capability* operates as infrastructure in the *decile fabric cohesions*,

underpinning connectivity through collaboration and combination in social interaction. The *intelligence* metrics are given in the *Codebook* below.

#### **4.3.5 Capability metrics for OSNs**

*Capability metrics* using qualitative interpretations of core social features or semantics could be created for any major online social networking platform. I touch on how Facebook and other platforms could be used in Chapter 9, 9.2.3.

In 5.2.10, Twitter Study, the account of the study methodology is set out in detail. The Twitter platform was chosen for the case study methodology because with its comprehensive application programming interface (API) it is a social networking/microblogging platform extensively used in academic research (Nugroho et al, 2020). A key factor in the choice of Twitter platform was its significant use by *social brokers* in the Case Studies.

#### **Codebook**

The *Codebook* is a standard approach used in assigning meaning to entities in qual/quant research methods (Roberts et al, 2019). An example of a *Codebook* for Twitter is that used by Ahn et al in which the Twitter content analysis categories were:

‘account information, tagging, purpose of Tweet, sentiment, visual features (i.e., image and video), tone of introduction (i.e., judgment), target of message, and engagement (i.e., number of comments, Retweets, and likes)’

(Ahn et al, 2020, p.3).

##### **4.3.5.1 Twitter metrics**

In the research literature on Twitter, by far the dominant analytical approaches are topic modelling (Nugroho et al, 2020) and sentiment analysis (Ahn et al, 2020). The use of social features or social semantics are acknowledged as helpful complementary elements in these methods (Vosecky et al, 2014). In the Twitter Study, these semantics are promoted to the dominant analytical approaches. Recent semantic changes to Twitter since the main experiment was conducted are the non-core social features of quotes and visuals. The persistence of the core semantics of URLs, hashtags, mentions and retweets selected for the main experiment’s Twitter Study demonstrate their continued analytical relevance. They are

unaffected directly by ranking or GUI algorithms and continue to be straightforward to harvest using the Twitter API.

There is overall in Twitter scholarship an extensive array of different methods and codebooks used. The interpretative agreement of the core semantics is not fully secured, yet the width of research, encompassing topic-modelling, sentiment analysis and social semantics analysis, demonstrates how closely examined the Twitter platform's microblogs are. Some notable studies of Twitter in computational sociology use sociological theory applied to Twitter data. For example, they include an ad hoc combination of a priori and a postiori frameworks in which strands of theory, e.g., the sociotechnical significance of the hashtag (Bruns, 2011), 'The Big Five' theory of personality (Quercia & Kosinski, 2011), are applied to Twitter data to detect social phenomena. In Quercia and Capra's hypothesis of 'Topics, Geography, and Emotions' (2012), there is a multi-faceted focus that shows the significance of geographic locality for strong ties and silent communities of shared emotions. It does not however correlate between them. SPENCE '...offers a lens for synthesis that reveals a coherence of social phenomena' (Halcrow, Carr & Halford, 2016, p.4). Both approaches use sociological theory applied to Twitter data, but SPENCE offers an interdependent amalgam.

#### **SPENCE qualitative interpretation of Twitter core semantics with supporting literature**

|                   |   |
|-------------------|---|
| <b>SPENCE</b>     | <u>URL</u> : is informational. It means either broadcast diffusional or personal communication when combined with a mention.  |
| <b>LITERATURE</b> | <u>URL</u> : Twitter is considered to be an informational platform (Ahn et al, 2020). URLs are used in topic modelling as 'auxiliary semantics' (Vosecky et al, 2014).  |
| <b>SPENCE</b>     | <u>Hashtag</u> : they were classified into <i>VINs</i> (3.3.2.2). I also considered the social interaction as proof of <i>actualised proximity</i> , leading to the strong ties of <i>net/latticework</i> based on shared attributes. The hashtag is a conveyor of a shared topic or <i>VINs</i> which in the sharing denotes <i>trust</i> . The clustering of the hashtags can show the degree of diversity in <i>VINs</i> . |
| <b>LITERATURE</b> | <u>Hashtag</u> : the hashtag is acknowledged as community gathering (Messina, 2007; Bruns, 2011) and the 'voice of the crowds' (Vosecky et al, 2014). When the hashtag is combined with the mention, this is considered to be 'social chatter' (Vosecky et al, 2014). Hashtags and mentions are termed 'embedded interactive tools' that are useful for creating 'dialogic loops' in  |

|                   |  |
|-------------------|--|
|                   | <p>which readers ask for more information (Yue et al, 2019). They are viewed as ‘semantic networks’ by Hellsten and Leydesdorff (2019). The hashtag can point to a topic keyword (Nugroho et al, 2020; Radicioni, et al, 2020). The ‘hashtag by hashtag or semantic network’ concept is used by Radicioni et al (2020) in which the links between hashtags are considered to yield semantic connectivity. They also coin the term ‘hashtag persistence’ i.e. number of days it features in a data set (Radicioni et al, 2020).</p> |
| <b>SPENCE</b>     | <p><u>Mention</u>: the mention indicates personal communication. Combined with an URL, it gives personal information dissemination. Combined with a hashtag it actualises into an exchange, in which the one-way and two-way relationships can be identified to give degrees of <i>actualised proximity</i>.</p>   |
| <b>LITERATURE</b> | <p><u>Mention</u>: Mentions are social interactions used along with replies and retweets to discover relationships between authors, including the weight of their relationships (Nugroho et al, 2020).</p>   |
| <b>SPENCE</b>     | <p><u>Retweet</u>: the retweet can indicate a receptivity to influence in the retweeter; or an indication that knowledge in the tweet has been received; or an information-seeking event. If there are many retweets, it indicates people are interested in a topic or an occurrence and are sharing and seeking information about it.</p>   |
| <b>LITERATURE</b> | <p><u>Retweet</u>: Ahn et al (2020) interpret retweets as indicating engagement of tweets, along with comments and likes. On the platform, they are counted in the GUI to show how many times a post is shared. Patterns in retweets and tweets – the ‘heartbeat’ between them - can be used for event detection (Nugroho et al, 2020). They also serve to indicate social interaction. It is also considered an explicit recognition of the worthiness of contents (Radicioni et al, 2020).</p>                                   |

#### 4.3.5.2 Twitter Metrics Codebook

The core semantic codes in Twitter - URLs, hashtags, mentions and retweets - are interpreted in the main experiment using the *Twitter Metrics Codebook*, created for these core semantics and applied to the four *capabilities*: *trust*, *influence*, *information* and *intelligence*. The formulation process was an inductive/deductive approach. The four basic Twitter codes were inductively assigned a basic meaning or interpretation derived from existing theory on Twitter codes. Importantly, their combinations and cluster patterns were also assigned meaning.



These meanings were deductively reviewed to adjust them to correspond to the conceptual frame of each *capability*. Each core code element and combination of elements has a semantic provenance that relates to SPENCE facets and the *capabilities*. Overlaps between the interpretations across the *capabilities* were inductively formulated to demonstrate effective *interpretative flexibility* (2.3.5.1).

### Non-interpreted elements

The Twitter 'handle' biographies were only used to identify informal and formal users from *network* and *lattice* respectively to calculate the *specific cohesion*: they were not interpreted in the Twitter Study. There are also social interaction features in the graphical user interface such as underlines and indents to give threaded replies<sup>20</sup> in the iPhone mobile operating system - 'iOS' - created and developed by Apple Inc. These are not given interpretations in the *Codebook* as they are not considered to be semantic and if they indirectly affect user behaviour, this has not been widely documented in the research literature. The algorithm for ranking includes the signals of recency, relevance, engagement, rich media, and other factors; and the 'connect' tab at the top of the feed in the GUI pulls together 'follow recommendations' based on location, accounts already followed, and major events happening on Twitter. Both of these - the ranking signals and 'connect' feature - would be meaningful in a study focused on personal communities. But the Twitter Study contributes to the wider, blended investigation of personal/collective online/offline community.

Appendix 4.2, *The theory of Twitter codes*, is an important explication of the themes of the *Codebook* that complements the following listings. It focuses on the significance of the hashtag (HT).

Before I set out the *Codebook*, it is important to acknowledge the provenance of the *Cohesion* measures described above (4.2.3). They derive from analysis of Twitter semantic codes:

- the hashtag (HT) group of *trust* inheres in the *general* or *specific cohesion* (even as it operates within *diverse cohesion*).
- the hashtag is used to determine *diverse cohesion*. Diversity can be described in relation to the Twitter hashtag through the coarse-fine pattern of clusters. The relationship between the number of 'hashtag clusters' (i.e. hashtags shared by two or

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<sup>20</sup> Threaded replies: <https://www.theverge.com/2020/1/31/21117608/twitter-ios-app-replies-design-ui-change-update>

more people) and their size determines the diversity metric.

- The degree to which the community densely groups around a limited number of hashtags (of whatever classification) or in a ramified way around a wide range of hashtags, indicates its *diverse cohesion* capacity.
- the @mentions in Twitter inhere in the three *Cohesions*, as the currency for *exchange* and therefore *net/latticework*.

**Table 4.3: Trust metrics**

|     | Interpretative metrics  | Twitter syntax                      |
|-----|---|-------------------------------------|
| 1.  | <i>Complex</i>  |                                     |
| 1.1 | Actualised proximity (proximity divided by exchange)                          | HT clusters with one-way mentions   |
| 1.2 | Strongly actualised proximity (proximity/exchange divided by net/latticework) | HT clusters with two-way mentions   |
| 1.3 | Diverse cohesion  | HT cluster pattern                  |
| 1.4 | Trust attributes ratio  | HT classified into VINs categories  |
|     | <i>Simple</i>   |                                     |
| 2.  | Trust expressions   | Total tweets with HTs               |
| 3.  | Trust expressions in groups   | HT clusters                         |
| 4.  | Settlement trust  | Relatedness-place HTs               |
| 5.  | Trust topics  | Unique HTs                          |
| 6.  | Exchange trust  | Total tweets with hashtags/mentions |
| 7.  | Social interaction  | Total tweets with mentions          |
| 8.  | <b>O/OC Manager</b>   |                                     |
| 8.1 | Trust expressions   | Hashtags                            |
| 8.2 | Exchange  | Mentions                            |

These notes apply to the *trust* metric 1.4

- if there is a fine pattern of many 'hashtag clusters' in an online/offline community, this would indicate that there is a breadth of *VINs*
- if there were a homophily of clusters, i.e. a coarse pattern in which there were large clusters that predominated, this would indicate a less diverse arrangement of *VINs*.

There are additional notes in Appendix 4.4.

**Table 4.4: Influence metrics**

See Appendix 4.4 for additional notes.

|           | <b>Interpretative metrics</b>                                | <b>Twitter syntax</b>                             |
|-----------|--|---|
| 1.        | <i>Complex</i>   |   |
| 1.1       | Influence threshold  | VINs as ratio                                     |
| 1.2       | Significantly achieved influence                             | Retweet duplicate instances >2                    |
| 1.3       | Repeated influence - articulate expression                   | Retweet with hashtags/URLs/mentions               |
| 1.4       | Exchange cohesion  | Mention totals in populations                     |
|           | <i>Simple</i>  |   |
| 2.        | Total influence expressions                                  | Total tweets                                      |
| 3.        | Influence knowledge transfer/diffusion                       | Total tweets with URLs                            |
| 4.        | Personal influence knowledge transfer (meaningful diffusion) | Total tweets with URLs/mentions                   |
| 5.        | Influence receptivity/achieved influence                     | Retweet   |
| 6.        | Social interaction   | Total tweets with mentions                        |
| <b>7.</b> | <b>O/OC Manager</b>  |   |
| 7.1       | Total influence  | Tweets  |
| 7.2       | Influence knowledge transfer                                 | URLs  |
| 7.3       | Personal influence knowledge transfer                        | URLs/mentions                                     |
| 7.4       | Influence receptivity (achieved influence)                   | RTs   |
| 7.5       | Influence threshold  | VINs as ratio                                     |
| 7.6       | Articulate expression  | URLs/Mentions/Hashtags                            |
| 7.7       | Achieved influence/exchange                                  | Mentions of O/OC Manager<br>RTs of Manager tweets |

**Table 4.5: Information metrics**

|           | <b>Interpretative metrics</b>          | <b>Twitter syntax</b>           |
|-----------|--|---------------------------------|
| 1.        | <i>Complex</i>                         |                                 |
| 1.1       | Information-seeking event              | RT duplicate instances >2       |
|           | <i>Simple</i>                          |                                 |
| 2.        | Total information                      | Total tweets                    |
| 3.        | Social interaction                     | Total tweets with mentions      |
| 4         | Broadcast knowledge transfer/diffusion | Total tweets with URLs          |
| 5         | Personal knowledge transfer            | Total tweets with mentions/URLs |
| 6.        | Received knowledge transfer            | RTs                             |
| 7         | Repeated articulate expression         | RT hashtags/URLs/mentions       |
| <b>8.</b> | <b>O/OC Manager</b>                    |                                 |
| 8.1       | Total information                      | Tweets                          |
| 8.2       | Broadcast knowledge transfer           | URLs                            |
| 8.3       | Personal knowledge transfer            | URLs/mentions                   |
| 8.4       | Received knowledge transfer            | RTs                             |

**Table 4.6: Intelligence metrics**

|          | <b>Interpretative metrics</b> | <b>Twitter syntax</b>                       |
|----------|-------------------------------|---|
|          | Simple                        |   |
| 1.       | Collaboration                 | HT clusters with mentions                   |
| 2.       | Social interaction            | Total tweets with mentions                  |
| 3.       | Expertise and know-how        | Unique HTs                                  |
| 4.       | Total knowledge expression    | Total tweets                                |
| 5.       | Influence threshold           | Hashtag clusters classified into VINs ratio |
| 6.       | Received knowledge transfer   | Retweets                                    |
| 7        | Articulate expression         | Hashtags/URLs/mentions                      |
| 8        | Intelligence trust            | Total tweets with HTs                       |
| <b>9</b> | <b>O/OC Manager</b>           |   |
| 9.1      | Total knowledge expression    | Tweets                                      |
| 9.2      | Influence threshold           | Hashtag clusters classified into VINs       |
| 9.3      | Articulate expression         | Hashtags/URLs/mentions                      |
| 9.4      | Received knowledge transfer   | RTs   |
| 9.5      | Trust expression              | Hashtags                                    |
| 9.6      | Social interaction            | Tweets with mentions                        |

# Chapter 5 - Stage 2 Methodology - Case Studies and Interview Series

## 5.1 Introduction

The Survey, the Twitter Study and the Interview Series were designed using the Model. The indicative findings (Chapter 6) of the Survey and Twitter Study, combining in the Twofold Instrument, are also organised by the Model. The application of the Model in the design of instruments and the organisation of results demonstrates its value and provides a further evaluation phase. Refinements of the Model also occurred in the design of the instruments. The main elements of Stage 2 are the Survey and Twitter Study in the Case Studies, supported by the Interview Series. I give reasons for the selection of the Case Studies below.

Reasons for the choice of the Twitter platform are touched on in 5.2.10 Twitter Study. The subject of the interpretability of Twitter platform social semantics is considered both in Chapter 4 in the account of SPENCE *Capability Metrics* in 4.3.5 and in 5.2.10.3, *Data analysis* below.

The theory on Metrics for the Twitter platform in Chapter 4 was informed by the method of preparing Twitter data for analysis in this Chapter. Importantly, the Cohesions in 4.2.3, are predicated upon the work that was done in Twitter data analysis below. Crucially also, the account of 4.2, *Decile fabric*, is informed by the methodology of 5.2.7, *Statistical approach to study participation with the '1:9:90 rule'* (Van Mierlo, 2014; Nielsen, 2006).

## 5.2 Case Studies

### 5.2.1 Case Study selection

The Focus Group (FG1) membership in Stage 1 (Chapter 2) was important in the decision of case study selection. This approach of using voluntary, expert, active participants in methods to inform later methods is in keeping with the CBPR approach. The four functioning online/offline communities in FG1 were ideal examples for study. After discussion with the social entrepreneurs I selected two case studies - Bowes and Bounds Green and Herne Hill - because of the relative longevity of their duration as online/offline communities and the sustained degree of commitment to their management by the entrepreneurs. The willingness of the managers to participate in the case studies, giving access to resources such as their web and Twitter data and their knowledge and expertise as social brokers was another key factor in the selection. Both social entrepreneurs had significant interactive community

presences on local Twitter and Facebook, with healthy populations of followers. They congregated these with the news websites they curated and managed. They were skilled and knowledgeable in the technology and behaviour of social media.

### **5.2.2 Case study theory**

I chose the multiple case study method as comparison affords corroboration and ‘multiple-case comparative logic’ (Eisenhardt, 1991). It is a multi-method approach to give data collection involving multiple sources of information, and to look at ‘the thing in its completeness’ (Thomas, 2016, p.3). Thomas alludes to Foucault’s insight (1981) into the multi-dimensionality of inquiry as a ‘polyhedron of intelligibility’ (Foucault, 1981, p.4). Eisenhardt (1991) confirms how the nature of a phenomenon can be better investigated through matching patterns in comparison, delivering more theoretical completeness. The comparison of the two Case Studies makes the results less illustrative, more confirmable (Gustaffson, 2017) and potentially generalisable.

### **5.2.3 Survey and Interviews**

The centerpiece instrument in the case study is the Survey but it is effectively supplemented by the interview method and combined with the Twitter Study in Case Study 1. These three methods respond to the multifaceted nature of online/offline community. The qualitative interview combines with qual/quant methods of the Survey and the Survey/Twitter Study.

Interviews were conducted in the Case Studies with the website forum social entrepreneurs and the chairs of the local ‘Amenity and Civic Societies’ to integrate with the Survey and Twitter Study methods. A separate Interview Series targeting social entrepreneurs and policy-makers was also deployed (see below).

### **5.2.4 Twofold Instrument**

The Survey method is the centerpiece of the case study approach. It was designed to gauge the effectiveness of online/offline community. With the Bowes and Bounds Green case study, a Twitter Study was also deployed to provide observational data to complement and confirm the findings of the Survey. The Twofold Instrument combined the survey approach of community participant views with Twitter study observation of social interaction. The facets of SPENCE were used to structure the combined analysis of the data.

As Glaeser (2000) recommends:

‘Experiments measure preferences, behavioural propensities, and other individual attributes much more convincingly than surveys, since experiments provide direct observations of behavior’

(Glaeser, 2000, p.841).

I intentionally did not use this twofold method with the Herne Hill Case Study to afford a comparison to assess the effectiveness of the combined method. So there is the traditional survey approach contrasted with the online/offline twofold approach deployed in the Case Study of Bowes and Bowes Green.

### ***Participants in Survey/Twitter Study***

The Twitter ‘community data’ communications of the case studies were targeted and samples selected which informed the data collection approach for the Survey. The *social brokers* in the Twitter samples were invited to complete the Survey. In Case Study 1, there was the potential to align samples.

### ***Twofold Instrument checklist***

In Chapter 6, the Case Study results are presented and discussed. In Chapter 8, the specific effectiveness of the Twofold Instrument is discussed, using the criteria below.

- a) Do the Survey evaluation questions show positive feedback?
- b) Do Twitter Study results confirm Survey results in the Bowes and Bounds Green Case Study?
- c) Do the SPENCE *capabilities* appear effective?
- d) Does the Survey, designed following consultation, used on its own in Herne Hill, appear more accurate and useful as an instrument?
- e) How feasible is the Twofold Instrument deployment, compared to other approaches?
- f) How effectively could the Twofold Instrument be deployed as a tool in the comparison of different local online/offline communities.
- g) Can the *capability* calculations be automated effectively in the Twofold Instrument using the tables in Appendix 4.3?

The Survey was also in itself, designed to include evaluation questions in *Section 7*, inviting the views of survey participants on its effectiveness. I conducted a selective review of the Survey in Appendix 6.1, to discover what the answers reveal about the survey design. The basic results of the evaluation of the instrument are given in Chapter 8.



### 5.2.5 Interview Series

A series of semi-structured interviews was created to supplement the Case Studies. The first two interviews were deployed during Stage 1. The interviews were conducted to explore the nature of online/offline community and its policy implications. They were semi-structured using the Model and the shape of the interview structures evolved as the first iteration of the Model SPACE transformed into SPENCE. The interview results are presented in Chapter 7.

I devised a set of interviews to gather data from the policy environment, methodology field and not-for-profit and commercial platforms. The interview series involved policy-makers, *social brokers* and entrepreneurs. The selection criteria for choosing interviewees were informed by my research questions and the requirement for a broad scope of perspectives from expert and experienced stakeholders. The interviewees were stakeholders, with authoritative and proven experience of community development and policy formulation.

I chose to interview:

- social entrepreneurs of independent local online/offline communities
- entrepreneurs founding national commercial online/offline community platforms
- public and voluntary sector policy-makers responsible for community measurement and/or community development interventions.

#### ***Interview structures***

I used the semi-structured interview approach. As the thesis progressed, the interview guide became more finely structured by community theory. First an informal pre-Model formulation of online/offline community was used; then SPACE; and finally SPENCE. The changing nature of the interview guide is revealing in itself. I prepared an 'interview guide' (Cohen & Crabtree, 2006) prior to each interview. There is an example in Appendix 5.3.

The interview results are analysed and discussed in Chapter 7. The consistent use of the semi-structured approach, based on evolving community theory, supported comparative data analysis in addition to guiding the interview process; it ensured a sufficiency of data was gathered as without structure, relevant topics would be missed; and it enabled cross-method analysis. The semi-formality helped me guide the interaction, enabling the direction of 'topical trajectories' (Cohen & Crabtree, 2006) determined by the interviewee.

### 5.2.6 Ethical approach

The ethical precepts for Stage 2 are given in Appendix 5.4. The Survey sample selections were based on the *social brokers* who were interacted with on Twitter by the social entrepreneurs over a period of two weeks (indicated by Twitter @mentions). They were directly contacted by email, phone or face to face and invited to take part in the Survey in both case studies. Survey participants with no Twitter engagement also came from referrals from peers with Twitter engagement that I directly contacted.

#### **Twitter Study**

The data collection of tweets in the Twitter Study used a software system - 'Localnets.org' - which did not seek consent from the participants. But the Twitter sample was not identifiably matched with Survey participants. There was only partial alignment in any case as participants also came from peer referrals. In a visit to the online/offline community, emails were gathered as well to use in Survey invitations outside of the Twitter targeted sample. The issues raised by Sloan et al (2019), of obtaining informed consent in a twofold instrument of Survey/Twitter Study, do not apply here, as the Survey and Twitter samples were not perfectly aligned. Furthermore, the content of the tweets was not made public.

The 21 Twitter 'handles' of the Twitter Study participants are identified in the results and the degree of social interaction between the 'handles' is calculated with their *net/latticework* status, derived from biographical details. In the *capability* metrics results, in Appendix 6.2, the core semantics of the tweets of the social entrepreneur in Case Study 1, Bowes and Bounds Green, are interpreted and compared with the results of the other anonymised participants. The social entrepreneur voluntarily engaged in the main experiment, with informed consent. No original content of any of their Twitter posts was published. Only the social semantics were interpreted in a comparative qual/quant approach. In all other respects the Twitter data is depersonalised. So the social media ethics process for the use of Twitter original content set out by Williams et al (2017) is not relevant in the Twitter Study.

The Case Study social entrepreneurs, are prominent in their online/offline communities. Their names can be discovered with desk research, but they are not directly identified in the thesis.

#### **Survey**

As mentioned, all the Survey completions were anonymous. One Survey question did ask people to volunteer Twitter 'handles' if they chose to. But this information was not included in the results nor used to align their views with their Twitter activity.

### 5.2.7 Statistical approach to study participation with '1:9:90 rule'

Descriptive statistics are used in the case studies which are qual/quant in their approach. The Survey uses *purposive* sampling (see below) which is qualitative, as the representativeness is not supported by probability statistics.

The '1%, 1:9:90 rule' (Van Mierlo, 2014) or '90-9-1 rule' (Nielsen, 2006; Wu 2010) which underpins the sampling approach is emergent with a growing proof in empirical research. With online communities, it is intuited, based on a growing body of evidence (Van Mierlo, 2014), that 90% of users are 'lurkers' who never contribute, 9% of users are active to a degree and 1% of users are very active. The *rule* proposes a perspective on participatory patterns and network effects (Van Mierlo, 2014; Nielsen, 2006). 90% of 'lurkers' (a term coined by Nonnecke & Preece, 2000) don't contribute content, but search, navigate, and observe; 9% occasionally contribute; and 1% participate significantly, creating most of the content. The roles are also known as lurkers, contributors, and superusers (Van Mierlo, 2014, p.1). Wu analyses this proposition (2010) studying over 100 developer communities in the 'Lithium Community'<sup>21</sup>. He concludes the rule is a helpful approximate indicator.

#### 5.2.7.1 Participants: social broker

As with the FG1 in Stage 1, an expert type - the *social broker* - was chosen to participate in the main case study experiment. Tedjamulia (2005) proposes that expert contributors are highly motivated both intrinsically and extrinsically:

'Intrinsic motives for contribution include community citizenship, generalized reciprocity, moral obligation, and pro-social behavior'

(Tedjamulia, 2005, p.2).

The *social broker* is a type of expert community participant. Its definition involves a combination of different perspectives, set out below. In essence, the 'brokers' (Burt, 2000) link between groups, affording many benefits individually and collectively. They add resources, information and advantage to the accumulated group of individuals that are linked. Quercia & Capra (2012) define the *social broker* in the Twitter context, as opinion leaders who tweet about diverse topics, have geographically wide networks, and express not only positive but also negative emotions. They build on Burt's definition of *social brokers* spanning 'structural

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<sup>21</sup> Lithium Community: <https://community.lithium.com/t5/Lithium-Community/ct-p/External>

holes'. There is an equivalence between the theories of 'structural holes' (Burt, 2000), 'the strength of weak ties' (Granovetter, 1973) and 'bridging social capital' (Putnam, 2000).

#### 5.2.7.2 Value of universalism:

I have assumed that community participants or *social brokers*, actively involved in linking or bridging between groups, are likely to hold the value of *universalism*. Schwartz (2012) defines four key value items that are involved in *universalism*: equality, social justice, broadmindedness, and a desire for global peace. It is regarded as a moral value that contributes to community participation, in ensuring out-group pastoral interest and care or in Schwartz's words: 'the welfare of others beyond the in-group' (2007, p.5).

#### 5.2.8 Sampling

**Table 5.7: Descriptive statistics for Stage 2 Case Study**

| <b>Case Study area</b>   | <i>Bowes and Bounds Green</i><br>(@BowesandBound) | <i>Herne Hill</i><br>(@hernehillforum)      |
|--|---|---|
| <b>Twitter social broker sample</b>                            | 21  | 44 (used to seed Survey participation only) |
| <b>Twitter followers of social entrepreneur (July 2015)</b>    | 2717  | 5670  |
| <b>Twitter followers of social entrepreneur (October 2019)</b> | 3687  | 8425  |
| <b>Local Facebook (follows) (October 2019)</b>                 | 971   | 3069  |
| <b>Website forum communications (2014)</b>                     | 1500 site members<br>10,000 visits per month      | 5500 on email newsletter list               |
| <b>Population (2011)<sup>22</sup></b>                          | <sup>23</sup> 14,051 (Bowes Park, 2011)           | <sup>24</sup> 15,107                        |

<sup>22</sup> The total community population for the area is only approximate using the population statistics of the Census 2011 as the Census boundaries are formal and do not exactly match the informal Case Study area boundaries, drawn around the virtual/physical community activities of residents, workers, or visitors in the geographic areas of the two case studies.

<sup>23</sup> Population statistics source: Bowes Park - [https://en.wikipedia.org/wiki/Bowes\\_Park](https://en.wikipedia.org/wiki/Bowes_Park)

<sup>24</sup> Population statistics source: Herne Hill - <http://herne-hill.localstats.co.uk/census-demographics/england/london/lambeth/herne-hill>

|  |                              |  |
|--|------------------------------|--|
|  | 13, 725 (Bounds Green, 2011) |  |
|  | Total = 27,776               |  |

A *purposive* sample of expert *social brokers* was selected for the Twitter Study which set the ball rolling for the Survey sampling. The participants selected in *purposive* sampling are explicitly chosen by the researcher. A qualitative *purposive* sample is not a probability-based sample, but the insights have a comparable validity (Christopoulos, 2009).

Using the '1% rule', the *purposive* sample was selected from 10% of the total online population. The total population was comprised of the congregation of: local Twitter followers of the social entrepreneur; local Facebook 'follows'; and website/newsletter members/subscribers. I applied the '1% rule' to online/offline community, assuming if 10% of online community were active or *social brokers*, 10% of online/offline community would be. This intuition forms the basis of a concept in the *net/latticework* facet in the SPENCE Model i.e. *decile fabric* (4.2).

The samples in both Case Studies were selected by explicit and implicit nomination by the social entrepreneurs I had involved in FG1. The explicit nomination comprised of recommendations by the entrepreneurs of people to take part in the Survey design process and the Survey. The implicit nomination occurred through the extraction of @mentions in their Twitter timelines, assuming local community assets or social brokers. The selection of Twitter @mentions was done for a two-week period. The sample for the Twitter Study in Case Study 1 was derived using this extraction which was then expanded with the support of a software system - 'LocalNets.org' - in a process of 'virtual snowballing'. The snowball approach uses cumulating peer nomination (Morse, 2010).

The PEST (Peer Esteem Snowball Technique) method created by Christopoulos (2009) demonstrates a type of expert 'virtual snowballing' that generates a pseudo-representative expert sample in snowballing waves of nomination, supported by network analysis, using online social networks.

A PhD Researcher at 'The Royal College of Art', Tidey, developed the online software tool - 'LocalNets.org'<sup>25</sup> - to collect and analyse social activity and networking behaviour of 'community assets' (Quercia & Capra, 2012; Kretzmann & McKnight, 1993; Mathie, 1993) or 'active local citizens' in local Twitter areas. The 'asset-based community development' approach was

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<sup>25</sup> LocalNets.org: <http://LocalNets.org>

deployed by Tidey, building on its 'relationship-driven' (Kretzmann & McKnight, 1993) foundations. I gave the implicit sample recommendations, described above, from the entrepreneur timelines for input to 'LocalNets.org' to snowball the samples.

The benefits of using the 'virtual snowball' approach to select the Twitter Study and, in part, the Survey sample were numerous: it was easier in terms of time and cost to gather the online Twitter data for selecting *social brokers*, rather than recruiting offline; the potential alignment between the Survey and Twitter Study sample offered a focus of analysis; the Twitter Study afforded network analysis.

The CBPR theory element in the sampling approach gave a continuity: the Case Study entrepreneurs' participation helped shape the research engagement. Their networks of *social brokers* engendered additional sample participants for the Survey. They put me in touch with *social brokers* in their online/offline communities who both influenced the design of the Survey and completed the Survey as participants.

### ***Detail on implicit nomination***

The tweets generated by the Case Study social entrepreneurs in the two-week period -19<sup>th</sup> August to July 1<sup>st</sup> 2015 - were manually reviewed. I assumed the majority of their Twitter @mentions would be to *social brokers*, because the social entrepreneur<sup>26</sup> would point to significant community assets in their community building role. The manual review involved checking the Twitter handle's biographical details to confirm that people and organisations suited the description of *social broker*.

### ***Contacting the sample population for Survey***

The emails and telephone numbers of the *social brokers* were desk researched using the Internet. Invitations were sent to them by email, during a two-week period, with the links to the online Survey. Additionally, in the same two-week period, adverts were posted on each online/offline community website to gather self-selecting *social brokers*. Emails were also directed at community participants, recommended by the *social brokers* derived from the social entrepreneur Twitter timelines.

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<sup>26</sup> The online/offline social entrepreneur in Bowes and Bounds Green had a twitter handle for community communications and a different one for personal use. So the mentions from the official account were selected.

**Figure 5.13: Advert email with survey link**



### **5.2.9 Survey implementation**

The design of the Survey involved *community based participatory research* in the consultation steps. The Survey aimed to investigate opinions and views on online/offline community in the sample of *social brokers* resident in the respective localities. The questions were defined and closed, with a precision in the subject target. The Survey was in-depth and comprehensive in coverage, structured by the theory of the SPENCE Model. It required an approximate 30-45 minutes to complete so it had the quality of a structured interview. It was designed to capture data, from expert participants with extensive experience of online/offline community.

#### **Online channel**

I chose to make the Survey online because the medium addressed the intersection of online/offline community and it was more practical to deliver in a limited time period than an offline approach. The “University of Southampton”s’ ‘iSurvey’<sup>27</sup> system was used to build the Survey, as it affords efficient data analysis and is easy to deploy.

#### **Survey design**

There were a number of steps in the design and formulation of the Survey to ensure a rigorously iterated output:

- a) Pilot Survey lessons (Appendix 2.1)
- b) First draft, using SPENCE Model with metrics, informed by design of classic community surveys
- c) Rapid consultation with two Case Study social entrepreneurs leading to second draft design

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<sup>27</sup> ‘iSurvey’: <https://www.iSurvey.soton.ac.uk>

d) Consultation with social brokers in Case Study areas and with Web Scientist PhD Researchers

e) Final draft design

All the design stages are described in detail in Appendix 5.1.

### ***Question design***

The draft metrics for the SPENCE Model and the concepts and sub-concepts within the six facets drove the formulation of the questions. Each question when formulated was checked with similar elements within the classical instruments described in Appendix 5.1, *Step b)* and adjustments were made if there were aspects that were considered to offer additional value. Although, perspectives and elements from these historical designs were included in the Survey, the main design theory was SPENCE. The metrical features were derived from the Twitter Study approach. Twitter coding and network analysis aspects, afforded by studying patterns of Twitter communications, informed the Survey question design. The Twitter Study was conducted after the Survey had been designed. Metrical formulations informed the development of the SPENCE concept of *capability* (Chapter 4).

With *Step c)*, the Herne Hill social entrepreneur guided me to divide many questions into two channel categories (see Chapter 6). I appreciated that the concept of the blended community experience might not be intelligible to the survey respondents so gathering views in two channel categories a priori would afford an a posteriori analysis of the intersection and overlap of the individual and collective experience. The twofold nature of the instrument used in the main experiment attempts to address the blended reality that a survey by itself would not sufficiently investigate. The Herne Hill social entrepreneur's steer demonstrates how online and offline channels could be perceived by survey participants both as separate and as combined.

### ***Formal survey review process***

The 'Question Appraisal System' (QAS-99) (Willis, 1999) evaluation approach for questionnaire design was used. It provides a well-regarded and established method for the evaluation and review of survey questions. It was originally developed for the 'Centers for Disease Control and Prevention'. In the consultation described in Appendix 5.2, the simplified QAS-99 checklist was deployed.



### **Consultation participants**

With Steps c) and d), aspects of *participatory research* were deployed. CBPR theory influenced the review of the Survey through the involvement of social entrepreneurs, *social brokers* and technical experts. The Survey review process is clearly an evaluation method not a sampling method, but both methods targeted *expert* participants in line with my deployment of CBPR. With Step d), I engaged PhD Researchers from the “University of Southampton” Web Science discipline to advise on technical aspects of survey question design.

With Step d), there were a total of four users and four experts involved in the consultation. ‘Users’ equated to *social brokers* and ‘experts’ equated to PhD Researchers in Web Science. The expert reviewers were Web Scientists studying PhDs in the sociology field. The users were residents of the two areas of Herne Hill and Bowes and Bounds Green. They were selected by the social entrepreneurs as being likely to be interested in participating and they self-selected. This approach was adopted to combine in one consultation two different groups of reviewers.

### **5.2.10 Twitter Study**

The choice of the Twitter Platform was made on account of its API allowing access to the complete store of posts which distinguishes it from other platforms like Facebook and Instagram; its being one of the most active social network platforms worldwide (Nugroho, 2020); and its use as the dominant platform of study because of its accessibility to researchers and the real-time dissemination of information (Ahn et al, 2020; Williams et al, 2017).

With the use of SPENCE in the Twofold Instrument in comparative case studies, I aim to verify the Model’s theory and give insight into the nature of online/offline community in general and specific *capability* terms. SPENCE *capability* theory is set out in detail in Chapter 4, 4.3, with the *Twitter Metrics Codebook* in 4.3.5.2. The analysis of the Twitter data category relationships and interpretations are matched with equivalent Survey data in Chapter 6.

The Twitter Study deployed a *qual/quant* approach. It was the intention of the Twitter Study to achieve three goals:

- shed light on the phenomenon of online/offline community based on observations of collective online communications
- align with and complement the Survey around key SPENCE metrics, to afford community assessment to support policy formulation

- demonstrate for evaluation the utility of the Twofold Instrument <sup>28</sup>.

With the Twitter Study, SPENCE theory is deployed in the data analysis method, applied to outputs of the tool 'LocalNets.org', described above, developed by Tidey (Royal College of Art, unpublished thesis). The use of this tool's functionality, designed to gather data about community performance to support public policy, enabled the Twitter Study to progress effectively. Tidey states his aim in developing the tool:

'The idea of building software to make social media activity more visible or legible to local government in the UK initiated this research. A web application called LocalNets.org was created to collect and visualise Twitter discussions about local issues, with the goal of helping local government to better serve citizens - to better target the services they currently provide to a community or to provide new types of service. LocalNets.org also aimed to uncover community structure; to help identify citizens concerned about particular issues, or to indicate which organisations and events are most widely discussed'

(Tidey, unpublished thesis, accessed 2017, p.14).

The design of the software functionality was directly influenced by the network-centric theory of social capital, set out by Burt (2007), applied to social media activity. In 'LocalNets.org', Burt's concepts of *brokerage*, building on Granovetter's (1983) theory of the bridging capacity of weak ties, combined with the concept of bonding ties in dense or cohesive networks, which he termed *closure*. These concepts were used by Tidey in the design of the software functionality. I drew from Tidey's ambition 'to uncover community structure' and which influenced the formulation of the SPENCE concept of *decile fabric* (4.2).

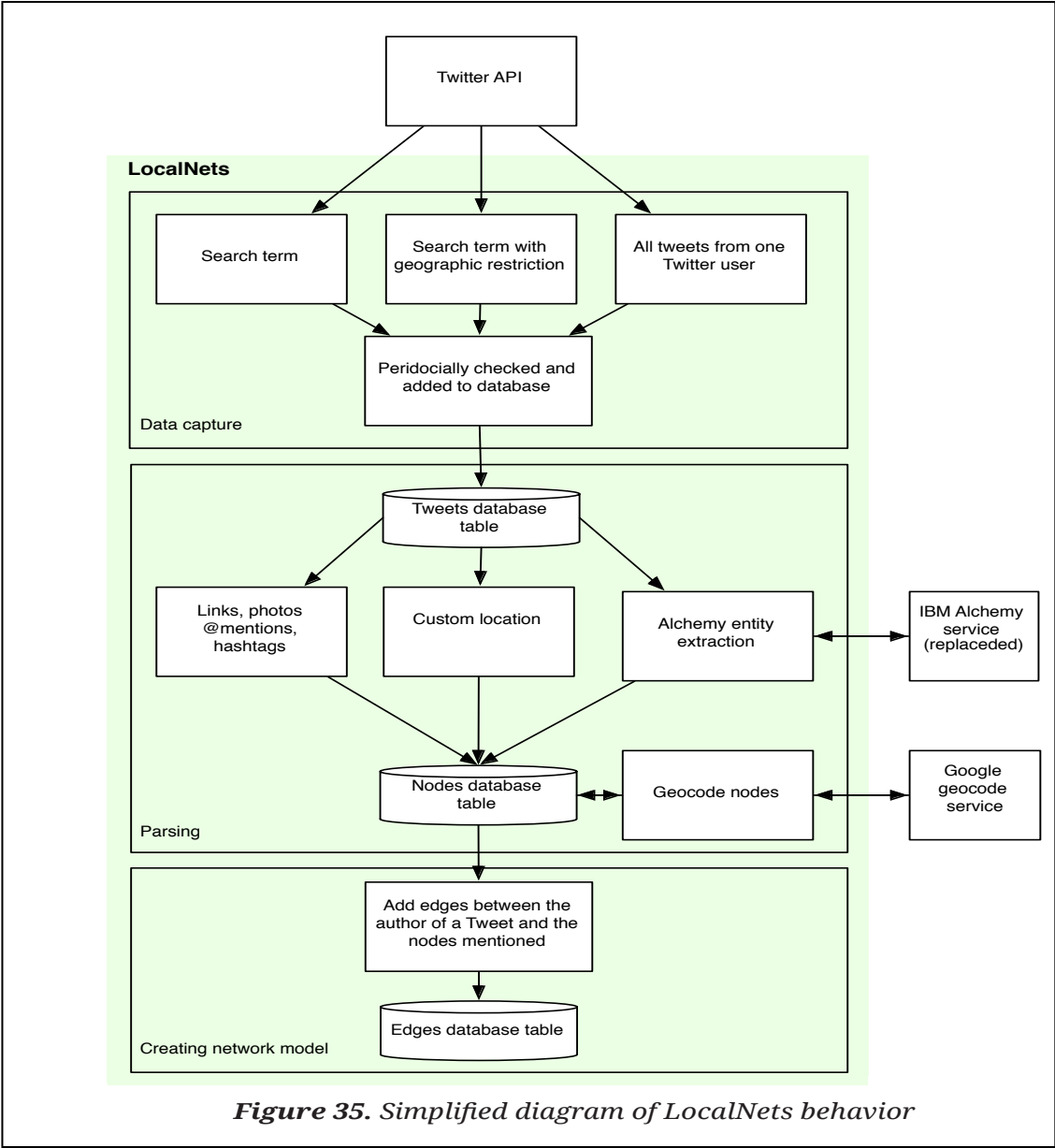
#### **5.2.10.2 Data collection and processing**

After seeding the 'LocalNets.org' Twitter analysis tool<sup>29</sup> with the *social broker* Twitter 'handles' for Bowes and Bounds Green, it gathered and output into data categories the mentions, URLs and hashtags embedded in the tweets of the sample of authors, into a database. It also represented code elements as relationship edges. The processing overview of 'LocalNets.org' is shown below.

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<sup>29</sup> LocalNets.org: <http://LocalNets.org>

Figure 5.14: ‘Simplified diagram of LocalNets.org behaviour’<sup>30</sup>



**Gathered data volumes**

The following table gives the volumes for the collection (6 months in duration) of tweets from 21 social brokers, divided into ‘LocalNets.org’ data category nodes.

<sup>30</sup> Tidey, unpublished thesis, Royal College of Art, 2017.

**Table 5.8: Twitter volumes March-August 2015**

|                            |      |
|----------------------------|------|
| Total Twitter 'handles'    | 21   |
| Total tweets               | 7347 |
| Total tweets with mentions | 4912 |
| Total mentions             | 2193 |
| Total tweets with hashtags | 2067 |
| Unique hashtags            | 1872 |
| Hashtag clusters           | 238  |
| Total URLs                 | 5602 |
| Total retweets             | 2559 |

The data analysis was performed on 7347 tweets, generated by 21 *social brokers*, using the SPENCE *capability* theory (Chapter 4), applied to Twitter code elements. In Chapter 6, the Twitter Study results discussion is aligned with the Survey results discussion, guided by the alignment table in Appendix 4.3 which gives an analytical lens. This sets out the essential links between the Survey questions and Twitter metrics for each *capability*.

### ***Data format categories***

The 'LocalNets.org' system exported a selection of the tweet coded data by default to the graphic visualisation tool, 'Gephi'<sup>31</sup>, which affords network analysis, but only in a graphic capacity. As my analytical method required tabular presentation, I needed to export the data from 'Gephi' to CSV format. I used an informal copy function workaround to export the data from 'Gephi' to CSV format and then into Microsoft Office's Excel. Tidey also provided full tweet content, directly output from the system in CSV format. It had the different duration of a year that required matching and sorting with the node/edge category-based 'Gephi' derived data batch. It also had additional experimental data category concepts created by Tidey. These included data categories from 'Alchemy'<sup>32</sup>, a topic category list used by IBM, which I deploy in the hashtag classification process (Appendix 6.2, Table 6.2.22). The formal data category outputs from 'LocalNets.org' with the new categories extracted from the full tweet, afforded interpretation guided by SPENCE theory. The full set of data categories with their proposed

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<sup>31</sup> Gephi: <https://gephi.org>

<sup>32</sup> Alchemy is a topic category list used by IBM: <https://watson-developer-cloud.github.io/doc-tutorial-downloads/alchemy-language/taxonomy-hierarchy.pdf>

flexible interpretations, guided by SPENCE *capability* theory, are presented in Chapter 4, *Twitter Metrics Codebook*, 4.3.5.2.

### **Data category sorting**

SPENCE theory guided the intuitive sorting of data categories in Excel. I used the software's facility to explore category correlations in a permutational relational tabulation, aiming to find category relationships that aligned with the facet inter-relationships and facet/concept core theory. The relationships inherent in the analytical framework of SPENCE were applied to the main experiment data in Chapter 6 and resulted in simple Twitter-based calculations (4.3.5.2), e.g.:

- SPENCE *proximity/exchange* - dividing hashtag groups by mentions
- the calculation of diversity, dividing volume by frequency of shared hashtag groups, based on *proximity theory*.

These were refined and are presented in the *Twitter Metrics Codebook* 4.3.5.2, as *interpretative metrics* (complex or simple).

### **5.2.10.3 Data analysis**

#### **Creating interpretative metrics from twitter semantics**

The SPENCE metric has evolved over the course of my inquiry from the first thoughts discussed in FG2 where the elements strictly fitted within the facets of SPENCE to the *capability* iteration where elements are flexibly interpretable. In the analysis of the Twitter Study data in Chapter 6 there is a multi-threaded interpretation of Twitter syntax when the different elements, e.g. #hashtag, @mention, URL, are combined with each other.

Twitter semantic analytics are examined in depth in Appendix 4.2. The process of assigning significance to the semantics was systematic. Each Twitter code element was reviewed from the perspective of each of the SPENCE Model facets, e.g. the concept of diffusion in the facet *exchange*, was applied to an URL in a tweet; the concept of an edge in *net/latticework* was matched to the @mention; the concept of *psychological proximity* was assigned to #hashtags in a cluster shared by people. They were then further refined by each of the four *capability* concepts, resulting in the Twitter semantic elements being flexibly interpreted. These multiple views on the meaning of Twitter semantic elements provide *interpretative metrics*, used in calculating the strength of the *capabilities*. Survey/Twitter Study results in Chapter 6 are analysed by this approach: the full *capability* findings are set out in Appendix 6.2.

### **#Hashtag syntax meaning**

The original interpretation of the hashtag was determined by its intentional design: Chris Messina, negotiating with other social media commentators, introduced the original sociotechnical significance of the Twitter hashtag in 2007<sup>33</sup>. His ideation was termed 'Tag channel' and involved:

'Every time someone uses a *channel tag* to mark a status, not only do we know something specific about that status, but others can *eavesdrop* on the context of it and then join in the channel and contribute as well'<sup>34</sup>

(Messina, 2007).

It was designed to be a multi-threaded feature and 'folksonomic'<sup>35</sup>. It aimed to offer an unlimited topic in the meta tag, that would act both as a retrieval mechanism through subscription, and a social grouping feature.

In the Twitter Study, it is the social *capabilities* of the Twitter semantics that are considered. The *interpretative flexibility* lies in the overlap and multi-threadedness of the different perspectives of the code elements. The social functions of Twitter semantics have evolved in a co-constituted way, as demonstrated by the shift in the meaning of the 'hashtag' since its original introduction (Appendix 4.2).

### *Classification of hashtags*

In the SPENCE Twitter Metrics Codebook in 4.3.5.2, the hashtag particularly fits with the concept of trust and can be subdivided into three attributes. I conducted a classification process to assign these attributes to the hashtags. The classes are values, interests and needs (VINs). The values and needs were further sub-categorised by value and need type, respectively, as described in the proximity facet in Chapter 3. Two passes of classification were made to provide a check and validation. This classification is given in Appendix 6.2. The VINs classification table reproduces into the concept of roundedness (3.3.2.2). The quantitative classification results are presented in Table 6.2.23, *Hashtag cluster diversity*, which supports the *roundedness* results (6.4.2.2).

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<sup>33</sup> The discursive account surrounding the innovation is set out here:

<https://factoryjoe.com/2007/08/25/groups-for-twitter-or-a-proposal-for-twitter-tag-channels/>

<sup>34</sup> <https://factoryjoe.com/2007/08/25/groups-for-twitter-or-a-proposal-for-twitter-tag-channels/>

<sup>35</sup> 'Folksonomy is the system in which users apply public tags to online items, typically to make those items easier for themselves or others to find later'. <https://en.wikipedia.org/wiki/Folksonomy>.

## URLS

Tweets with URLs are interpreted as *broadcast knowledge transfer* in two *capabilities* - *influence* and *information*. The URL is interpreted as diffusing influence or information. In the *information capability*, the interpretation of *personal knowledge transfer* is applied to tweets with mention'URL combinations. The understanding is that the mention personalises the diffusion in the URL.

### Creating the cohesion measures

The *Cohesion* metrics are explicated in Chapter 4 (4.2.3) and the results set out in Chapter 6. They were formulated after the Twitter interpretative metrics. They apply to the *decile fabric* as a stratum of *social brokers* which is interconnected by formal/informal roles. This concept grew from the main experiment sample approach set out above, influenced by community assets theory. Twitter codes provide the basis for the measurement of the three *Cohesions*. The hashtag group or cluster inheres in the *general* or *specific cohesion* and operates within *diverse cohesion*. The mention also inheres in the three *Cohesions*, as the currency for *exchange* which transforms into *net/latticework* (see Chapters 3 and 4).

## 5.2.11 Analysis frameworks

### Survey data

The Survey has an analysis framework designed into it, structured using SPENCE theory. The design process described above accounts for the embedding of theory into the Survey sections.

### Survey/Twitter Study

Table 4.3.15, *Survey/Twitter Study alignment by capability/facet* in Appendix 4.3, gives the alignment of facets with *capability* metrics and matches Survey questions with Twitter semantic interpretations structured by the SPENCE capabilities. Interpretative metrics are flexibly operational in each *capability*.

## Chapter 6 - Case Study findings

### 6.1 Introduction

The SPENCE Model's facets embedded in the Survey, and structuring the interviews, and its interpretative frames of metrics applied to the Twitter Study, provide a means for data analysis and interpretation. SPENCE's effectiveness is offered for evaluation in Chapter 6 at the same time as the results are presented. Ideally, the presentation of the results should go some way towards giving clarity and coherence in a 'lens of synthesis' (Halcrow, 2016). The SPENCE Model provides the basis on which the Survey/Twitter Study alignment operates. The use of the Twofold Instrument-based investigation is also demonstrated below through the aligned Survey and Twitter Study findings.

Surveys focused on community, e.g., the Cabinet Office's 'Community Life Survey' (2014b) on which some of the SPENCE Survey's questions were derived, require but are not always supported by community theory in the drawing together of salient findings. I propose that SPENCE provides the theory to inform the synthesis of results and conclusions.

The perception emerges during the sequential analysis, facet by facet, supported by alignment with the Case Study interviews and Twitter Study metrics, that the different affordances in the channels of online and offline gradually merge, accruing and consolidating effects in an intersection, that tends to channels equilibrium and reflects resource exchange in the *net/latticework*. The concept of the three *Cohesions* (relating to two SPENCE facets - *proximity* and *net/latticework*), detailed in *decile fabric* in Chapter 4, are calculated for the Twitter Study in Case Study 1. The indicative results are given in 6.4 and show the potential for *Cohesion* measurement that SPENCE affords.

### **Groundwork findings**

The multiple Case Studies afford valuable patterns, pointers, suggestions, and indicators. But there is a caveat with the Survey results that though the data gathered from each participant was in-depth, the number of participants meant that firm correlations could not be drawn. With the Twitter Study, the 'Localnets.org' tool which processed the Twitter data and informed the basic analysis is one of many Twitter analysis tools on which academic research is based, particularly in the field of computational sociology. The *Twitter Metrics Codebook*, 4.3.5.2, illustrates the solid approach drawn from established conventions, used to assign significance to Twitter data, and yields findings comparable with other academic projects involving the



Twitter platform. Future comparative research involving multiple case studies would further test the code interpretations which are novel. So, the results of the Survey and Twitter Study are both sound and indicative, enabling wide-ranging discussion, sufficient to offer the groundwork of insights, observations and trends (see the discussion in Chapter 8).

### **Chapter contents**

The discussion from the four Interviews with the social entrepreneurs and ‘Amenity and Civic Society’ chairs is given in 6.2. The SPENCE facets and *capabilities* were used to analyse the transcripts and structure the presentation of results.

The analysis and discussion of the Survey and Twitter Study results takes up the main part of the Chapter in 6.3. There are two related appendices which give detailed context and full results: Appendix 6.1, *Review of the Survey* and Appendix 6.2, *Case Study 1, Twitter findings*. In 6.4 the three *Cohesions* of the *decile fabric* are given and other related results.

#### **6.1.1 Survey/Twitter Study**

The discussion of the Survey/Twitter Study alignments are given as facet conclusions. The complete findings of the Twitter Study are set out in Appendix 6.2 by *capability*.

In Chapter 4, Appendix 4.3, Table 4.3.15, *Survey/Twitter Study alignment by capability/facet* the *capability* theory, based on interpretative metrics, is integrated with the facet structure. The following account of the results are not presented explicitly and exhaustively using the table as that would have involved repetition. But the main inferences of the Survey/Twitter Study alignment are surfaced with the table as a guide.

The Survey/Twitter Study and interview methods are used in Case Study 1 and only the Survey and Interviews are implemented in Case Study 2. The different approaches afford comparison to assess if the Twofold Instrument is effective. The review of the instrument is given at 6.4.1.

#### **Survey engagement**

The online Survey instrument is substantial with an in-depth, comprehensive range of questions, based on the SPENCE Model. The Survey questions were matched in their design with Twitter Study metrics in line with the *capability* theory set out in Chapter 4. The Survey required intensive participant engagement, taking around 30 minutes to self-complete, online. The substantial nature of the Survey, designed in a thorough approach, using survey theory

drawn from previous surveys on community experience, ensured effective data from fully completed responses.

### **6.1.2 Twitter Study**

The Twitter Study involved the collection of Twitter digital data from a sample of 21 *social broker* or *active participant* Twitter users in Bowes and Bounds Green. Their Twitter 'handles' were selected on the basis of their mention in the tweets of the *Bowes and Bounds Connected* social entrepreneur. The tweets of the *social brokers* and social entrepreneur were collected for the period March-September 2016 (see Chapter 5).

### **6.1.3 Indicative results**

With the Survey engagement of nine *social brokers* and *active participants* in Bowes and Bounds Green and seven in Herne Hill there is a good quality of effective and useful information. The data volume is sufficient to gauge the effectiveness of the twofold Survey/Twitter Study. Similarly, with the sample of 21 social brokers from the *decile fabric* and the six-month collection of tweets, the data quality is good and the volume is sufficient for the interpretative metrics to be tested and the calculations demonstrated.

So the main multiple Case Study experiment affords valuable patterns, pointers, suggestions, and indicators. But there is a caveat with the results that the quantity of data is not extensive enough to draw firm conclusions with correlations. Instead, the results are indicative and enable wide-ranging discussion, sufficient to offer tentative insights, observations and trends in Chapter 8 that address the research questions and themes and issues raised through the inquiry.

## **6.2 Discussion of interviews**

### **6.2.1 Bowes and Bounds Green - Case Study 1**

#### ***Background context***

This brief account aims to set a broad, qualitative context for the following Interview and Survey/Twitter Study analysis work.

I visited Bowes and Bounds Green on 2nd November 2016 to distribute flyers with the details of the e-survey link and to gather emails to send survey links to. I went to 'Myddelton Road' and walked the length and breadth of this intimate, cosy, neighbourly street. It had a number

of estate agents, showing it was attracting property buyer/renter interest. Some Twitter *social brokers* from the sample were physically present on the road in their shops or cafes, e.g. 'Gillick Stores', 'The Step'. I called on all the premises that were open, and engaged in conversation about my study project, asking them about the community they lived in. There was a clear warmth expressed about the neighbourhood and how it had developed through collective activity. The two sides of the street are physically close. This lends an informal urban village feel to the shopping or visiting experience. There is a train station at one end of the road that makes it easy to visit. The shop owners were ethnically diverse ranging from British to European to Asian. There were a number of food shops and outlets owned by a Greek Cypriot entrepreneur. I had dinner at one of the restaurants and the restaurateur described how central the offline meetings of the 'Bowes and Bounds Connected'<sup>36</sup> website was to the street. They said the gatherings had been held in his establishment. They were familiar and supportive of the work of the website and its social entrepreneur. They were keen to host another meeting. I visited a business on the street who specifically said they had moved to the street because of the online presence of 'Bowes and Bounds Connected' and the community participation and social interaction it brought. I discovered that the street had been shortlisted for a national award - 'The Great British High Street'<sup>37</sup> - which the website helped inspire voting support for and provided updates on<sup>38</sup>. I had a coffee with the social entrepreneur responsible for the main support of the website at a popular new café that was a social hub of the street. The visitors to the café hailed the entrepreneur, showing how central and engaged he was in the community. As a result of the daytrip, I gained a view of the settlement: its physical geography, its populations and the role of the social entrepreneur.

#### ***6.2.1.1 Integrated summary of two interviews with the Chair of 'Amenity and Civic Society for Enfield' and the 'Bowes and Bounds Connected' Manager***

##### **Settlement**

##### *Amenity and Civic Society for Enfield*

The Society's jurisdiction covers the old borough of Southgate before London government reorganisation in 1965, including a third of the London borough of Enfield, that encompasses the Bowes area. Offline, the society is involved in helping create places of community significance, e.g., a local public house in Palmers Green called 'The Fox' became listed as an

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<sup>36</sup> <http://www.bowesandbounds.org>

<sup>37</sup> <http://thegreatbritishhighstreet.co.uk/finalist-london>

<sup>38</sup> <http://www.bowesandbounds.org/forum/topics/myddleton-road-shortlisted-for-great-british-high-street-award>

asset of community value. The plans are to regenerate the building using funds from residential and commercial development.

The society contributes to local electronic and paper media and offline fairs, advertising its activities in stalls, photographs and posts. They organise social events, e.g., talks about 'Trent Park' and wartime intelligence operations. A planning scheme is underway to develop the major open space at 'Trent Park', '...virtually creating a new village on the site, preserving the existing listed building and there have been discussions about community use of the ground floor of the existing building, possibly as a museum'. The Society, confident in their expertise, is concerned with assisting developments, submitting views on the planning application to the local authority and conservation advisory group. They also sustain groups on history, war memorials and listed buildings who report to the local authority. Online there is a Society website, Facebook page and Twitter handle which are not well-resourced due to the lack of social media experience of the society members.

#### *Bowes and Bounds Connected*

The online/offline community, covered by the 'Bowes and Bounds Connected' initiative, started from an existing community association, 'Bowes Park Community Association' (BPCA). The 'Bowes and Bounds Connected' website grew out of the community association activities. It evolved from a community concern for regeneration, e.g., to improve the roads, the infrastructure, the station upkeep. The core physical area served is a 'triangle' bounded by the north circular road, Green Lanes and Bounds Green Road. It is supported by two local authorities: a third of the area in the north, in Enfield, and the other two thirds in Haringey. It is consequently not the focus of Enfield, nor Haringey, '...just the borderlands bit'.

The community activism supported by the online/offline community led to the 'We Love Myddleton Road' initiative - a broad community campaign in which 'an old Victorian Edwardian shopping street' was transformed and reanimated. The homelessness issues on the road, including multiple occupancy, were met by active community concern that motivated the start of the campaign. The results of the community action regenerated the road with, e.g., a monthly market and the community hub of the 'The Step' café/bar/gallery. The market was the inspiration of a local woman who drove the project, starting with mainly online discussions. There have been other community hubs created from spaces, e.g., a disused shop, a derelict building, a temporary church being redeveloped by the 'North London Samaritans', and a tennis club that holds community 'pop-up' cinema events once a month.

After the sustained improvement work on 'Myddelton Road', it won the 'Great British Highstreet Competition' for London in 2016.<sup>39</sup>

The 'Bowes and Bounds Connected' online settlement has impacted on the formal naming of the area: 'people are now referring to that area as 'Bowes and Bounds' and a parents' Facebook group has used the name, formalising the identity.

## **Proximity**

### *Amenity and Civic Society for Enfield*

The area covered by the Society is diverse with distinctive sub-areas of differing demographics and ethnicity but allied with the London trend towards gentrification that prohibits younger less wealthy people from coming into the area. The Society has older participants with 120 subscription members. Younger people tend to be more involved with jobs and family to give their time. The older members are less active users of online social media in support of the Society's work, but they devote significant resource to the provision they give. The qualities of members are knowledge of recent local history, the area and its issues; and an 'informed point of view'.

### *Bowes and Bounds Connected*

The website started with retired women supporting it with the demographic widening as campaigns brought more people into community activities. The manager confirms the view of the Society Chair's that gentrification has occurred in the area so the younger incoming demographic are wealthy. The diversity of the area is not being addressed: 'I think the diverse nature of the people who live in the area is not reflected by the people who use the website, or necessarily the people who are using the newer businesses in Myddleton Road, and that's a concern'.

## **Exchange**

### *Amenity and Civic Society for Enfield*

With the Society, the exchange is formal and involves sharing expertise to advise local planning developments. The planning for the organisation of the 'Civic Week', part of a national 'Civic and Amenity Society' initiative, implemented centrally, involved formal exchanges with 'Civic Voice'<sup>40</sup>. The 'Civic Week' activities included the re-enactment of a local battle, a play

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<sup>39</sup> <https://www.haringey.gov.uk/news/response-myddleton-road-being-voted-london-winner-great-british-high-street-year-awards>

<sup>40</sup> <http://www.civicvoice.org.uk>

about the local area, and local cricket matches. The stall at local fairs promotes exchanges between citizens and the Society as do the local history social events.

#### *Bowes and Bounds Connected*

A key promoter of *exchange* traction is campaign issues. After the second year, the website discussions were energised by people joining because of concern for the development of a waste processing plant. There was 'a very rapid growth of people joining the site' to support this campaign against the development. Another issue that stirred engagement was the attempt to put up an illegal building next to 'The Step'. The active discussions were online on the website and offline at the bar/café. It is the website that '...is a tool that has enabled people to engage together' and that has convened gatherings and promoted conversations that moved offline into community action.

#### **Net/latticework**

##### *Amenity and Civic Society for Enfield*

The Society has a formal committee and legal constitution. There is no connectivity between the Society and 'Bowes and Bounds Connected'. The Chair was surprisingly unaware of the informal initiative, despite the Society covering a significant part of the same geographical scope. In Enfield, the Chair did not consider there was a formal cohesion of provision by formal organisations: 'we don't meet to discuss ways forward or tactics really, we work independently'. This was attributed to 'territorial approach' and 'lack of resources'.

#### *Bowes and Bounds Connected*

The organisation of 'Bowes and Bounds Connected' was initially founded in 2010 by the existing manager and a friend, growing into a small group with community development backgrounds, building on the existing infrastructure of a community association, that derived from a residence association with 'a wider ambition for regeneration'. This emphasised the involvement of traders in the focus on the 'Myddelton Road' high street, addressing the problems of drug dealing, homelessness and street hygiene. The informal organisation became more 'professionalised' in the second year: '...after a year of operation this was no longer an experiment, this was a thing'.

## Channels

### *Bowes and Bounds Connected*

The online platform uses 'Ning'<sup>41</sup>. It was first adopted because it provided a ready-made forum. The congregation of the *meta channels* of Twitter and Facebook occurred as the site was created to drive activity to the website. The *meta channels* have different tones with the website being more serious because it draws its engagement from active community concerns. Twitter and Facebook offer more discussions on entertainment topics: 'Twitter is much more flippant and jovial'.

Offline events and activity are 'fundamental': '...from the outset the idea of using an online mechanism was as a community development activity, and you can only develop the community if people meet each other face to face, it was never intended to be simply an online project'.

The online channel of the website, is given the accolade by the manager of helping 'to crystallise an identity, a community that otherwise felt a little desperate'. The manager confirms the importance for the online/offline community blend: 'the website is a mechanism by which people get together and get things done, so it is fundamentally that online/offline thing'.

## Entrepreneur

### *Amenity and Civic Society for Enfield*

The Society Chair intends to recruit younger volunteers with IT experience to help transform the work into an online/offline blend; and if necessary, to buy in the resource, funds permitting.

### *Bowes and Bounds Connected*

The manager has community building expertise from his formal occupation. They follow community development theorists e.g. 'ABCD - Asset Based Community and Development', an approach formulated by Kretzmann (1996): '...the online stuff works when there is an already existing infrastructure'. This involves 'talking about the things that are good about your area', with a positive tone and content 'always geared to volunteer activity...in that civic space rather than promoting commercial organisations'. They differentiate their provision from some online communities that emphasise supporting local businesses as a priority.

In the first years, all the website content was created by them, sharing information about what was happening in the community association and other local voluntary organisations. Their

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<sup>41</sup> <https://www.ning.com>

future ambitions include building the website forum by widening the appeal of conversations to less serious discussions, to complement the tone of other local congregated platforms.

### **Capabilities**

Both of the services of the Society and 'Bowes and Bound Connected' afford rich *information* sources for and by the community. The *intelligence capability* is demonstrated by the collaborative campaign work and expertise offered in local planning. *Trust* was built through the campaigning work of "Bowes and Bounds Connected". The *influence capability* is demonstrated in the local achievements of specific community goals and the national attention shown by the 'Great British High Street' London award in 2016.

## **6.2.2 Herne Hill - Case Study 2**

### ***Background context***

I visited Herne Hill on 26th October 2016 to circulate flyers and to gather emails for the e-survey implementation. The physical area is larger and therefore more diverse than the area in Case Study 1, but shares the significant feature that it occupies an intersection of different boroughs. It is centred on a traffic junction but appears to coherently congregate pockets of shopping with differing themes, e.g., the modern businesses under the railway arches, the village-style cafes and shops contained by the train station's forecourt, the more upmarket shops on the street leading to Dulwich. The businesses under the arches had a neighbourly relationship with each other and with the nearby businesses in the forecourt. The area of the train station forecourt had a charming character providing an attractive hub that countered the diverse and scattered nature of the junction. The forecourt afforded the space for the regular market that had been initiated by the activism of the online/offline community. Other community initiatives supporting SOC were evident in the station's tunnel leading to the railway arch shops where a physical community notice board had been set up and a free piano was available.

### ***6.2.2.2. Integrated summary of two independent interviews with the Chair of the 'Amenity and Civic Society for Herne Hill' and the 'Herne Hill Forum' manager***

### **Settlement**

#### ***Amenity and Civic Society for Herne Hill***

It is described as a 'village' by estate agents but the chair of the 'Herne Hill Society', describes it as '...an in between place', a junction where six roads meet, crossing two boroughs - Lambeth and Southwark. This situation between two boroughs means that there is a confusion



of local government policy. This contributes to inspiring a civic campaigning voice amongst residents.

### *Herne Hill Forum*

An architect tasked with resolving the traffic flow, created 'Station Square' that became a communal public place. Now a market, events and public meetings are held there. Noticeboards in the station tunnel are integral to the settlement. Herne Hill is more urban than neighbouring Dulwich, with more of a litter problem, traffic jams, graffiti and 'semi-nightclubs' which motivate people to regenerate the community. The socially active online forum in East Dulwich gained momentum and reputation. 'Herne Hill Forum', in contrast, is more campaigning, e.g., the railway arches will be developed when there is engagement between citizens and the land-owners.

The 'Herne Hill Forum'<sup>42</sup> is the virtual settlement. It was founded in 1998 by two volunteers. In 2003, the blog began; it moved to a chat forum in 2005. The *settlement* is a congregation of an online community around Twitter, Facebook and the 'Herne Hill Forum' website. The different components of the online settlement offer personal or collective community, e.g., Facebook, the former, 'Herne Hill Forum', the latter. In the future, the Forum will be designed more to suit the smartphone.

## **Proximity**

### *Amenity and Civic Society for Herne Hill*

The people, according to the Society Chair, are 'fairly well to do' in their 30s, with children. The demographics have shifted in the last 5 years towards more affluent incomers who think '...the place can be better than it is, who realise that they have some power or experience that they can actually make a change'.

With the Society, there is a membership, that significantly comprises retired people, who pay a £6 annual subscription and feel they can offer their time. The Chair considers a group, based on subscription membership, is inherently coherent. Club-joining amongst younger residents in their 30s and 40s would be most likely to happen if the community were tested by events. The Chair assumed that the Forum volunteer Model would become more popular than society membership.

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<sup>42</sup> <http://www.hernehill.org.uk>

### *Herne Hill Forum*

With the Forum, there is less apparent coherence because the 'glue' is a mailing list not membership and because of the disruptive effect of the new influx of affluent residents. The Forum participants are volunteers who are digitally engaged. Offline meetings are held twice a year, attracting 90-250 people. Complementary apps are used at meetings, e.g. 'Twitterfall', to make groups more online/offline and so cohesive. In 2016, there was 400 to 600 people a day on the website. The mailing list for the e-newsletter was 5500; there were 8000 Twitter accounts.

### **Exchange**

The diversity of Society/Forum/Twitter provision gives voice to different types of resident. People participate to improve the offline environment of Herne Hill which has developed a 'bustling centre'.

### *Amenity and Civic Society for Herne Hill*

There is a website for the 'Herne Hill Society' too, but the Forum has more services and the information hub and chat features are a central part of its purpose.

### *Herne Hill Forum*

From the activity on the Forum, there is clearly also significant online interaction. When the Forum began in 2005, in response to the novelty, 'we got lots of conversations and we got content put up'. Now there are 400-600 visits a day, including interactions. With 8000 Twitter accounts and local Facebook, there is also significant activity contributing to the congregation of online community, centring on the Forum.

The information that people add to the website hub, prompts ideas for offline events, activities and strategies involving campaigning or regeneration initiatives. More people use the hub as a 'resource for services' than for chatting. But offline, Herne Hill is a 'busy' place for interaction.

### **Net/latticework**

The 'Herne Hill Society' as an 'Amenity and Civic Society' has formal legal entities. It was founded in the 1980s. The informal 'Herne Hill Forum' was created in 1998, partially resourced by Lambeth Council to set up community groups. The relationship between them is engaged; they work together to regenerate the area, that formed from an urban junction of the two boroughs, Lambeth and Southwark. There is a confusion and conflict in council policies, e.g., libraries and parking. This has led to a campaigning voice. The *net/latticework* relationship

improves on the lack of inter-council policy-making: 'Why do Lambeth not talk to Southwark, why is it that Lambeth is shutting down libraries and Southwark is opening libraries, or the parking regulations are different...' The 'Amenity and Civic Societies' do occasionally meet to discuss issues: 'there's some cross over between societies, we do keep each other informed...' With a formal organisation, there is a constitution that ensures financial propriety.

But the net and latticework organisations will not amalgamate for fear of losing funding and their effective identities. The identity of the Society carries an authority which is mediatory in the community when there are social conflicts. The voice of the Forum, in contrast, is campaigning but also representative of councillor perspectives, particularly at hustings events. As the Society chair says: 'At the moment I think we're in a situation where we've got two organisations that do different things, and are to some extent connected. A lot of that connectedness involves an informal relationship which depends very much on the people at the top'. The Forum manager considers the Society as a limited information service. So, there is an informal link between the informal and the formal entity, with a Society member attending meetings of the Forum. But the Society chair would like a more formal relationship. There is a committee structure to the Forum, meeting monthly. The information hub is sourced in an open way and the campaigns are informally led when there is community traction. The Forum manager considers its informality is necessary and complements the different role of the council.

## **Channels**

### *Herne Hill Forum*

According to the Forum manager, the channels interleave in multiplexity with online generating offline contacts and groups (e.g. knitting group, book clubs) where things get done. They think that online many more people can be reached. There are different online gathering places, e.g. 'Herne Hill Forum', local Twitter, and local Facebook where different types of communication occur. But it is the website, not Facebook, that is more 'place centric' and geo-located.

There is a similar diversity of offline gathering places, e.g., shops, pub, school gates, street corners, church halls and the 'Station square'. The 'square' is as vital to Herne Hill community as the online forum; one a metaphor for the other. Likewise, the station noticeboards are the offline channel equivalent of the news and information resources online. The Sunday market, is possibly a *meta channel* in the sense that Twitter is. It enables an institutional form of exchange. As the Forum manager remarks, 'the market is now a sacred spot'.

## **Entrepreneur**

The Society chair and the Forum manager are both volunteers in their social entrepreneur/broker roles. The interviews indicate their understanding of their roles. The Society chair says the position requires integrity and the value of universalism. They sum up the demands: 'Learning how to identify what is a more universal issue as opposed from your own prejudices is a difficult thing, and you can never get rid of your own prejudices'. The Forum manager talks about the financial probity that is required.

With the online Forum, management skills and IT aptitude are key to progress the different stages of activity and events creation, information resourcing and website development.

Their qualities in their Society and Forum roles are brought to bear in founding and developing the different parts of the online/offline community. Both are successful in their different ways, giving authoritative mediation in conflicts, campaigning, mobilising support and engagement and providing information resources, to contribute to an effective online/offline community, aiming for local regeneration.

The Forum manager sums up the role: '...we've got to tap into the psyche of the area, or reflect the psyche of the area in order to, you know, get results'.

## **Capabilities**

The area has *influence* with the councils, as a result of having the informally interrelated Forum and Society. There is *trust* in the community with people campaigning together to achieve better services and conditions. There are authoritative *information* resources on the Forum which are openly sourced; and provided by the Society which target and resolve misapprehensions. Both entities offer community *intelligence* through their collaboration with each other.

## **6.3 Survey and Survey/Twitter Study analysis and discussion**

### **6.3.1 Survey demographics**

The Survey questions 2.1-2.5 provide the sample demographics for the Case Studies. With the discussion of the indicative elements of the Survey below the demographics provide valuable context.

### ***Case Study 1 (CS1)***

There were nine respondents. The group was non-diverse. They were all female: seven were of similar age 31-50, one was 51-70, one was over 71; eight were employed, one retired; five were of similar ethnicity (i.e. UK), one was 'any other white background', one was 'any other Asian background', two did not state; and eight had a high level of education status (degree or post-grad), one did not say.

The census of 2011 results for Bowes gave a balance of men and women. Of a total of 312,466 'All Usual Residents', there were 150,654 males and 161,812 females<sup>43</sup>.

This group were employed, highly educated, young/middle-aged females. The reasons for the non-diversity of the group are not known. It is relevant to the indicative interpretation and discussion of findings so this quality is addressed when it appears significant, e.g., when participants are asked their views on the diversity of online/offline community they live in. The non-diversity of the sample was relevant to their views.

### ***Case Study 2 (CS2)***

There were seven respondents. The group was diverse. They were mixed female/male: four female, three male; two are 16-30, five are 51-70; six are employed, one retired; seven are of similar ethnicity (i.e. UK); and four have a high level of education status (degree or post-grad), three have GCSEs/A Levels.

The respondents were more diverse than CS1 in the demographic categories of gender, employment, and education. They were less diverse in age range i.e. five were aged between 51-70. They had the same broad ethnicity as CS1. The more diverse demographic status means that the implications of a 'unified' demographic perspective cannot be inferred as with CS1.

### ***Full demographics, combining case studies.***

Out of a total of 16 respondents:

- 13 are female
- 14 are employed
- 12 have a high level of education
- 12 are of similar ethnicity (UK).

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<sup>43</sup> The data was provided by Data Explorer (beta) and Neighbourhood Statistics (NeSS) platforms that closed on 12 May 2017.

### 6.3.2 Settlement

#### Survey

*Q1.1 In offline [...], which of the following features/amenities do you visit frequently?*

The responses indicate diverse visits of offline amenities. Most categories of amenity are visited, showing the participants' relationship with the location and their motivation to visit its services and features. Churches, libraries and community centres are not frequented, although they are designed for community use. It is the informal 'great good places' (Oldenburg, 1996) that are used. The visit diversity in Case Study 1 is less than in Case Study 2.

*Q1.2 Which features of online [...] do you visit frequently?*

The experience of community in informal offline spaces in Q1.1 for Case Study 1, matches the engagement that takes place in the 'Bowes and Bounds Connected' forum or local Facebook or local Twitter. The informal nature of the performance of online/offline community is significant and counters perspectives of community that emphasise formal participation in social organisations and community institutions, e.g. in the 'Community Life Survey' (Cabinet Office, 2014a).

The diversity of visits to offline *settlement* is matched by the diversity of use of local Twitter, local Facebook and the online website Forum. The even use of these different online places in both case studies demonstrates how the online/offline manager is effective in congregating the *settlements*. It is not integration but a congregation of diverse online *settlement*. The website, e.g., 'Bowes and Bounds Connected', is the base which attracts the congregation, providing user or manager generated 'hyperlocal'<sup>44</sup> news that provokes conversations in the user forums. The conversations that are located and concerned with place, captured in the Twitter Study, usefully show an online/offline intersection.

*Q1.3 Which online communities, e.g. Facebook, Mumsnet, LinkedIn, Twitter etc. and offline communities e.g. neighbourhood watch, voluntary groups, hobby/common interest groups etc. do you belong to and participate in?*

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<sup>44</sup> Definition of 'hyperlocal' by NESTA (2012): 'online news or content services pertaining to a town, village, single postcode or other small geographically combined community'.

### **Case Study 1**

There were responses from eight respondents. All had varying degrees of online and offline community engagement. The participants cited 'yoga group', 'PTA' and 'Enfield Volunteer group' as examples of communities.

They mixed the informal yoga group with the more formal 'PTA'. The discussion in Chapter 1 (1.2) about the socially constructed nature of place is relevant to the place - 'Myddleton Road' - that has become socially meaningful to community participants who are engaged in its revitalisation and development. Four say they belong to 'We love Myddleton Road' showing its popularity in this survey sample.

### **Twitter Study**

The Twitter Study sample has the Twitter handle 'We love Myddleton Road'. One participant in the survey engages with it as an online community.

In the Twitter Study there were 21 'handles' in the sample.

|                 |                     |
|-----------------|---------------------|
| Barnetlibraries | Myddletonmarket     |
| Bgschoolpta     | nl_sams             |
| Boundsgreenon   | Nrthlondonnews      |
| Bowesandbounds  | Pgtales             |
| Bowesparkchoir  | Rmlondon            |
| enfield_fest    | talkiesn13          |
| Enfieldcouncil  | Thebowesparker      |
| Enfieldlibrary  | thestepn22          |
| Kabaretkaramel  | Welovemyddletonroad |
| Killickstores   | woodgreenn22        |
| Mpsbarnet       |                     |

### **Case Study 2**

The offline communities engaged in range from the Labour Party to sports clubs, e.g. Triathlon, Fishing, Running, Cycling. Two respondents explicitly say they had experiences of online/offline community with the 'Herne Hill Forum' and one with 'Herne Hill Society'. The other experiences occurred through local Facebook, local Twitter, LinkedIn, and local offline community structures, such as sports clubs. There are two participants who did not experience online/offline community: one did not consider they were engaged in an offline community group and state they only experience the online community environment of LinkedIn,

Facebook, Twitter and Instagram; another stated they only participated in the offline community of the 'Lambeth Forums Network'.

The several online and offline communities engaged in by the five participants shows how varied the aspects of neighbourhood online/offline community is. The five online or offline instances of use of the 'Herne Hill Forum' and three of the 'Herne Hill Society' indicate that the local services are relevant to people.

*Q1.4 How many years have you been a member of the offline community of [...]? And how many years since you joined the online community?*

#### **Case Study 1**

There is a significant difference amongst the respondents. The online engagement in Bowes and Bounds Green started seven years ago, in 2010. The offline community was first joined by a participant in 1986. There are two seasoned online users of six plus years; four more recent. four participants joined online community immediately or within 1.5 years of when moving into the area. The results show that the online/offline community existed as a blend for the four participants who engaged with both when first moving to the area. The first participant who registered this blend joined the offline community 8.5 years ago (from survey implementation in 2016) i.e. in 2008. So, for some community participants online/offline community has existed since the 2000s: it is not a new experience of community. The resident who has lived in the area 30 years, began to engage only relatively recently with the online community provision in 2014.

#### **Case Study 2**

As with CS1, there is a significant difference amongst the participants. The online *settlement* began 14 years ago (from 2016) and was joined by two of the participants. The longest offline resident joined after four years of online provision. A newcomer to the area and another established resident joined online at the same time as becoming resident. A long-established resident only joined relatively recently, i.e. 10 years after joining the area. The results indicate that online/offline provision was well established and attracted both new and long-term residents.

*Q4.6 How much do you trust your online or offline neighbours - e.g. sharing personal information, exchanging favours with them?*

#### **Case Study 1**

I propose that this question in the *net/latticework* facet part of the survey is also relevant to *settlement trust* as it addresses trust in neighbours who are a part of the social construct of online/offline *settlement*. The trust for offline neighbours was high for seven participants. For



online neighbours, it is two stories: high trust for three; and neutral or distrust scores for four. This suggests a mixed picture in the online *settlement* and a clear trust in offline neighbours. It is interesting that *channel* determines *trust* levels, and it raises the question of the ideal balance between online and offline to achieve higher levels of *trust*.

### **Case Study 2**

Again there was a high trust for offline evidenced in the sample; and also the similar mixed story of reasonable trust and significant distrust for online neighbours as in CS1. This implies that offline participants are both trusted in themselves and because they are physically geo-proximate. It suggests that as it is less easy to know the geo-proximity of connections online, there is more distrust for online neighbours.

#### **6.3.2.1 Settlement discussion**

The answers indicate an engaged set of community participants who are active both online and offline and online/offline.

In Case Study 1, the offline community activity invested in the specific place of 'Myddleton Road' is matched online by the hashtag '#WeLoveMyddletonRoad' which is used for advocacy and leverage to organise and promote street community development. The results suggest that place-based online/offline resources in both case studies help engender *settlement trust*, expressed in the use of a variety of online/offline amenities.

There is an informality in the performance of offline community. It occurs in parts of the *settlement* that are not formally dedicated to community activity, e.g. cafes, streets. This counters the perspective in the 'Community Life Survey' (Cabinet Office, 2014a), in which formal participation in social organisations and community institutions as measures is the focus of enquiry.

The variety of visits to offline settlement is matched by the diversity of use of local Twitter, local Facebook or the online website forum. The comparatively even use across these online settlements in both Case Studies demonstrates flexible visiting behaviour. There is significant use in both Case Studies of the forum website proving that the diverse online community congregation, enabled by the online/offline community manager, operates effectively. The hub website, e.g. 'Bowes and Bounds Connected', provides locally generated 'hyperlocal' news that provokes *exchange* in the user forums, Facebook and Twitter.

The duration of online/offline community is different between case studies (Q1.4). With CS2, the online provision was founded eight years before CS1. The participants in both cases experienced the blend of online/offline for a significant period: four over five years in CS2; three in CS1. These participants are *social brokers* due to the length of time of their active participation and community involvement.

The Twitter Study metrics offer additional insights in the *settlement trust* metric. In the hashtags classification method (Chapter 5), the hashtag expressing place is taken to represent *need-relatedness* and *settlement trust*. The majority of the *needs* hashtags are classified as place. 40% of the total hashtag clusters express place relatedness or *settlement trust*. This is a significant proportion and indicates that people connect over place in Case Study 1. The Q1.3 captured the importance of the alignment of offline community activity matched with hashtags e.g. '#We love Myddelton Road', '#Myddelton Road Market'. They blend the physical with the virtual. These Twitter 'handles' advocate for and help institutionalise types of place. They point to informal community activism, promoting street community development.

URLs referencing place could also reflect on *settlement trust* but it was not possible to identify place URLs due to shortened or non-descriptive URLs.

### 6.3.3 Proximity

#### Survey

*Q2.7 Do you feel you have the same needs as your physical neighbours offline or virtual neighbours online?*

There is slightly less neutrality and more positive feelings about sharing similar *needs* online/offline in Case Study 2. With Q4.6 discussed above, there were differences between online and offline trust of neighbours. But here, in terms of *needs*, there is no marked difference between online and offline in both case studies.

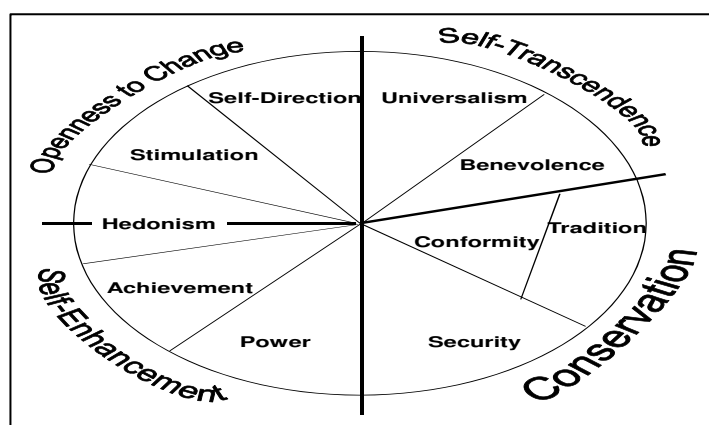
*Q2.8 Please rank your needs in order of importance*

Overall the combination of results confirms that *autonomy* is viewed as slightly more important as a need than *relatedness*. *Competence* is the third priority. Both case studies valued *autonomy* slightly above *relatedness* and significantly above *competence*. Does the preference for *autonomy* over *relatedness* indicate the view that *needs* are similar across online and offline, referencing Q2.7 above?

Q2.9 Do you feel you have the same values as your physical neighbours offline or your virtual neighbours online?

In Case Study 1, online and offline are broadly equivalent in terms of values homophily. In Case Study 2, there are more wide-ranging views about offline values-sharing. In Case Study 2, there is the view that values are shared online but not shared offline. Comparing Case Studies indicates that people have different views on values according to channels. And these differ from area to area. The variation suggests that measuring values is a valid activity for policy-making. With Q4.6, there was trust of neighbours offline and a mixed picture online. The findings here suggest that *settlement trust* persists, although different *values* may be held, in this case offline.

**Figure 6.15: Model of relations among ten motivational types of value**



(Schwartz, 2012, p.4)

Q2.10 Which values do you hold dearly? Please place the values in order of priority.

### Case Study 1

**Table 6.9: CS1 Values ranking**

|                | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup> | 6 <sup>th</sup> | 7 <sup>th</sup> | 8 <sup>th</sup> | 9 <sup>th</sup> | 10 <sup>th</sup> |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Power          |                 |                 |                 |                 | 1               | 1               | 2               | 2               |                 | 2                |
| Achievement    |                 |                 | 1               |                 | 2               | 5               |                 |                 |                 |                  |
|                |                 |                 |                 |                 |                 |                 |                 |                 |                 |                  |
| Hedonism       |                 | 3               | 1               | 1               | 2               |                 |                 | 1               |                 |                  |
| Stimulation    | 1               | 2               | 2               | 2               | 1               |                 |                 |                 |                 |                  |
| Self-direction | 1               |                 | 1               | 4               |                 |                 | 1               |                 |                 |                  |
|                |                 |                 |                 |                 |                 |                 |                 |                 |                 |                  |
| Universalism   | 2               | 2               | 1               |                 |                 | 1               |                 | 1               |                 |                  |
| Benevolence    | 2               |                 | 1               | 1               | 2               |                 | 1               |                 |                 |                  |

|            |   |   |   |  |  |   |   |   |   |   |
|------------|---|---|---|--|--|---|---|---|---|---|
|            |   |   |   |  |  |   |   |   |   |   |
| Conformity |   |   | 1 |  |  |   |   | 1 | 6 |   |
| Security   | 1 | 1 |   |  |  | 1 | 2 | 2 | 1 |   |
| Tradition  |   |   |   |  |  |   | 1 | 1 |   | 5 |

Using Schwartz's (2012) theoretical model of relations above, it is helpful to group the values into neighbouring quadrants. *openness to change* and *self-transcendence* are the most prioritised here. *Self enhancement* is third followed by *conservation*, last. The individual value of *universalism* gets the highest score out of all the values. *Benevolence* and *stimulation* come next.

## Case Study 2

**Table 6.10: CS2 values ranking**

|                | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup> | 6 <sup>th</sup> | 7 <sup>th</sup> | 8 <sup>th</sup> | 9 <sup>th</sup> | 10 <sup>th</sup> |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Power          |                 |                 | 1               | 1               |                 |                 | 2               | 1               |                 | 2                |
| Achievement    |                 |                 | 1               | 1               | 1               | 2               | 1               |                 |                 |                  |
| Hedonism       | 1               |                 | 1               |                 | 1               | 1               | 1               |                 |                 | 1                |
| Stimulation    | 1               | 2               |                 |                 | 2               | 1               |                 |                 |                 |                  |
| Self-direction |                 | 1               | 2               | 1               | 1               |                 |                 | 1               |                 |                  |
| Universalism   | 2               | 1               |                 | 1               | 1               |                 |                 |                 | 1               |                  |
| Benevolence    | 1               | 2               | 2               |                 |                 | 1               |                 |                 |                 |                  |
| Conformity     |                 |                 |                 |                 |                 |                 | 1               |                 | 5               |                  |
| Security       | 1               |                 |                 | 2               |                 |                 | 1               | 2               |                 |                  |
| Tradition      |                 |                 |                 |                 |                 | 1               |                 | 2               |                 | 3                |

There is a finer distribution but the same quadrants are leading. Again, the individual value most preferred is *universalism*, followed by *benevolence*. And the least popular quadrant is *conservation*.

*Q.2.11 Do you feel you have the same interests as your physical neighbours offline or virtual neighbours online?*

The combined view from both studies is that online, *interests* are more shared than offline. Does the online have an impact on the offline to give a blend that moves towards greater sharing? An extrapolation of this would be the notion that the interconnectivity within the online/offline blend brings about an inter-influencing that increases overall effects that initially more occur in the online.

*Q2.12 Which interests do you have? You can select any, all or none of the following interests.*

There is a diversity of *interests* and many of the respondents have a significant number of *interests*. The online/offline communities are clearly both engaged with topic-based activities in their leisure time. There is a broad alignment between both case studies in the preference degrees for *interests*. But as *interests* have less valency than *values*, e.g. in terms of their contribution to the concept of *trust*, and the sample sizes are different in the studies, it is not useful to compare across the Case Studies, using specific quantifiers, even for indicative findings. But from the rich, range of *interests* in both studies, it is clear that there is a topical leisure focus in online/offline community.

*Q2.13 On what basis are your connections with your neighbours in the online/offline community formed e.g. by values or interests or needs or demographic status? Please place the list in order of importance.*

In both studies, *VINs* provides a basis for social connections. With the '*VINs* ratio', i.e. the relative importance of *values*, *interests* and *needs*, there is a view that *values* precede, *interests* and *needs* as a determinant in social link-making. The respondents consider that *values* is a major constitutive part of relationships. In Q2.10, all *values* were generally held in the communities in a diverse way, yet there was a distinct preference for the value of *universalism*. *Universalism* is a key value for making links across social circles.

*Q2.14 Do you value close circles in which people are similar by values/interests/needs/demographic status or wide circles in which values/interests/needs/demographic status is mixed? Please consider in terms of the online and offline components of online/offline community.*

Both studies suggest that wider circles are more valued online than offline. In the latter, a balance between wide and close is preferred. In Q2.13 there is the view that *values* and *interests* form the basis of links online/offline. Here with both studies, a diversity rather than homophily of *VINs* is valued in wide social circles, online. So, in the blend of online/offline, there are different emphases in the two *channel* components. Diversity of *VINs* or *roundedness* is valued online.

*Q2.15 Do you think the online/offline community in Bowes and Bounds Green (Herne Hill) is diverse, that is full of people who are different? Or is it non-diverse, that is full of people who are very similar in values/needs/interests/demographic status?*

### **Case Study 1**

There is a view of slightly greater diversity online, which is a desired outcome in Q2.14. There is a strong view that offline the actual community is non-diverse, when in Q2.14, there was a preference for a balance of both wide and close circles.

## **Case Study 2**

In Herne Hill, there is a balance between diverse and non-diverse which is equivalent online and offline. The two Case Studies significantly differ in their answers to this question. The social make-up in the study areas is different according to the perceptions of the people in the samples. Their preferred make-up of individual or combined *VINs*, online or offline, is discussed in Q2.7-2.15. But this question addresses the perceived nature of the communities and the perceptions differ by study area.

*Q2.16 What percentage of people in the online/offline community, do you estimate share your values, interests, needs and demographic status?*

## **Case Study 1**

There is a divergence of views online with two votes in the lower region, two votes central and three votes in the higher part of the scale. With offline, there is a convergence around the lower percentages from 50-21% and only one vote for 71-80%. This indicates a difference between the channels.

## **Case Study 2**

For both online and offline, there are significantly more votes in the higher part of the scale with 5 votes between 41 to 70% online and 31 to 70% offline. The *channels* are more aligned.

*Q4.6 How much do you trust your online or offline neighbours - e.g. sharing personal information, exchanging favours with them?*

## **Case Studies 1 and 2**

This question in the *net/latticework* facet part of the survey, addressed in detail above in the *settlement* facet, is directly relevant to *proximity* as it addresses trust in neighbours who have *VINs* as a basis of communication. There is a mixed picture for trust online which contrasts with trust in the offline neighbours.

The answers to the following questions are not discussed as they relate only to the sample selection, described in Chapter 2.

*Q2.17 How many people follow you on Twitter and how many people do you follow?*

*Q2.18 If you use Twitter, what is your Twitter handle?*

*Q2.19 How many contacts do you have on Streetlife?*

### 6.3.3.1 Proximity discussion

#### Survey

There is the commonly prioritised value of *universalism* and non-prioritised quadrant of *conservation*. Given the fact that the Case Studies cover different areas of London, these similarities are noteworthy in an indicative way. The demographic characteristics of the samples and the choice of *social brokers* are salient.

RQ1 addressing the nature of online/offline community is usefully informed by this prioritisation of *universalism* by online/offline *social brokers*. The hypothesis that the values associated with *conservation*, i.e. *conformity*, *security* and *tradition*, have less importance in the mix of online/offline community is also a useful one to investigate. Does the relative newness of the social phenomenon of online/offline community account for the lower priority of *conservation* that is associated with status quo and historic experience and activities?

With 1) *values* preferred to *interests* and *needs* online/offline as the basis for social link formation, 2) a view that online, social circles are wider than offline, and 3) a difference in perception depending on study area about the diversity of *VINs* online/offline, the findings of personal views on percentages of people sharing *VINs* confirms the area dependent results of the diversity question, but also links with the responses that differentiate by channel. The comparative findings suggest that *VINs* are area dependent and channel differentiated.

The *capability* with most applicability to *proximity* is *trust*. From the indicative findings, I suggest that the concept *proximity trust* accounts for the social make-up of an area, expressed by the pattern of *VINs* people hold (complementing conventional demographics), tending to diversity in channel alignment.

In both Case Studies, sharing of *needs*, *values* and *interests* takes place with different emphases. There are differences between channels, e.g. in Q2.9 values appear more shared online than offline. This compares with the results of Q4.6, where there is felt to be more trust between offline neighbours, than online. It suggests that having diverse *values* can support *trust*. Although in Q2.15, Case Study 1, there is a view that the offline community is non-diverse.

The results of Q2.13 point to *values* being seen as the highest bonding factor in social links. The question does not emphasise sharing *values* in bonding, but this may be assumed by

respondents. Is *proximity trust* ideally made up of diverse or non-diverse *values*? The Survey uses questions that iterate through to a picture, filtering for contradicting results.

With the *proximity* facet, in the blend of online/offline community, the activity, behavior and perceptions in one channel can be aligned or different. This poses the implicit question, can one channel influence and/or impact on equivalent aspects in the other channel. With a channel alignment, is this the result of online impacting on offline or vice versa to create an equilibrium? Which channel is more effective at influencing the other - online or offline? In Q2.15, Case Study 1, there is a strong view that offline community is non-diverse. Would this impact on the online to engender more diversity or less? With Q2.9, there is the strong view that *values* are more shared online than offline. Would an equilibrium settle over time to align the channels? The overall non-diversity offline in Q2.15, Case Study 1, may indicate progress to equilibrium.

If there is more *proximity trust* e.g. if *VINs* are balanced in an online/offline alignment what are the implications for *settlement trust*? With Q4.6, there was trust of neighbours offline and a mixed picture online. The findings here suggest that *settlement trust* is influenced by *values*, *interests* and *needs*, held online and offline, aligned or non-aligned by channel, according to patterns of diversity. The results show that a survey such as has been deployed can investigate issues of *trust* in online/offline community.

With the *channel* dependent differences in views about the desired nature of *VINs*, also expressed in terms of diversity and preferred attribute of social circle, and their perceived actual distribution in online/offline community, there are opportunities for policy formulation to support community development. An approach might be to decide if *channel* alignment by *capability* might be beneficial, or whether *channel* difference is effective.

The survey can offer a view of the *roundedness* of the *VINs* (3.3.2.2) as experienced and this contributes to the *influence threshold* described in 4.3.2, *Influence capability*. I propose the theoretical point that *roundedness* operating in the *influence threshold* can give community resilience.

The *proximity* facet in the Survey demonstrates through the discussion and responses an approach to investigate online/offline community. The Survey findings are indicative and point to aspects about the nature of online/offline community that contextualise important questions.



### Survey/Twitter Study

The full findings of the Twitter interpretative metrics are set out in Appendix 6.2.

Hashtags are of importance in the analysis of *proximity* in online community. They represent *psychological proximity* and aspects of *trust* and show how these states can be actualised through *exchange*. The fact that 25% of the expressions used hashtags is tentatively indicative of trust levels and can be aligned with Q4.6, in which there is a view that online, trust in neighbours is not guaranteed. The hashtag cluster implicitly demonstrates online social gathering and the 25% of tweets with hashtags tentatively confirms that the volume of online *trust* expressions is not high. This alignment between Twitter metrics and a Survey question demonstrates how the Survey and Twitter Study can interleave to confirm findings.

The use of URLs is also tentatively indicative of the *diffusion* activity in the online/offline community: 47% of total tweets have a meaningful diffusion intent in the *settlement* i.e. the information is directed to named participants; and 76% of total tweets have URLs without mentions which indicates an intent to diffuse information more widely.

The classification of hashtags has the ratio 1:2:2. The ratio points tentatively to a *roundedness* of *VINs*, in that there are no outliers which predominate and there is a balance of elements. In the Survey, in Case Study 1, people agree that *VINs* provides a basis for social connections and are able to identify and rank their preferred *values*, *interests* and *needs*. In the Twitter Study, the *needs* hashtag ratio performance is equivalent to *interests*, suggesting that the online/offline community expresses *need in relatedness*, i.e. hashtags descriptive of place, as frequently as they express *interests*. The Survey and Twitter Study results align here again to demonstrate the potential of a twofold approach.

The reasonable degree of *actualised proximity*, in which people with shared *VINs* communicate and network with each other, is indicated in the Twitter Study. In Appendices, 5.6, 6.2 and the *exchange* facet that follows there are further pointers to this aspect of online/offline community.

### 6.3.4 Exchange

#### Survey

Q3.1 How many online or offline neighbours do you communicate meaningfully with each week?

These indicative results show the differences between the case studies. Case Study 1, on which the Twitter Study experiment was conducted, has less emphasis on online communications than Case Study 2.

*Q3.2 How many times a week do you communicate meaningfully with people online or offline?*

There is a significantly higher frequency online in Case Study 2 than Case Study 1, but a comparable weekly frequency offline.

*Q3.3 What percentage of your interaction with people in the online/offline community do you estimate involves looking for information from them or from the information resources they have created?*

There is a slight difference between the Case Studies. Case Study 1 with the lowest online interaction, acknowledged their need to use people as information resources online or offline. Their information need was higher than in the Case Study 2, where information resources could be provided online.

*Q3.4 How many times a week do you share information with people online or offline?*

With Case Study 1, where there is less exchange online and fewer online neighbours, there is also, unsurprisingly, less online information-sharing. In Case Study 2, again, the equilibrium in exchange is matched by the online/offline equivalence in information sharing.

*Q3.5 Do you prefer to share information indirectly or directly?*

There is no difference between the Case Studies, so no inferences can be made, e.g., about Case Study 2 having a particular preference for a direct or indirect information sharing approach because of its superior online engagement.

*Q3.6 How many times a week do you receive information online and offline?*

With information being received less frequently in Case Study 1, the use of the online channel becomes a significant factor. In Case Study 2 with more online engagement, there is more information received.

#### **6.3.4.1 Exchange discussion**

##### **Survey**

There have been some distinctions made between the Case Studies in the previous facets in regard to aspects of online/offline balance. The above findings indicate a difference between their respective online exchange volumes. The comparative findings up to now suggest that

*VIN*s are area dependent and channel differentiated. The online *exchange* findings integrate with the *VIN*s and channel differentiation view. People can hold different *VIN*s, in psychological *proximity*, online or offline, within a *settlement* and across *settlements*. With *exchange*, *VIN*s are expressed online and offline with varying effects which raises the question: does more online *exchange* in a community promote people's psychological connection across diverse *VIN*s, or does it narrow the scope of the *VIN*s?

With Case Study 1, the Twitter Study shows fruitful interaction, despite the study area being less active online than Case Study 2. Is there an effect from the online engagement to increase offline *exchange*? Or conversely, does the online/offline equilibrium in *exchange* in Case Study 2 result from a stepwise increase in online/offline aiming for balance? The question of the nature of the influence of online on offline behaviours is useful to address. Does it promote more offline or online communications? And would it give rise to more activities of information sharing?

The indications are that the more online engagement in a community, the more information is received. But it is hard to conclude from the tentative, indicative results whether more online *exchange* might have the effect of creating more or less offline *exchange* and information activity. But the questions begged are important ones to consider. The survey approach adopted does not yield substantial pointers to the nature of online/offline community because of the lack of participatory take-up in the Survey, but it does show how the phenomenon can be effectively investigated and interpreted.

### ***Survey/Twitter Study***

The Twitter Study findings are given in Appendix 6.2 where there are key quantitative elements with interpretation and discussion. The pertinent alignments between the metrics and the Survey by facet are discussed below.

The simple assessments that the Survey affords such as measuring the balance of online/offline, *settlement trust*, the volume of *exchange*, the degree of information sharing, the diversity of *VIN*s are intended to be matched, in a twofold method, with the Twitter Study's tentative *interpretative flexibility*.

The *trust capability* metrics are concerned with the *exchange* that grounds people who are connected in 'imagined community' (Anderson, 2006). The results show that there is a reasonable cohesion - 43% - in which people who share hashtags in a social way at the same

time meaningfully communicate with each other. This finding adds value to the Survey as it indicates meaningful online *exchange*.

The measurement of the *exchange* in the Twitter Study offers, in the use of social codes such as @mentions, #hashtags, URLs, wider interpretations than e.g. sentiment analysis that works only in a binary way on negative/positive keyword counting in tweet content. But the width of interpretation requires a tentative flexibility of view, hence the overlaps in the *capability* approach. The total number of tweets is 7347. With *interpretative flexibility*, in the *influence capability* (4.3.2), the tweet total is cast as 'Total influence expressions'; or in the *intelligence capability*, this represents 'Total knowledge expression'; and in the *information capability*, it is 'Total information'.

The tweet directed at people with a @mention is considered meaningful *exchange*. It is useful to know how much meaningful *exchange* out of all the tweet expressions happens in an online/offline community. The number of tweets with mentions is cast as *social interaction*. The total with mentions and URLs are known as *personal influence knowledge transfer* or *personal knowledge transfer*.

The *interpretative flexibility* of the *capabilities* is intended to support fluid measurement. Working out the code bearing percentages of the tweets - these fundamental communication expressions of *exchange*, carrying messages to each other or exclusive broadcast utterances to leverage *influence* or *diffuse* authoritative information, or to impart knowledge - has a usefulness that can add value to the Survey approach. For example, in Appendix 6.2, *Table 6.2.19*, under *personal influence knowledge transfer* (with mentions/URLs,) the discussion of the finding is:

*'47% of total tweets have a meaningful diffusion intent in the settlement i.e. the information is directed to named participants. This is a significant amount, indicating that social brokers often choose to directly disseminate information to each other. This is effective community behaviour as it keeps information circulating and it strengthens ties.'*

This metric result complements the Survey's findings that people in Case Study 1 prefer offline engagement with neighbours over online. It adds the observation that online there is also significant engagement.

With the direct and indirect question in the Survey (Q3.5) not offering a particular significance, there is the discursive observation of the *social interaction* metric in Appendix 6.2, Table 6.2.18:

*'Exchange forms part of the cohesion calculation. This total is the number of mentions in tweets. Out of 7347 tweets, 2067 tweets have at least one hashtag and 4912 tweets have at least one mention. Direct communications amount to more than double the number of tweets with hashtags. This suggests there is more interest in directly communicating than in implicitly communicating by sharing hashtags'.*

This tentative pointer adds value to the Survey findings to help build an indicative picture of the features of the communications culture in the online/offline community.

Here, I have touched on the key social codes in Twitter - @mentions and URLs - for the *exchange* facet, to align salient metrics with the Survey findings, to demonstrate the potential of the twofold method.

### 6.3.5 Net/latticework<sup>45</sup>

#### **Survey**

*Q4.1 What percentage of the conversations you have with people in your online or offline neighbourhood have led to friendships or acquaintanceships that you would regard as being a part of your network?*

In both Case Studies, the participants felt that friendships were more likely to be made offline through *exchange*. In Case Study 2 with more online exchange than Case Study 1 (Q3.1-3.1), the respondents still found that friendship generation happens offline more. But it is the case that in both studies, it was agreed that *exchange*, online or offline, led to network links or friendships.

*Q4.2 How long, on average, does it take before new offline members of your social network convert to online friends and vice versa?*

#### **Case Study 1**

The conversion from offline to online is considered by most to happen within a month, with two people saying a within a year. Online to offline occurs marginally more slowly, and in the

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<sup>45</sup> The concept was formulated after the Survey was designed and implemented.

case of four people, within a month. This is a significant response, indicating that conversion is considered to be effected both ways.

### **Case Study 2**

The results suggest that offline to online conversion happens more quickly than in Case Study 1, with three people saying it happens the moment the social link is made. Online to offline still happens but takes up to three months. It is similar to Case Study 1 in terms of speed of take-up.

*Q4.3. How many online/offline groups who are closely interconnected (i.e. share similar values and/or interests, and/or needs and/or demographic status) do you bridge between? Or in other words, how many online/offline circles of friends do you link up?*

In Case Study 2, there is significantly more circle linking with seven respondents linking from three to over eight; in Case Study 1, seven only linked from two-five circles. This could speculatively indicate a number of factors. It is possible that it is related to the greater use of online community with three respondents in Case Study 2 linking more than eight circles.

*Q4.4 If you have an account on Facebook how many friends do you have? If you have an account on Twitter estimate how many mutual followers you have? If you have neither Facebook or Twitter accounts ignore the question.*

Some results are missing and inconsistent so they are not recorded or analysed here.

*Q4.5 Which do you value most in online/offline community, the 'social capital' of Trust, the Data/Information resources or the capability of exerting Influence as a community? Please place in order of importance.*

### **Case Study 1**

|   | 1 <sup>st</sup> | 2 <sup>nd</sup> | 3 <sup>rd</sup> |
|---|-----------------|-----------------|-----------------|
| Trust/social capital providing reciprocity in business and social relationships | 4               | 2               | 1               |
| Data/Information resources for people to use in the community                   | 2               | 2               | 3               |
| Influence resources to persuade other networks and the wider community          | 1               | 3               | 3               |

The respondents in this offline tending community, value trust above Data/Information with Influence scoring least.

## Case Study 2

|   | 1st | 2nd | 3 <sup>rd</sup> |
|---|-----|-----|-----------------|
| Trust/social capital providing reciprocity in business and social relationships | 2   | 2   | 1               |
| Data/Information resources for people to use in the community                   | 3   | 2   | 1               |
| Influence resources to persuade other networks and the wider community          | 1   | 2   | 3               |

There is a preference for *information* with *trust* next and *influence* scoring lowest.

With Case Study 2, there is a preference for *information* and with Case Study 1 there is a valuing of *trust*. The question indicates that an online/offline community can prefer different *capabilities*. And across different communities there can be different priorities. Do communities that are significantly engaged online prefer *information* to *trust* as *capabilities*? Do those with a significant offline basis value *trust* over *information*? Why is *influence* not highly valued in both case studies?

Q4.6 How much do you trust your online or offline neighbours - e.g. sharing personal information, exchanging favours with them?

For the discussion of results see 6.2.2 *Settlement*.

Q4.7 Please add comments or observations on any differences you perceive in the expression of trust in online or offline modes.

## Case Study 1

- 'The differences are vast as some people pretend to be something they are not online whereas when I'm looking directly into someone's eyes I can generally tell if they are telling me the truth or not plus nothing beats old fashioned one on one human interaction.'
- 'The facelessness of social media is still a hurdle I find difficult to overcome. I enjoy using
- Twitter but I detest Facebook and I limit the personal information I share on both.'
- 'I do not use these communities as I have my family.'

## Case Study 2

- 'Obviously face to face communities are known to you and trust is the basis of the relationships. Not necessarily so on line.'
- 'Never trust a politician.'
- 'Trust more offline. Can see people's face. They are more accountable than online.'

In both Case Studies, the views favour offline for *trust*. Yet, in Case Study 2, there is an equivalent engagement online.

*Q4.8 How much online and offline influence do you feel you have with your neighbours or local organisations in decisions affecting the offline neighbourhood?*

In both case studies, the views are similar, agreeing that a reasonable amount of *influence* can be levied.

*Q4.9 Do you feel you have more influence online or offline?*

In both case studies, there were six votes for offline and one for online. So, there is the view that offline *influence* is leveraged more effectively.

*Q4.10 Are you more influenced by online or offline communications from people in online/offline community?*

In both case studies, five people voted for offline and two online, so there is agreement that influence is more effective offline than online.

*Q4.11 How much useful online and/or offline information/data is provided in the social networks you belong to?*

Again, there is agreement between the Case Studies with the non-surprising indicative view that online provides useful information in the online/offline community.

#### **6.2.5.1 Net/latticework discussion**

##### **Survey**

The overall implication is that the conversion from one channel to another indisputably happens. With the emphasis on offline exchange in *Q4.1* leading to friendship, the point is nonetheless made here that a conversion will occur in both directions.

The facet analysis ranges from structural questions about online/offline friend conversion and social circle linkage to the *capability* questions (with the exception of the *intelligence* capability that was added after the survey was formulated).

In Case Study 2, there is significantly more circle linking which could indicate that the greater use of online community deepens the *Cohesion* of the *decile fabric*. This has implications for policy-makers in regard to enabling *Cohesions* to evolve. With *trust* an issue in online



networking, in Q4.6-4.7, there would need to be a thoughtful approach used when growing online aspects of online/offline community.

In both case studies, in Q4.8-4.11, there is no huge need to leverage *influence*, and yet there is agreement that a reasonable amount can be implemented; and the views are that offline *influence* in online/offline community is more effective than online. In what kind of environment is online *influence* levied more successfully than offline? In Chapter 1, I discussed the distinction between *cyberplace* and *cybersphere*. With *cyberplace*, in online/offline community, the Survey respondents indicate that offline *influence* is more effective, even those in Case Study 2, that is more engaged online. With *cybersphere*, there are extensively reported 'filter bubble' influence effects. (3.3.2.2, *Roundedness*). Yet, the indications in the Survey in Q2.14 are that online diversity in *VINs* is valued. Is this a feature of online community situated in physical/*cyberplace*? The *channels* equilibrium is relevant in this facet as well as *exchange*.

### **Survey/Twitter Study**

The Twitter Study in Case Study 1 gives results that indicate there is a good quantity of social interaction between the social brokers. 67% of all tweets involve *exchange*. It also gives information about the *net/latticework* interconnectivity.

The Twitter-based *Cohesion* results are given in 6.4, *decile fabric Cohesions*. The salience of the *Cohesions*, is sourced in this facet, and underpins the *capability* infrastructures in the *decile fabric*. The *capability* results for the facet are in Appendix 6.2. In Appendix 4.3, there is the facet/*capability* alignment. The *general and specific Cohesions* in the online community considered in the Twitter Study show a 90:10 rule for *net/latticework* links in populations. In the Survey, social circle linkage is pointed to in Q4.3 and the conclusion is tentatively drawn that this indicates greater social linkage in online community.

## **6.3.6 Channels**

### **Survey**

Q5.1 *How many people in your social network use both online and offline channels in communicating with you?*

Case Study 2 with more online exchange has more online/offline connections, tentatively indicating that online friends bring about offline connections.

*Q5.3 How much do you prefer having friends with whom you communicate using both online and offline communication channels?*

**Case Study 1**

There was a significant confirmation of the desire to have online/offline friends.

**Case Study 2**

There was a similar endorsement for online/offline friendships.

Whether a community like Case Study 1 has less online exchange than Case Study 2, there is still an equivalent preference for online/offline friendships which suggests a trend towards equilibrium.

*Q5.3 Do you think it is easier to become online/offline friends if you are first online friends or first offline friends?*

**Case Study 1**

Overwhelmingly, all respondents considered it easier offline to online.

**Case Study 2**

The results were similar.

The inference from Q5.1 in the context of Case Study 2 having more online *exchange*, was that online friends led to offline. Here, the explicit view is that it is easier for offline friends to become online/offline.

*Q5.4 Please name any online social networks you use that seem as effective in communicating as the audio call or face to face channel.*

**Case Study 1**

It is significant that half the respondents regard online social media, i.e. Facebook and Twitter, as important as the conventional and institutional channels of audio and face to face.

**Case Study 2**

With the more online engaged community, there is a greater range of *meta-channels*, considered to have equivalence to audio and offline: WhatsApp, messaging, email, Google hangouts, Facetime.

The trend towards online/offline community is evident in the wider spectrum of *meta channels* considered equivalent to audio and offline. If online channels are becoming institutionalised, this indicates the norm of channels use is shifting to online/offline.

*Q5.5 Please rank the means of communication or channels you use to connect with your social networks in order of preference.*

#### **Case Study 1**

Video/audio call via the Internet and post are the least preferred *channels*. Online social media and face to face are the most preferred.

#### **Case Study 2**

Face-to-face stands out as most preferred. SMS is valued too. Post is least preferred. Significantly, there is no vote for online social media.

With the community that is less online engaged in Case Study 1, there is almost an equivalent preference for online social media and face-to-face. With Case Study 2, SMS is marginally preferred over the mobile phone audio, indicating that the mobile phone use is significant. It is significant that online social media is not preferred in Case Study 2.

*Q5.6 [Considering all the different channels in the preceding question], what is your use of online/offline channels in a day?*

#### **Case Study 1**

For three participants around a third of the day is spent using online channels and for three participants over half of the day is spent using them, part of which might involve online community activities. This indicates that the community with less online engagement, still uses the online channel significantly.

#### **Case Study 2**

Six of the participants use online channels for over half the day. This is substantial use which confirms the online engagement results above in 6.3.4 *Exchange*.

There is significant online channel use in both case studies. which provides a revealing context for the results analysed up to now which have had nuanced views on the preference for offline features in a number of aspects. But here it appears that online channels are used significantly by a majority of the survey's respondents.

### **6.2.6 Channels discussion**

#### **Survey**

Taking the implications of the results of Q5.1-5.3, there is an indication of a trend towards online/offline equilibrium. If offline friends find it easier to move towards online/offline friendships and these are desired, and if online friendships also bring about more online/offline connections, though this is implicit, then over time, communities will become online/offline.

However, there is an inconsistency with Case Study 2 in Q5.5 where online social media is not as valued as face-to-face.

With Q5.6, there is significant use of online channels, with six of the participants in Case Study 2 using online channels for over half the day. The significant daily use of online channels in both Case Studies raises the issue of online *settlement trust* covered in 6.3.2 *Settlement*. With Q1.4, do the people who have been a part of the online/offline community longest spend most time online or is it the newcomers? In relation to Q4.6, it appears that in this sample, despite the high trust for offline neighbours and the mixed trust for online neighbours, people spend over half their days using online channels.

### ***Survey/Twitter Study***

For the full results of the *capabilities*, see Appendix 6.2. The volume of tweets sent by the 21 *social brokers* in Case Study 1 over a six month period at 7347, was reasonable for a community that prefers offline *exchange*. Out of these, 2067 have at least one hashtag and 4912 have at least one mention. So, people significantly exchange with each other directly and indirectly, indicating a communicative online environment. This supports the responses in Q5.6 where the majority of social brokers in Case Study 1 use online channels between a third and half of the day.

An indicator of online channel use is the degree to which Twitter is used to support the online/offline community social entrepreneur or manager. They were mentioned in 8% of the total tweets, indicating a centrality to conversations that suggests an active and congregated online engagement. Of the total of retweets, 5% are those of the manager. This indicates that they have a significant influence, compared to other *social brokers*, e.g. 1% of RTs were those of @myddletonmarket; and 1% for @boundsgreenon.

## **6.3.7 Entrepreneur**

### ***Survey***

*Q6.1 How aware are you of the Bowes and Bounds Connected Manager's communication activities on their website, in local Twitter and/or local Facebook?*

Both online/offline communities respect the social entrepreneur and their work to support and develop communications.

*Q6.2 If you use Twitter, do you follow the Bowes and Bounds Connected Manager?*

In both case studies the Twitter users, except one in each, confirmed they follow the social entrepreneur.

*Q6.3 If you use Twitter, does the Bowes and Bounds Connected Manager follow you?*

In two cases in both Studies the respondents were not followed by the social entrepreneur.

*Q6.4 How much do you think the Bowes and Bounds Connected Manager ensures that offline and online activities benefit and build from each other in the online/offline community?*

#### **Case Study 1**

|                     |   |
|---------------------|---|
| A great deal        | 3 |
| A reasonable amount | 3 |
| Neutral             | 1 |
| Not much            | 0 |
| Not at all          | 1 |

#### **Case Study 2**

|                     |   |
|---------------------|---|
| A great deal        | 3 |
| A reasonable amount | 4 |
| Neutral             | 0 |
| Not much            | 0 |
| Not at all          | 0 |

It is clear that in Case Study 2, there is good support for the social entrepreneur. With Case Study 1, the support is significant too.

#### **6.2.7.1 Entrepreneur discussion**

##### **Survey**

The respondents follow and appreciate the communication activities of the social entrepreneurs, indicating that the role they play in the online/offline communities are acknowledged for their effectiveness.

##### **Survey/Twitter Study**

The results indicating the effectiveness of the social entrepreneur are given in Appendix 6.2.

The manager's communication role shows that they are effective Twitter users, articulate and original. They do not use the hashtag extensively. Overall, their tweet contribution is lower than the average social broker in the sample. But considering the Survey results, their presence and contribution to the Case Study 1 community is acknowledged, which suggests that their offline activities are noteworthy and effective.

## 6.4 Decile fabric cohesions

The main results given below have a different salience to the facets. They spring from and are contextualised by the two SPENCE facets: *proximity* and *net/latticework*.

The three *Cohesions* detailed in Chapter 4 use calculation approaches applied to the Twitter Study of Case Study 1. In the *proximity* facet, there are the *roundedness* (3.3.2.2) and *diversity* concepts which combine in *diverse cohesion*. *Specific cohesion* directly addresses the reciprocal links between network and lattice nodes. *General cohesion* is the conventional cohesion or density measurement in network science.

- a)** *General cohesion* is the reciprocal links between the nodes (whether net or lattice) divided by the population's possible reciprocal links.
- b)** *Diverse cohesion* is the degree to which the *general cohesion* has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked
- c)** *Specific cohesion* is the reciprocal links between net and lattice nodes divided by the population's possible reciprocal links.

### 6.4.1 General and specific cohesions

The suggested difference between net and latticework (detailed in Chapter 4) applies here with the *social brokers*. In Table 6.11, the *social brokers* that are considered to be institutional and so a part of latticework are indicated. There are 5 lattice and 16 net *brokers*.

**Table 6.11: Social brokers in net/latticework**

| <b>Social brokers</b> | <b>Net or Lattice</b> |
|-----------------------|-----------------------|
| Barnetlibraries       | Lattice               |
| Bgschoolpta           | Lattice               |
| Boundsgreenon         | Net                   |
| Bowesandbounds        | Net                   |
| Bowesparkchoir        | Net                   |
| enfield_fest          | Net                   |

|                     |         |
|---------------------|---------|
| Enfieldcouncil      | Lattice |
| Enfieldlibrary      | Lattice |
| Kabaretkaramel      | Net     |
| Killickstores       | Net     |
| Mpsbarnet           | Lattice |
| Myddletonmarket     | Net     |
| nl_sams             | Net     |
| Nrthlondonnews      | Net     |
| Pgtales             | Net     |
| woodgreenn22        | Net     |
| Rmlondon            | Net     |
| talkiesn13          | Net     |
| Thebowesparker      | Net     |
| Welovemyddletonroad | Net     |
| thesteptn22         | Net     |

**Table 6.12: Net/lattice work of social brokers**

|  |      |
|--|------|
| Social brokers                             | 21   |
| Total exchange edges                       | 120  |
| Total possible exchange links              | 400  |
| Total reciprocal links                     | 43   |
| Total possible reciprocal links            | 400  |
| Exchange links divided by reciprocal links | 2.93 |
| Total net to lattice exchange edges        | 21   |
| Total net to lattice reciprocal links      | 9    |
| Lattice nodes                              | 5    |
| Net nodes                                  | 16   |
| Total possible reciprocal links or         | 80   |

|   |  |
|---|--|
| exchange edges<br>between net and<br>mesh |  |
|---|--|

Table 6.12 has useful results bearing on *decile fabric Cohesions*, although the sample of 21 is a small proportion of the decile fabric and only serves to indicate how the calculations would apply. 120 exchange edges out of a possible of 400 gives a good quantity of interaction between the *social brokers*. There is a *general cohesion* of 43 out of 400, approximately 10% of the sample is reciprocally linked. In this small sample of the *decile fabric*, 20% of lattice and net nodes have the possibility of being reciprocally linked. Of this 20%, 9 out of 80, or approximately 10%, are actually linked in *specific cohesion*. This proportion is significant as it represents the informal to formal connections in an online/offline community through which resources flow in both directions.

#### 6.4.2 Diverse cohesion

Schelling's Model (1969) of residential segregation alerts us to the need for a cohesion to be balanced with diversity. There are two approaches to *diverse cohesion* in the Twitter Study:

##### 6.4.2.1 Course/fine groupings of hashtags

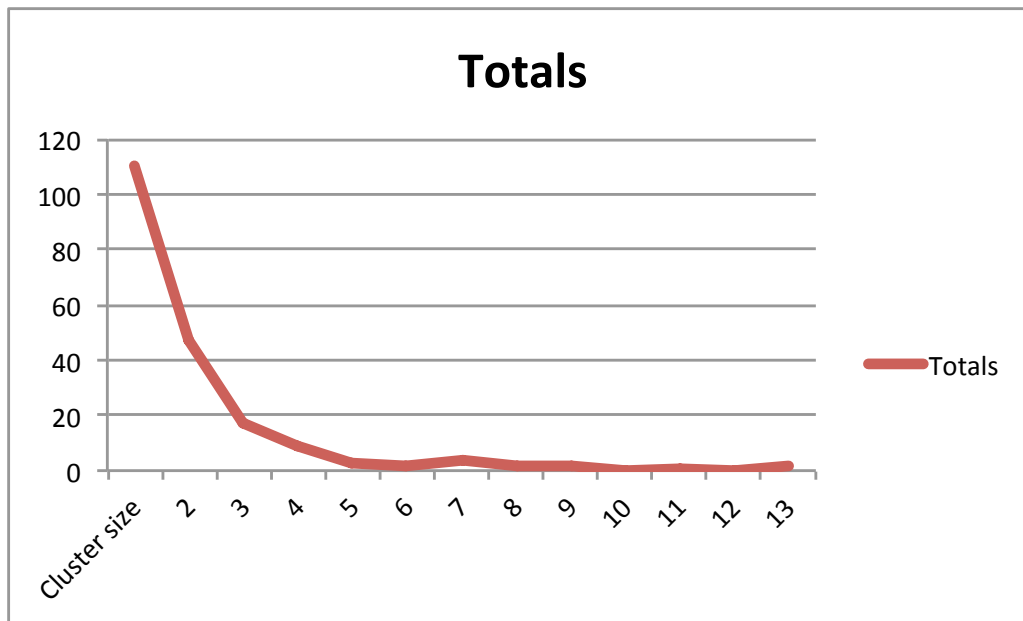
Diversity can be described in relation to the Twitter hashtag through the coarse-fine pattern of clusters:

- The relationship between the number of hashtag clusters (i.e. hashtags shared by two or more people) and their size determines the diversity metric
- If there is a fine pattern of many hashtag clusters in an online/offline community, this would indicate that there is a breadth of *VINs*.
- If there were a homophily of clusters, i.e. a coarse pattern in which there were large clusters that predominated, this would indicate a less diverse arrangement of *VINs*.

In generic terms, *diverse cohesion* is the degree to which the *general cohesion* has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked. With the fine/coarse pattern of attribute clusters, the hashtag serves as an attribute, e.g., *VINs*.

**Figure 6.16: Bowes and Bounds Green - general hashtag diversity**





In Figure 6.16, the results show:

Average frequency of low sized cluster  $<8 = 11.14$

Average frequency of high sized cluster  $>8 = 0.17$

There is a fine pattern of hashtag clusters, showing diversity, rather than several huge clusters, indicating homophily. So, the *diverse cohesion* is reasonable with large clusters not being as frequent as small clusters<sup>46</sup>. There is no significant homophily but instead a finer more diverse pattern of engagement, with moderately sized clusters of values/interests/needs. This aligns with the findings of the Survey in which preferences for diversity were expressed, although offline in Q2.15, this was not the case. The moderate fine/coarse pattern, also shows the degree to which there is brokerage or weak ties (Granovetter, 1983) across networks. The users that belong to a number of different hashtag groups, are ‘brokers’ (Burt, 2007) that link the groups. The results point to a reasonable amount of brokerage.

#### 6.4.2.2 Roundedness of VINs (3.3.2.2)

The other measurement of diversity is the ratio of classes of VINs: the VINs make up of an online/offline community. There are not equal numbers of hashtag classes. There is an overall proportionate variation which gives the *roundedness* of the VINs. In this case study, the ratio

<sup>46</sup> If there were 100 hashtag clusters, of which 10 were considered large in size, the coefficient of 10 would indicate a fine pattern of clusters and a high diversity score. A coefficient of 1 (e.g. 10 clusters/10 large clusters) would indicate a coarse pattern and a low score of diversity. A coefficient of 3 (e.g. 30 clusters/10 big clusters) would indicate a medium diversity score.

was: 45, 97, 96 or 1:2:2. or 20: 40: 40. The SPENCE theory in Chapter 3, proposes that a demonstrated *roundedness* in *VINs* might suggest a resilience and resistance to *influence* in online/offline community. If in these results, there had been a less balanced ratio with many more interests to *values* and *needs*, this might bear on overall resilience to or receptivity of *influence*. I am tentatively making the case that the *roundedness of VINs* metric, based on the variation in hashtag class, is a broad indicator of an online/offline community's likely response to internal or external *influence*.

**Table 6.13: Hashtag classification numbers by cluster size**

| Cluster size | A - Values | B - Interests | C - Needs |
|--------------|------------|---------------|-----------|
| 2            | 29         | 26            | 55        |
| 3            | 9          | 19            | 19        |
| 4            | 3          | 10            | 4         |
| 5            | 2          | 2             | 5         |
| 6            | 0          | 2             | 1         |
| 7            | 0          | 1             | 1         |
| 8            | 0          | 1             | 3         |
| 9            |            |               | 2         |
| 10           |            |               | 2         |
| 11           |            |               | 0         |
| 12           |            |               | 1         |
| 13           |            |               | 0         |
| 14           |            |               | 2         |

In the Survey, with *values* preferred to *interests* and *needs* online/offline as the basis for social link formation, the distinct *values* expressed in an online community, derived from the classification process of hashtags, is useful to gather to determine the predominant value classes at work in the *decile fabric*. With Q2.9, there is the strong view that *values* are more shared online than offline. With the hashtag classification, the hashtags expressing *values*' score was half that of *interests* and *needs*. This might indicate that the *values* that were shared, though complementary to *interests* and *needs*, are significantly representative in the community.

In the hashtag classification process, two passes were made in assigning the Schwartz value categories with the following results:

**Table 6.14: Hashtag values classification**

| Value        | Frequency |
|--------------|-----------|
| Benevolence  | 4         |
| Stimulation  | 7         |
| Universalism | 21        |
| Tradition    | 4         |
| Achievement  | 3         |
| Security     | 5         |
| Conformity   | 1         |

The top value of *universalism* supports the findings of Q2.10 where the respondents preferred it too. The *stimulation* value also scores highly here and in the Survey. In the Survey, the least preferred values in the Schwartz (2012) quadrant of *conservation* have more weight here. The values of *security* and *tradition* have more expression than the views suggested in the Survey.

The diversity of the pattern of group hashtags in terms of topic (see Appendix 6.2, Table 6.2.23) and size accords with the Survey view that online, social circles are wider than offline.

#### **6.4.2.3 Actualised proximity (Appendix 5.6)**

This is a measure related to the three main *decile fabric Cohesions*. The *actualised proximity* in the *decile fabric* is 0.43. It may be possible to abstract it to apply in other online social networks as it concerns the measurement of *proximity* signals such as hashtags and exchange codes. The *proximity* signals located in groups and classified by *VINs* are divided by their related *exchange* signals. The *psychological proximity* number of implied ties is divided by *exchange* ties to arrive at the measure of *actualised* connection. In the Twitter Study, the hashtag with mentions shows the actualisation. With Case Study 1, the proportion of implied ties of trust over the directed ties of exchange is 0.43 or in other words 43% of the social broker sample hashtags, on average, are shared with mentions. This indicates that there is effective communication between the *social brokers* in exchanges denoting reasonable *actualised proximity*. If this coefficient were significantly lower, this would indicate that *social brokers* who shared the same hashtags were not directly communicating or linked with each other. A 'silent majority' or *proximity trust* effect of unactualised *psychological proximity* in an online/offline community would be noteworthy.

The total population of the area using Twitter with shared *V/Ns* and having conversations is difficult to calculate. The *settlement* population can have the total possible ties of 400. If the *actualised proximity* coefficient is used to multiple the total of ties, this gives 172 implied ties of people who are *psychologically proximate* and/or exchanging content in a *net/latticework*.

# Chapter 7 - Interviews

## 7.1 Introduction

The interviews with *social brokers* and policy makers, form an important part of the investigation into the nature of online/offline community and the context for policy-makers to bring about civic benefits.

The Focus Groups (described in Chapter 2, Appendix 2.2, Appendix 2.3), designed to evaluate the Model and metrics for online/offline community, also provide evidence that complement the interviews. Focus Group 1 adds to the enquiry in RQ1 and Focus Group 2, RQ2.

The process of analysing the interview and Focus Group discussions involved either applying the categories of the SPENCE Model or the *capabilities* framework to the transcripts. The interviews were then grouped under the most salient research question theme. With RQ1 and RQ2, the SPENCE facets are used to structure the results and with RQ3, it is the *capabilities*.

### ***Notes on the research themes***

#### *RQ1 What is the nature of online/offline community?*

The non-Pilot interviews were semi-structured by the facets of the emergent Model, from SPACE to SPENCE. The interviews differ in perspective when the motivation for community-building is commercial. There are two interviews (7.2.5, 7.2.6) with entrepreneurs who have designed platforms for profit.

#### *RQ2 How should we investigate online/offline community?*

The 'Community Life Survey' approach is discussed in the interview with the Cabinet Office policy-maker (7.2.8). It bears on the case study survey method, detailed in Chapters 2 and 5. There is complementary verbatim evidence from FG2 that involves an evaluation of SPENCE.

#### *RQ3 What are the policy implications for online/offline community **development**?*

The interviews with policy-makers from the 'Well Being Unit' in the 'Cabinet Office', (7.2.10) and the 'Good things foundation' (7.2.9) give data that covers a range of aspects of online/offline community development. Instead of the results being structured by SPENCE category at the first level, they are analysed by the four *capabilities* (Chapter 4) at the first

level and the SPENCE facets at the second level, under the *capability of intelligence*. This is because it is not an online/offline community that the interviewee has created but policy on online/offline community. So, their concern is about building *capabilities* in community, from the perspective of the *capability of intelligence*. The effectiveness of the *capabilities* as categories is demonstrated by using them to structure the analysis of the interviews.

## 7.2 Interviews

### RQ1 What is the nature of online/offline community?

#### 7.2.1 Street 'Lordship Park' online/offline community

##### **Notes:**

*The three interviewees discussed online/offline community initiatives in which they were active, based in the street unit of 'Lordship Park' and its environs, including 'Clissold Park' in Stoke Newington, in the London Borough of Hackney. Two identified as 'civic brokers' and the other as a 'community activist'. In the SPENCE definition, they are all social brokers.*

*I attended two 'Community Action Panels' (CAP) in 2014 organised by the Stoke Newington Police. They are held in local facilities at regular periods to discuss issues arising from community activity in a ward unit. The CAP I attended included the street - 'Lordship Park'. Minutes are taken of the meetings and distributed to an email list. I make references to the CAP below as complementary evidence.*

##### **Settlement**

The *settlement* is a street in Stoke Newington, with 300 households. It is in a conservation area because of the historical significance of the architecture.

The interviewee who identified themselves as a 'community activist' argued that community is formed from addressing problems in the *settlement*: 'if you wanted to get the community together, I mean I would concentrate on what the problems are in Lordship Park'. The activist cited the problem of street vibration due to traffic and badly maintained roads. The civic brokers were concerned about a local house, 'St Mary's Lodge', lack of trees lining the streets and street bumps. All of the *social brokers* wanted to address these problems.

The street community also faced the problem of prostitution, but because of the social difficulty of the issue, it was not addressed by informal community initiatives. There was a ward-based 'Community Action Panel', convened by the police, that met offline, with street representatives. The street problem of prostitution was addressed by this forum. My view, from interviews and

attending the CAP, was that the impacts of the problem, though formally acted on<sup>47</sup> and discussed at the CAP group do affect the street's informal structures of support. To what extent should the following evidence below be interpreted, in the light of this particular street problem? When I asked the civic brokers if prostitution was a 'blight' on the street as discussed at the CAP, they said: 'That is the main issue...that's probably why they were talking about it because they know that's the thing that everybody on the street is concerned about'. They suggested another street would have more potential for online/offline community.

The community activist felt that Stoke Newington had lost its identity. They argued that a local print magazine 'N16' had contributed to identity and when it stopped publication, a spirit had been lost. He argued that property developer strategy to build flats from houses added to the sense of loss.

The view held by all of the *social brokers* was that online/offline communities founded with purpose, addressing particular problems, act as a catalyst for social connectivity.

### **Proximity**

There is a mixed diversity with no street cohesion: 'Not cohesive our street, socially. And that is not a criticism, it is just extraordinarily diverse'. A 'desirable' local street 'Allison Road' is cited as having street parties, demonstrating cohesion. But the civic brokers preferred the diversity and considered it was 'sociable...pulling together when they need to'. In the civic broker view the street sociability is a given: 'I know most of the people on my street to nod to and smile at and I've never lived anywhere, where that's been the case'. They distinguished the purpose-focused group from loose social cohesion. With the former they felt well-served by '...several demand groups available to the street'. They supported the reality of 'lots of different inter-weaving networks'.

'Lordship Park' has varying economic status, e.g., hostel residents, wealthy and poor people, young and old, a Jewish community, students, professionals. The Jewish community are 'a very cohesive group to themselves'; and also, they offer street security via their neighbourhood watch service - 'Shomrim' - that attends the CAP.

There is a significant group of middleclass professionals who have created the 'Lordship Locals' group as an alternative 'Residents Association'. It is an email conversation group and

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<sup>47</sup> A police van-based surveillance and support operation was set up to overtly monitor the extent of the problem.

meets socially in the local pub. They are content about their homophily, not wanting a more formal and representative street voice or membership.

### **Exchange**

The street *exchange* as reported by the civic brokers and community activist is not diverse socially. The different social groups within the street tend to keep to themselves. The 'Lordship Locals' do actively converse online during the week and offline at monthly meetings. Younger incoming residents are apparently less sociable than the 'Lordship Locals' members.

At the CAP group, there was significant discussion and interaction, but they were not well attended. The formal CAP network was not interwoven with other networks, due to police communication protocols.

The civic brokers considered that if a unified online/offline community were created to address social and activism needs, offline street meetings would not be as viable to begin with as developing the online community.

### **Net/latticework**

The *net/latticework* engagement between informal and formal community assets occurs in regard to the 'Clissold Park User Group' relationship with the council. One of the civic brokers was the manager of the park's online/offline community. The community had strong links and interaction with the council, feeding back the park user views expressed at offline meetings and through email, Facebook and Twitter. The conversations and views influenced formal resource allocation decisions. The park was awarded £9 million by the council to fund the refurbishment of the café. But it led to a reduction in the diversity of park café use, according to the community activist and discussions in the 'Hackney Citizen' online community (see below). The total annual visitors to the park was reported by the civic broker (2014) to be 3 million, indicating the importance of the community asset to the local neighbourhood.

The community activist works in an informal advisory role for the council. In their view, the council moved from engagement with citizens in a simple inclusive non-party-political ward forum approach, attended by the mayor, to a more complex set of structures - neighbourhood forum and reconfigured ward forum. In their view this led to a division in support and reduction in citizen engagement.

From my own informal research activities, meeting an official from Hackney Council (see FG2 below), I appreciated that the council were actively working to create online/offline approaches



to ward forums to restore engagement, encouraging councillors to be more active in online/offline communications.

One of the civic brokers maintains an informal email list that focuses on property planning issues which involves formal connections with the council.

### **Channels**

There is a local online communications channel - community activist newsletter for the street, founded in 2006; and two online/offline communities - 'Lordship Locals', 'Clissold Park User Group'. The latter uses both a Facebook page and a Twitter 'handle'.

With the street newsletter, examples of information features include conservation matters, wildlife trust content, planning applications e.g. for cafés. With other online platforms, there is the website 'Stokey Local' which started on Facebook and also has a Twitter handle and email group. It was mainly focused on preventing the development of a supermarket. There is also the 'Hackney Cycling Campaign' with Yahoo group-based communications.

The 'Hackney Citizen' online community with a website, Facebook page, Twitter 'handle' and weekly print newsletter hosts lively debates and discussions, which touched on the Clissold Park café development.

Offline, there is the police convened CAP group meetings. And the social meetings of the 'Lordship Locals' and the 'Clissold Park User Group'

### **Entrepreneur**

The 'Lordship Locals' has about 15 households. Two of its members are civic brokers, involving themselves in community development, e.g., through school governorship, online/offline community management. They regard themselves as civic brokers rather than community activists which they think suggests 'aggression'. Their focus for online/offline community was both social networking and purpose-driven, but they distinguished between them: '...there are different kinds of relationships you have in your life and I don't want to spend time with people I don't know particularly well, without a purpose. I am very happy to spend, you know the user group is great, I meet people and we are both focused and we do particular things and that's great'. The manager of the 'Clissold Park User Group' online/offline community, works with the council to support the processes of development, maintenance and upkeep. For example, in the procurement of caterers for the park café, the manager used their online/offline community's engagement and influence in the process. The council set

financial conditions for the procurement that required the café to yield a level of profit that determined the demographics for the café. The user group was able to support the council's conditions and it may have been the case that the non-diversity of the user group membership influenced this.

The community activist was content to describe themselves as this. They create a community information-based newsletter for the street and a website for wider Stoke Newington readership. They thought their role was not so strong as 'to keep the council honest', but to provide traction through representing local interests to ensure that council projects have the viewpoints and actions needed to ensure rounded community development. The activist has planning knowledge and experience and a concern for conservation which they would like to apply in a formal way supporting the council. They took part in local council elections.

### **Capabilities**

*Trust* is evidenced by the interleaving networks and the collective activism that supports projects being implemented, e.g., 'Clissold Park café'. The *influence* of the street brokers and citizens is shown in their CAP activities and the park developments. *Information* activities are rich with the different social brokers using newsletters, websites, Facebook and Twitter to disseminate content to residents of the street. If the social brokers were to collaborate more across their projects the *intelligence* capability of the street would increase.

### **7.2.2 Hackney online community - 'Fuck yeah! Hackney'**

#### **Notes:**

*The online community ceased to operate a year or so after the interview with the founder/manager was conducted.*

#### **Settlement**

The London Borough of Hackney is the area covered, with a local core near to the home of the entrepreneur in Clapton, but spreading outwards to the borough.

The community is online and was formed from Twitter and Tumblr in 2011. The Twitter part of the *settlement* had 15,000 followers. It was more popular and engaged than the website which had 3000 users. The entrepreneur considered Twitter had changed as an environment when it became more popular, between 2011-2014: 'it was a bit of a different place then [in 2011], it was a bit smaller and in itself a bit more of a trusting community, but as it's grown it's changed

a fair bit.’ The number of Twitter ‘handles’ forming the online community increased in the three years.

The entrepreneur attributed the strong interest in local history and planning shown in tweets and website conversations to ‘the strong links to...emotional attachment to an area’. In the past, the *settlement* included artists as residents and was known for its working-class culture, political radicalism and industry.

The design of the interface of the website - the virtual *settlement* - encouraged people to form groups, and served *proximity* effects. But it was reconfigured to make content management easier, as it had resulted in content duplication. The *settlement* was also redesigned to make engagement more attractive.

### **Proximity**

The demographic was middleclass, although the name of the website and Twitter ‘handle’ ‘Fuck yeah! Hackney’ suggests a younger demographic. The actual users were long-time residents, aged between 50 and 60 who were interested in talking about local history.

The area is known for artists who moved in when the accommodation was cheap. There is now a movement towards gentrification (as elsewhere in London) with new shops opening up. This has changed the demographic.

### **Exchange**

The entrepreneur’s view of *exchange* was emphatic: ‘...there’s no point in moaning on the internet, it doesn’t do anything, there’s much more point in getting together and making something positive out of it’.

The conversations were not politically directed and there was no advocacy role: ‘So the site is neutral, I don’t do any campaigning on the site and I don’t use the Twitter account for anything like that’. The Twitter and website discussions were interlinked, with Twitter driving conversations to the website.

The nationwide riots of 2011 provoked a need for local information and the website and Twitter run by the entrepreneur provided helpful ‘calming’ updates during a difficult time in London. Before the riots and after, the *exchange* was positive in sentiment and had a ranging focus, e.g., planning applications, leisure, entertainment activities and local history. There was rarely a need for moderation: only moderate conflicts occurred infrequently.

One happened when the website was being redesigned. The logo upgrade was found to suggest insensitivity to racism concerns. A criticism was expressed on the website but later a retraction was made and the logo was revised.

### **Net/latticework**

The informal online community had links to the formal council over the topic of planning, which the online community discussed and shared information about.

During the 2011 London riots, the informal communications provided by the online community bridged a gap when formal information was not available. The website did not link with formal organisations such as the police.

There were links to businesses in the form of advertising: 'There's quite subtle advertising on it, and it's very much only about local businesses'; 'I don't charge much, it's only to pay for hosting'.

There was an informal support group for the website in which people were sometimes asked to post an event or content into the forum.

### **Channels**

The community was online in the form of a website, Twitter and Tumblr. Offline meetings were not organised directly by the entrepreneur. The website started from a meetup. The Twitter part of the online community was used more than the website. The website, developed by the entrepreneur, used a social media platform software plugin BuddyPress with a WordPress content management system (CMS) and template.

A complementary local online information service noted by the entrepreneur is newspaper-based 'Hackney Citizen' (see above).

### **Entrepreneur**

The entrepreneur created a site that was self-moderating. There was a deliberate emphasis on the positive aspects of community living. They had a particular interest in planning: 'I'm really particularly interested in planning that's very close to me because it affects me so directly'. There were ideas to develop the community but the project was voluntary and conducted in the margins of time available to a fulltime professional so its future depended on basic resourcing, through site advertising of local businesses. It was not intended as a profit-

making project. The neutrality and non-profit motivation of the entrepreneur was attributed to their civil servant profession.

### **Capabilities**

*Trust* is shown in the involved exchanges on local history and planning information. The service was trusted during the 2011 riots for neutrality and accuracy of *information*. The *intelligence* capability is demonstrated by collective interpretation of information, e.g. during the riots. The *influence* of the entrepreneur is exerted in the positivity of the tweets and conversations.

### **7.2.3 West Hampstead online/offline community - 'West Hampstead Life'**

#### **Notes:**

*'West Hampstead Life' website and the Twitter 'handle' @Whamp were discontinued April 2<sup>nd</sup>, 2018 and 30<sup>th</sup> April 2019, respectively.*

#### **Settlement**

The offline *settlement* was West Hampstead in London, with an approximate population of 33,000 centred on the shopping street 'West End Lane'. 'Kilburn High Road' and 'Finchley Road' were the borders.

The online/offline community began from the rapid assemblage in four months of a Twitter following and community from April 2009: '...it was a success in terms of engagement very early on'. The entrepreneur's need for socialising was the driver for the community: '...I just enjoyed it, it was fun. I mean I got to interact both on and offline with some very nice people'. The social motivation was clearly shared in the area as it took only seven months before the critical mass needed for an offline meetup was reached and a meeting, attended by 16 people, was held in a local pub. The entrepreneur characterises the growth as in keeping in step with Twitter becoming 'less niche'.

The online *settlement*, the website 'West Hampstead Life', grew from the Twitter community. The two services were intended to complement each other. With the website there was a commercial motive to attract local advertising to fund the site. The entrepreneur appreciated the need for local information: '...there was a demand for you know proper local news....so I started the website quite quickly actually as a blogger'.

Many offline events were organised, often weekly: 'So the offline part of it has become a huge element, it's a major strand of what I've been doing'. The tickets were made available through Eventbrite. At some events there were 200 attendees, from the younger demographic.

The entrepreneur was aware of the significance of the Twitter-based settlement of the online/offline community: 'Yes, as far as I know it is still the only 'hyperlocal' that is so Twitter driven...'. They considered that the traditional components of a 'hyperlocal' were 'a kind of reasonably good website and also some offline interaction'. They consciously drove the Twitter activity because of its effectiveness with the demographic. On a busy day they could tweet, including retweets and replies, 30-40 times, and on a quiet day around five times.

### **Proximity**

The demographic was 'youngish, educated people' with shared interests and shared use of Twitter. The entrepreneur predicted and used the demography of Twitter: 'I figured that there was reasonable chance that people would be on Twitter or if Twitter was to grow maybe it was a kind of area that people would be on.'

They considered that values were diverse, except for the value of *universalism*, which the community shared.

### **Exchange**

The 11,000 (2015) strong Twitter base following the entrepreneur was effective for *exchange*. The entrepreneur preferred Twitter to the website because answers are more rapidly responded to and people engage in dialogues: 'You feel you can have a conversation', rather than expressing opinions one-way in the comments on websites. The entrepreneur appreciates the sophistication of the Twitter users: 'There's certainly an engaged tranche of people in the West Hampstead community who definitely know which platform to use for which kind of thing'. In-joke code in the form of hashtags emerged, building psychological *proximity* around humorous events such as the common transport problem of taking the wrong train and ending up in St Albans and having to shuffle across the platform to take the train back – #StAlbansshuffle. The area became known, through the entrepreneur's coinage, as 'Whampstead'. This familiar name for the home territory is reflected in the hashtag #Whamp.

### **Net/latticework**

The entrepreneur acknowledged that their role was authoritative in the community and linked to formal organisations. They considered their online/offline community was a local institution. The entrepreneur advised that online and offline inevitably converge mutually: '...it works both

ways right. There are people who know each other offline who then become Twitter followers because they know each other offline’.

### **Channels**

The online community was formed of a website with forum, Twitter ‘handle’ and Facebook page. The offline community events, organised by the entrepreneur, used Eventbrite as a channel. They took place in pubs etc. With Twitter, there were 100-200 people who engaged almost every day. The website had around 20,000 views a month, 20,000 users a month, 50,000 odd page views and there was a newsletter with about 1800 subscribers weekly.

### **Entrepreneur**

The service was created by the entrepreneur for social reasons to make contacts and friends in the local area. They used a positive persona in exchanges to contribute to community identity and spirit, maintaining a journalistic neutrality when starting out which became more personal as the years progressed, e.g. in moderation of website comments. The entrepreneur used Twitter with a ‘succinct and articulate’ style. Although they considered Twitter to be more conducive for conversation than the comments feature on the website, they did develop support features for comments, using the package Disqus. The Facebook page was considerably less maintained due to the personal platform preferences of the entrepreneur.

### **Capabilities**

The twitter-based online community developed from the trusting, humourous conversational style people used. Online *trust* extended into frequent offline meetings. *Information* resources were provided by the website. Collective sociability - a central part of this online/offline community - had *influence* and *intelligence* capabilities but these did not manifest in advocacy, e.g., in civic campaigns.

## **7.2.4 Brixton online/offline community - ‘Urban 75’ (Focus Group 1)**

### **Notes:**

*Focus Group 1 was held in 2014.*

### **Settlement**

‘Urban75’ started as a political website, based in Brixton, South London. The forum had a basic discussion group interface or virtual *settlement* and grew organically to 50,000 members. The traffic totalled over of 14 million posts. It varied according to events and trends

in Brixton. The community manager considered that 'the importance of forums comes and goes'. They created a new online/offline community called 'Brixton Buzz', intended as a separate non-political entity, focused on the topic of the Brixton environment, to meet the demands of and counter disruption in the discussions. It aims for a magazine format, with e.g., photography, guest reviews, listings. The goal to create a non-political space did not succeed because of the extent of changes in the area, impacting on retail and housing, that provoked both traders and residents. The new website is very popular: 'it's actually become almost like a campaigning newspaper used to be back in the day'.

### **Proximity**

The shift in online user behaviour from feeding to 'grazing' has increased the use of likes and doubled the traffic but halved the number of contributors. The manager concludes that likes make a nominal contribution: '...it's a way of making people feel they've said something, even if they don't want to actually say something'. The likes also can prevent conflict in intense discussions. The manager considers the Facebook generation prefer likes to making political arguments that might result in an intimidating 'heavy' response.

### **Exchange**

The 'Urban 75' forum on the topic of Brixton has 275,000 posts. This forum and the 'Brixton Buzz' website work hand-in-hand. 'Urban 75' uses forum software called XenForo which deals more effectively with *exchange* traffic. The exchanges in 'Urban 75' are often personal and supportive: 'Some of the things I've seen there have been phenomenal. People will go round people's houses'. There is a forum 'Health and sexuality' that requires 50 posts before members can join: '...it's where people have found this safe space to really say things they couldn't say to others. That has been the driving force. That's why so many people keep coming back, because once they get in, Facebook can't replace it; it doesn't even come close...'

### **Net/latticework**

There are active campaigners that work with the site to address issues raised by the activities of Lambeth Council.

### **Channels**

The 'Brixton Buzz' community is a balance of online/offline with a sequence of offline benefits events organised. With 'Urban 75', the offline community element was created from the outset: '...there's a craft club, there's a cycling club, there's all these things that have spun out. Geographically, they're scattered all over the place'.



## Entrepreneur

The online/offline community manager felt a responsibility to shape the campaigning side of the 'Brixton Buzz' website to meet the needs of the community for effective representation. The manager actively promotes exchange in the forum. The 'Urban 75' website is expensive to run and depends on anonymous donations which afford no privileges.

### 7.2.5 Commercial online/offline community - 'Campfire Convention'

#### Notes:

*'Campfire Convention'<sup>48</sup> was launched in 2017.*

#### Settlement

The entrepreneur had successfully founded a web forum - 'the purple pages' - in the late 1990s, with thousands of users and 100 visitors a day. It provided the online community supporting annual music festivals branded as 'The Big Chill'. The festival started as a Sunday 'Chill Out' club in Islington's 'Union Chapel' and then went outdoors in the summer of 1995. The entrepreneur claims the club was ground breaking in its use of the web: 'I think we were the first club in the UK to actually have a website'.

The forum experience informed the approach for the 'Campfire Convention' which aimed to capitalise on the entrepreneur's realisation that 'incredible strengths could be gathered from the online community.' They felt that the forum '...became a sort of "go to place" for people to start their day and catch up with news'. The entrepreneur prioritised the potential of the online community over the temporary offline community of the festival.

So the 'Campfire Convention' is primarily an online community supported by cottage music events. With the emphasis on the online *settlement*, there is a pleasing design and aesthetic with graphics included in posts as a default. The *settlement* has features that invite collective participation, e.g. 'Projects' and a central e-magazine - 'The Bugle'.

#### Proximity

The demography of 'Campfire Convention' is people in their 30s interested in exchanging ideas and skills in the general arts, the field of creativity, and politics

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<sup>48</sup> <https://campfireconvention.uk>

There is no permanent geographical *proximity* between community participants. The *settlement* is online in *cyberplace* aligned with offline musical/discussion events. The vision of the entrepreneur is ‘...it’s straddling village and universal at the same time, I guess, or trying to’. Its aim seems to be ‘cybervillage’ emerging from *cybersphere*.

The design goals are concerned with ‘...bringing people together and sharing as well as finding common denominators...’ A homophily effect is achieved by asking each member to create a substantial profile in which particular interests from a taxonomy are selected which can be matched with others on the platform. The technical design of interest-based interconnective tagging between the different features of the website affords this sharing.

### **Exchange**

The conversations of ‘the purple pages’ in ‘The Big Chill’ online/offline community ranged from general arts and creativity to personal communications including advice, offering mutual support for issues, even serious problems. The *information* the discussions provided was of significant community benefit, e.g., at the time of 9/11 the entrepreneur felt that because community participants were drawing news from diverse sources the site performed ‘...as the most reliable, all round news source’.

The ‘Campfire Convention’ aims for the experience of ‘sitting around in a circle at a music festival’ but it is also designed to afford skills exchanges in the feature of ‘Projects’. This is a major part of the vision and the website requires induction into the use of services that are more tailored and advanced than in usual social media. The entrepreneur is keen to promote collaboration in interest areas, e.g., photography, where people share skills, talent and competence from an artisan or craftsperson’s perspective. The original idea was that offline meetups would align with online guild-like exchanges.

### **Net/latticework**

The commercial approach is social entrepreneurship recouping production and implementation costs through a monthly subscription model. Rewards schemes are envisaged i.e. ‘kudos share scheme’ that are intended to incentivise community building and skills exchange. The entrepreneur is not looking for formal partnerships: ‘...because I think that companies, individuals or organisations or initiatives which are the most worthy, will rise to the top through people talking about them, linking to them...’. They have the same negative view of advertising which they consider to be counterproductive, giving ‘an artificial boost’.

## **Channels**

The online/offline community of the 'The Big Chill' was seen as effective because it was well blended: 'a very self-sustaining eco-system which also met in real life. So, the balance of those two is really important'.

The website is designed to be different from Facebook which the entrepreneur considers is '...trying to be everything to everyone': 'Campfire is a bit more focused' and it is supportive of creativity with '...more of an air of talent in a particular place, a particular interest ...'.

In the future the 'Campfire Convention' will be designed for mobile so that it can be used in transit.

## **Entrepreneur**

The entrepreneur has an overt vision for the service which requires them to play a proactive role: 'Empowering people within the community, hoping you can provide a sense of direction and purpose and bring out their skills. Promoting a sense of "we" above "I", for the good of all. And as I say, honing individual skills as well'.

### **7.2.6 Commercial online/offline community - 'Streetlife'**

#### **Notes:**

*Streetlife was taken over by the US company Nextdoor in 2017, after the interview was conducted in 2016.*

## **Settlement**

Streetlife was a platform for online/offline community, built in local areas. With *settlement*, the entrepreneur concluded there is an optimum number of participants in a local community that is required before the community can develop: '...we've obviously learned that to have a thriving community you've got to have at least five hundred people'.

The platform's *raison d'être* was offline *settlement*: 'the fundamental piece about what we do is that a community is defined by its geography'. Although it does not preclude people joining secondary geographical communities, e.g., participated in by elderly parents. The concept of 'community of interest' that is not based on geography was not explicitly promoted.

Streetlife was contrasted with Nextdoor which the entrepreneur regards as a 'gated community' that puts barriers up to membership by requiring proof of residence. They consider this approach closes discussions down to concerns with the immediate vicinity which tend to focus on 'neighbourhood watch' activities and interests. They regard this approach as a consequence of the linear geographical system of US towns and cities - 'very strict defined perimeters' - which differs from the more irregular structures of the UK offline settlements which result in '...by definition a more open community'.

### **Proximity**

The entrepreneur considered that *geo-proximity* is the component for online/offline community to flourish: 'what we learned, from a very early, early stage is that, you know, having lots and lots of members in a community is of no relevance whatsoever. What matters is how physically close they are to one another'. So, his view was that if a large group has members that are situated close to each other this is more of a basis for community than a larger group that is more wide spread geographically.

Diversity was an important ambition of the service: '...we're not restricting people into their own little, what tend to be homogenous communities'. The entrepreneur claimed that the platform supported community that was diverse regardless of economic demographic.

How the platform afforded *psychological proximity* and demographic diversity was by topic categories, guiding discussions. These topic categories united people with different interests, values and needs in conversations on the defined topic. So, the platform addressed diversity explicitly in its design.

### **Exchange**

It is community 'involvement' that is the key to effectiveness, according to the entrepreneur and happens through *exchange* in geo-proximity: 'And involvement can mean, you know, asking a question, giving something away... and... obviously the secret to success is that they actually get a response'. *Exchange* in geo-proximity offers the assurance that 'activity' can happen because people are capable of 'activity' when they are near each other: 'they want to see the activity going on'. My case studies (Chapter 6) demonstrate the kinds of neighbourhood activity that is generated from online/offline community. The entrepreneur considers that it is the level of activity with *geo-proximity* that determines effective community.

The platform guided the topics of conversations but on the platform 'people talk about many, many different things'.

The analysis software 'Lookup' enabled the close study of exchange by topic and the entrepreneur stated that all conversations on the platform were analysed.

### **Net/latticework**

The company developed a data management system that held data on UK communities that gave pointers as to where the Streetlife service could be most effectively targeted. The marketing initiatives in local areas were driven by the data from this system.

There was no 'community leader' strategy as it was considered that the community-building calibre of volunteers would vary from extremes of good to counter-productive. In the latter case, leaders could monopolise by having a coterie and dominating the exchanges.

The entrepreneur was aware of the usefulness of Twitter and Facebook in alerting people and driving traffic to Streetlife. The platforms are not directly congregated by a local community champion as with the Case Studies (Chapter 6) but the ecosystem exists in which there is synergy and overlaps between online social network platforms.

### **Channels**

Online/offline community was assumed on the Streetlife platform through the affordance of *exchange* in *geo-proximity*. It was not explicitly pushed as in the Case Studies' online/offline communities. It arose organically from the conversations people had with each other online and their keen desire to '...meet other like-minded individuals in the area' offline: 'they're very, very keen on taking it offline'. The entrepreneur said it was in the 5-year plan to facilitate blended experiences: '...it might be in six or nine months, we will improve the functionality of the site to allow people to create offline, meeting spaces and meet ups'.

### **Entrepreneur**

The entrepreneur has ownership of a chain of coffee shops and was interested in the potential of offline community-making in the spaces of cafes following the theory of Oldenburg's (1989) 'great good place'.

Their motivation with Streetlife was financial: '...the idea is overtly commercial'. This affected the content on the community with the placement of advertorial conversations from local companies. These were well-received according to the entrepreneur.

## RQ2 How should we investigate online/offline community?

### 7.2.7 Focus Group 2 review of SPENCE

#### **Notes:**

*Focus Group 2 was held in 2014. There were six participants, from local government, IT software development and a social care software start-up.*

FG2 built on the findings of the first Focus Group. It had a number of key purposes in the research design: to test the robustness of SPENCE and the context and accuracy of its metrics and to gauge if the Model could be applied with an IT Systems methodology - 'Agile' - to formulate user requirements for online/offline community. The critical review by Focus Group participants of applying SPENCE to user requirements revealed the following points (that are not organised by SPENCE facet or the capabilities):

- The SPENCE Model applies to the blend of online and offline community but is generic and does not detail particular examples: 'There's not much detail is there about all the different forms of online and offline...'
- The concept of online/offline being blended is a difficult concept for people to grasp.
- There appears to be an assumption that online generates offline community within the Model.
- It usefully provides a framework and 'a common language'.
- The interconnectivity of the facets was clear but whether they were Venn diagram overlaps, interdependencies or had a grid-like interchangeability was not clear: 'I spent my time trying to imagine it all as a grid and having these different squares and each one of these facets being in a square and I was trying to visualise dropping them into bits of - didn't fit what they were in my mind they come up - well what you just said, drop them into different groups'.
- The individual facet view in isolation was less easy to understand than the 'lens of synthesis': 'It was difficult for me to try and think about a user role and a benefit in isolation just about this facet. It felt a bit artificial to me'.
- The a priori nature of a Model could counter the approach of the entrepreneur: 'Structure and a framework and a rationalisation prior to building anything whereas commercial thought requires exactly the opposite, you define your commercial goals, your aspirations....and then you build the framework'. But there were other views: 'For me it's a really useful way of breaking things down actually and some framework for

thinking about how - to think about all the different facets of communication, who needs to communicate and why and the sort of levels of how it builds'.

- The implicit goods in the Model, e.g., *diverse cohesion*, *net/latticework*, *decile fabric* and *roundedness*, were not clear enough: 'What are the financial outcomes, social benefit, you've got *settlement*, *proximity*, *exchange*, *network*, these are all the elements but none of those have any value unless there's an outcome that's positive whether it's commercial or social...'
- The usefulness of joining offline with online in formal local council structures was identified: 'It's helped me to think about - in terms of the online communities ward forums. My plan originally was just to access existing ones that are out there. But it makes me sort of feel that maybe the ward forums themselves could think about building up an online community for those people that don't have the time or the ability to access meetings but would still like to engage about what's being discussed about their community'.
- The opportunity to compare and contrast different online/offline communities was suggested: 'But I also think the Model could be useful for measuring and comparing one against the - because I mean aware of comparing your community against our community and those factors would be really useful in doing that'.

## **7.2.8 Policy-maker from the Cabinet Office - 'Community Life Survey'**

### **Notes:**

*The interview was conducted in 2016 with a policy-maker from the 'Analysis and Insight Team', in the Cabinet Office, responsible for the 'Community Life Survey'. The survey was created in 2002 and has been administered by three different Government Departments: 'Ministry of Housing, Communities and Local Government', 'Cabinet Office' and, in 2019, it was the remit of DCMS.*

### **Trust**

Volunteering has been a key measurement principle of the 'Community Life Survey' since the 'Big Society' Government initiative started in 2010. The policy-maker considered 'community cohesion' to be a priority but the correlation between volunteering and cohesion is still to be discovered: '...are the communities that have the highest level of volunteering also the communities that feel they are more cohesive?'.

The definition of 'neighbour' in the 'survey' draws from 'the feeling of sense of community rather than your friends and family that live close-by'. The meaning is 'friends with strangers' in informal interaction. Weak ties (Granovetter, 1973) are considered important by the policy-maker: '...that's actually a really important part of the policy, that they're really key and know how those ties affect the community and how the community works'. The policy-maker was concerned with social interaction styles but any new indicator of *informal* social interaction would need to align with the existing questions asked about neighbour interaction so there is longitudinal consistency.

### **Influence**

When the 'survey' was titled the 'Citizenship Survey' '...it was a lot broader...they also had things looking at religion in communities and social mixing and they even had a section on extremism'. With the move to the 'Cabinet Office' the 'Big Society' agenda became the focus which was '...more about how we're pulling together to volunteer, help our communities'. The priority was '...more action within community' and this was contrasted with 'the wider reaching of integration in community' that had been the previous agenda.

The 'Office of National Statistics' chaired a 'Social Capital Steering Group', with members from different areas across all Government departments. It formulated theory in the area of social capital. It was looking at how to measure social capital as a complex and broad entity. The group boiled the measurements into 'specific pockets' which the 'Community Life Survey' played into. The final interview (7.2.10) was conducted with the policy-maker, also from the 'Cabinet Office', with a 'well-being' focus, who had framed four measures of social capital. The Steering Group also produced data on the geographical mapping of social capital. It had done work in volunteering rates by region, welcomed by the policy-maker. Policy areas in general were keen to have data by geographic region. The community activity of 'social action' in the 'survey' is classed as 'going to a town hall meeting to discuss' but an interpretation of 'social action' online, e.g., being provoked by an email to contribute to online discussion, was acknowledged as important too and relevant in the consideration of future adjustments to the 'survey'. The policy-maker agreed that the 'survey' needed to upgrade its questions on online aspects of community.



## Information

The process of gathering the 'survey' data was considered to be of significance in keeping with trends towards online communication use and the Government's 'Digital by default' policy<sup>49</sup>. Online survey delivery was being piloted at the time of the interview, having been in development for three years (Cabinet Office, 2015b).

The policy-maker acknowledged that there had been changes in the way people communicate in their communities and considered new questions to cover this: '...do you speak to your neighbours online; do you text them, do you speak to them face to face?' But the view of the updates needed to the 'survey' is cautious: 'so, we think there has been a shift and there needs to be a bit more of that definition'.

There was an acknowledgement of the need to consider 'what should we be changing regarding question content, if we are to move online'. But the longitudinal strength of the data collected offline presented a 'major' issue. The policy-maker was concerned that the shift from offline to online delivery mode would be too big: '...it probably would stop the time series. You wouldn't be able to make direct comparisons back to the face to face'. In 2019, the online method is used exclusively. One of the reasons for the online delivery was to make the survey '...more approachable, real life...'.

A review took place which addressed the survey's sample-size, its diversity of demographic and its content. The policy-maker accepted that it might be possible to ask citizens about the kinds of questions they would find useful; 'We want the survey to be as applicable as it possibly can be and most useful and most effective and if we're asking questions that maybe don't sit right with people or they thought there would be more value in us asking further questions, then, you know, that definitely might be an option'. The formal intended meaning of the 'survey' questions was also important: '...it's key for us to make sure we're getting the right information and making sure that the participant understands what we're trying to gather from them, and not just their interpretation of the question'.

With a larger sample size to give more demographically differentiated analysis, more investment is required. At the time of interview the sample size was 2500 but the goal was to achieve 8000.

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<sup>49</sup> <https://www.gov.uk/government/news/launch-of-gov-uk-a-key-milestone-in-making-public-service-delivery-digital-by-default>

The Government *information* demands are intended to be wider ‘...making it more accessible and more usable across government and external stakeholders’. A key user of the data is the ‘National Charity Voluntary Organisation’.

### **Intelligence**

The outward-facing *intelligence* process around the ‘survey’ was: 1) bulletin of main findings; 2) Ad hoc consultancy on findings to Government departments and other non-governmental organisations.

The policy teams that draw from the ‘survey’ data were concerned with increasing volunteering and social action, civic engagement, and youth social action, and social investment funding team.

The *intelligence* in the online delivery of the ‘survey’ was key to ensure that participants understood the questions. For example, volunteering, a key focus of the ‘survey’, was concerned with formal action not informal, i.e. organising a pub quiz. There was no continuum of performance in volunteering, from informal to formal, the categories were distinct.

The Government policy agenda ‘Big Society’ still informed the ‘survey’ (at time of interview) but there was less emphasis than in previous years. Each year brings new areas of policy which the ‘survey’ team are responsive to that shift the focus of the content incrementally. As the policy-maker commented: ‘volunteering seems to be the main thing people refer to when they talk about the survey, from what I’ve gathered, in the six months I’ve been here’.

## **RQ3 What are the policy implications for online/offline community development?**

### **7.2.9 Representative from ‘Good Things Foundation’**

#### **Note:**

*The interview was conducted in 2016 when the organisation was called ‘The Tinder Trust’.*

### **Trust**

The policy-maker asserted that the Foundation channels support for online/offline community development at different levels using multiple routes. It shares an understanding with a network of trusted community resources which it deploys to provide support: ‘We have our UK

Online Centres network, which is our community partners, so, that's five thousand...delivery partners and they range from everything from community groups with a particular very focused interest to library network groups to education providers'. The community resources constitute and develop the *trust* capability.

The policy-maker does not consider the ten million people who are offline (data collected in 2016) '...would recognise or identify themselves as a cohesive community, because they all have different reasons or motivations or barriers why they're offline'. The offline are in different 'sub-unities' aggregated by '...existing societal, personal skills barriers, educational barriers, motivational barriers'. So, the offline community is not bonded simply in a unified motivational distrust of online.

The policy-maker appreciates how to gain *trust* with offline community participants by respecting that people need to feel more in control in their interactions with local authority or national government services. They support the 'Reboot UK' initiative that tries to achieve '...change of practice in helping homeless people to get into a more stable independently managed housing situation or out of the crisis cycle'. *Trust* needs to be built e.g. with homeless people who '...won't see being online as the end benefits, it's kind of part of the journey to where they want to be'.

## **Influence**

The ways in which the organisation affects developments and achieves *influence* in community is through '...funding, support, training, marketing, comms, research and evaluation'. People are influenced by the organisation's resources to use digital approaches to participate in community activities and benefit from services through face-to-face support and the mobilisation of proxy use: 'UK Online Centres, people may have very long trusted relationships, both with peers or volunteers or even teachers or support workers, and they may act as a proxy'. The Foundation garners the *influence* of these proxies to embed digital skills in people for the long-term as a life-change, even if the requirement may be short-term in dealing with particular events. They deploy the change theory of 'trigger points' to build *influence capability* (4.3.2) in the face-to-face and proxy support offer. With peer approaches the *influence* disseminates.

There is an appreciation that support needs to be offered in a blended way 'hand in hand': '...there is that offline support to embed that change online'. They offer the example of the legacy of 'Universal Job Match' and 'Universal Credit' in which people required more help with

using online services. So, their goal is to use 'cyclical support between the on and offline' to achieve '...embedded behaviour change patterns through the blend of on and offline support'.

### **Information**

Sustainable peer support volunteer-based group approaches are used at the 'UK Online Centres' to share information in a supported 'learning journey' in which '...people may start hobbies or interest groups...around use of social media, what social media can do, online shopping or newspaper clubs...'. The *information* is shared and drawn from the projects so that the organisation is in tune with the developments to shape new approaches. The proxy supporters for people learning online use also give useful qualitative feedback that shapes new approaches.

Other initiatives they used to gather research and practitioner data to inform their community development strategy were in partnership with the 'Social Digital Research Symposium' and ONS. The organisation is evidence-driven, focused on finding out about why people are not online and 'what are the end benefits in terms of outcomes for individuals'. The different data capture methods are integrated, within an explicitly multi-method emphasis.

In online community, *information* is easily diffused and debates occur in the 'public sphere' (Habermas, 1989) but the policy-maker has the concern that online conversations can be too easily dominated, affecting people in vulnerable situations: '...the people who aren't able to participate are often people who are affected from multiple angles by public policy that they don't have the access or motivational skills to be an equal participant'. So, the challenge in online/offline communities is '...to create a more empowered debate for all involved'.

### **Intelligence**

The aim of the Foundation is to support the development of digital skills that enable effective participation in community through financial literacy or self-management of health. The means for this is 'building social networks and...supported learning and peer support' that will sustain online skills building the *intelligence* capability.

The organisation supports projects that involve people in online health services for the NHS. It requires and exercises more than *information* and *influence* capabilities in the community as: 'it's very much about people having more control and understanding, both over their personal health conditions and also making more informed choices about what is right in health service groups'. It is the *intelligence* capability that would be operational for people in the decision-making in online health.

The *intelligence* challenge for the organisation in partnership, with e.g., NHS, is to implement solutions that address the ‘...cultural embedding and understanding where the appropriate use comes in’.

### **Settlement**

The policy-maker supported the idea of subsidies for wifi and broadband for social housing - ‘I think it is a right and by denying that to people you are disempowering them by default’ - so *settlement* is instrumented with digital channels.

### **Proximity**

The organisation has a strategy for using proxies which involves inducting people into employing the skills of people in their proximity, e.g., family, peers, and learning approaches from them ‘on the job’.

### **Exchange**

There is an area of policy on making people aware of how they contribute to online community forums, e.g., deciding on their roles, visibility and vocal participation, given the issues of internet safety and the sharing of private information that could be misused.

### **Net/latticework**

There is much linking of networks with *latticeworks*, i.e. informal groups with formal. For example, the organisation links their ‘UK Online Centre’ organisations with local and national government, ‘Innovate UK’ and ‘Reboot UK’ (working in partnership with ‘My Homeless Link’) and this fabric of association engages with informal networks of people in need of learning online skills or with start-ups needing support resources.

### **Channels**

In building online/offline community the focus is on the blend in approach and in outcome: ‘I think it’s very important, the join between online and offline support’. The intersection between the online community hub of the ‘UK Online Centre’ and the offline community around - ‘what’s happening on the ground, locally, around them’ - is a key goal. The organisation aims to provide ‘a package of support and tools that can sit there and be used independently online but also embedded and built into offline activities and suggest where that offline support dovetails into the online’.

### 7.2.10 Policy-maker from the 'Cabinet Office' - 'Well-being Unit'

#### **Notes:**

*The interview was conducted in 2016 with a policy-maker from the 'Well-being Unit' in the 'Cabinet Office'.*

#### **Trust**

Government work on well-being started in 2010. The national measure of well-being, formulated and supported by a unit within the 'Cabinet Office' working on the 'National Well-being Measurement Programme' depends on a definition of well-being that is broad and complex and which differs from a narrower mental health-based definition used in the NHS, which in the continuum of well-being, focuses on the illness side. The survey the NHS use is the 'General Health Questionnaire' to find out about clinical levels of depression and anxiety. The well-being agenda is concerned with 'the wider determinants of health', i.e., improving wellness and reducing the risk of illness, e.g., what affects our health around the environment and lifestyle factors. The policy driver gives examples of the key drivers of well-being: 'learning, social connectedness...physical health'.

The negative aspects of the Internet on well-being and social capital were pointed up by the policy-maker. There was concern over bullying of children: 'while playground bullying reduces from the ages of eleven to sixteen, online bullying increases. It's a different trend...' There was a view that online/offline community may have a double negative impact. The 'Health and Behaviours of School-Age Children Survey' measures both online bullying and offline bullying and well-being. There was also a concern for children's overuse of the Internet in terms of screen-time.

The policy-maker felt that there was a bias in favour of the positives of online/offline community: 'I think there's a tendency to think it's mostly good for people'. They cited an example where there was complexity: 'for older people, technology can be both isolating and it can also be connecting'. They considered that social technology could help with loneliness but '...you know, what's really important to tackle loneliness is face to face interaction as well'.

So, questions were raised about the respective benefits of online and face-to-face: 'but do they build social capital quite as much as face to face?'; 'do we really think that an online kind of relationship is as valuable?'.

The policy-maker confirmed that the social capital framework under development with ONS should include consideration of online community as complementary to offline in a balance and blend. The example of the Herne Hill Case Study elicited the agreement that online community can develop offline community. But the measuring of social capital needs to consider the differences between offline and online capital: 'it's not a given that if you've got masses of friends and connections...connectivity on Facebook, that this is somehow good for your social capital'.

The concept of 'sense of belonging to a community' is an important normative measure in the social capital framework and the policy-maker agreed that it could apply to online community.

### **Influence**

The policy-maker introduced the Sen (1993) understanding of the concept of *capability* and how from the well-being perspective a *capabilities* approach meant that: 'wellbeing isn't about government doing to people...or even just about creating the right conditions for people to thrive, it's also about giving people the skills'.

Government was interested in collecting data on the 'social impact' of a range of aspects which they define as 'non-monetary' impacts on society or individual's lives, e.g., well-being which '...is a way of capturing an awful lot of social impact because of the different dimensions of well-being'. Other non-monetary impacts include getting a job, 'improved self-esteem, confidence', social connectivity and feelings of worth etc.

### **Information**

The policy-maker was interested in the gathering of social media data, e.g., Twitter and Facebook for analytical measurement of factors and aspects related to well-being: 'this idea of using other social media type data sets to measure strength of community...is a great idea'. They had considered using local call volume as a measure for national social capital, e.g., 'what percentage of calls remain within the exchange area'?

There are issues of statistical significance with the 'Community Life Survey' due to its level of response being around 6000. If it gathered data annually at the local authority level over a 3 year period it could elicit 150,000 observations which could give effective neighbourhood measurement.

With 'Community First Initiatives', neighbourhoods with levels of deprivation were encouraged to create 'neighbourhood panels' to develop a 'neighbourhood plan' of the key issues and then

use the plan to bid for funds to tackle the issues. The volunteers responding to the initiative would set up websites but with varying success as many did not have sufficient digital skills. The website was not used as a basis for an online/offline community in this initiative.

## **Intelligence**

The policy-maker's national well-being remit and focus, involves contributing data to the 'national stock of social capital': '...our main national framework measuring social capital sits alongside our national measurement framework for wellbeing'. The social capital measurement framework is organised by ONS. The 'Community Life Survey' (7.2.8) has got questions designed to address social capital. The enquiry involves finding out '...is it going up and down and what do we need to replenish it?' The four main dimensions of social capital, with around 30 sub-measures across the dimensions, are:

- strength of relationships
- support networks e.g. how willing people are to step up and help each other
- engagement and participation e.g. how much people are getting engaged and participating in society
- trust e.g. how much people trust each other.

These national measurement programmes were '...looking at the prosperity of the nation, not just in economic terms but in environmental and other terms'. They constitute a 'national wealth accounting' approach, following the principles used by the World Bank. There are four measures of capital:

- human capital - 'skills and know-how'
- social capital - 'relationships between people'/'trusts and norms'
- natural capital - 'natural resources'
- production capital - 'GDP and output'.

The policy-maker asserted that '...you can value all of those in monetary terms...from an economic point of view'.

There was the understated Government intention to replenish capital as it is consumed to create sustainability of capital. The policy-maker cited the example of the community impact of factors which reduce social capital, producing less volunteering and less participation, e.g., very long work hours, taking from family life. So, an implied Government goal of the well-being programme is to consider how to ensure that communities are not weakened in these ways.



## Chapter 8 - Discussion

### 8.1 RQ1 What is the nature of online/offline community?

In Chapter 1, I asserted the importance of reflexivity in gauging the new post-Internet and Web nature of community. Wellman and Leighton (1979) used the value-judgment names of 'lost', 'saved' or 'liberated', when summarising different scholarly views of community. The 'liberated' argument encompasses communal ties flourishing, yet dispersed beyond the neighbourhood, no longer clustered in solidary communities. After the analysis of online/offline community it is less the 'liberated' encapsulation that offers a paradigm for effective community, but instead the view is closer to the 'saved' argument of neighbourhood solidarity. In the saved argument:

'neighbourhood communities remain as important sources of sociability, support and mediation with formal institutions'

(Wellman & Leighton, 1979, p.1).

#### 8.1.1 'Saved' community

With online/offline community, the relevance of the dispersed ties is their effect in bounded neighbourhood solidarity, producing *diverse cohesion*. Their wider effects outside of the *settlement* are less relevant to the performance of online/offline community. The relationship between informal *social brokers* and formal institutions shown in the Twitter Study sample in Bowes and Bounds Green is a significant aspect of online/offline community. Formal institutions, e.g., local councils, libraries, parks and the metropolitan police, now publicly engage online with informal *social brokers*, e.g., café owners, shop owners, community activists etc., and this contributes towards an online/offline integration of social fabric. The interdependence of the Heme Hill online/offline community manager with the 'Amenity and Civic Society' Chair in Case Study 2 (6.2.2) shows how community activities can interweave in online/offline channels. *Diverse cohesion* in the informal *network* combining with the formal *latticework* is a feature of online/offline communities.

#### 8.1.2 Resource view

The perspectives of modern community theory are discussed in Chapter 1. The resource approach was based on the measurement of social capital held in networks. Wellman and Berkowitz (1988) formulated a network analysis of community based on patterns of solidarity

and ramification that underpin the concept of social capital. According to Putnam (2000) and Bourdieu (1986) it is predicated on the social relation being of inherent value as a unit or atom, accumulating into congregated value, subject to multiplication effects. The social capital focus is sustained in research conducted by the Office of National Statistics (ONS). In the interview with the Cabinet Office's 'Community Life Survey' team leader (7.2.8), improvements to the 'Community Life Survey' (2014a) were planned to better incorporate the concept. But I propose that the concept of social capital has more applicability to offline community than online/offline.

With the SPENCE facet *net/latticework*, community assets are held in social networks and institutions. SPENCE measures the infrastructural resources of *trust*, *influence*, *information* and *intelligence* (see Chapter 4) that are embedded in the intersection of the graphs of *network* and *latticework*. The *decile fabric* is the 10% of an online/offline community that is most socially active and functional, bridging between circles, in *diverse cohesion*. The concept of *decile fabric* draws from the community assets-based approach (Kretzmann & McKnight, 1993; Mathie, 2003). The process of identifying it aligns with the part of the community development process that is the 'assets mapping exercise' that measures the

'productive relationships between the institutions and a wide range of other community groups and individuals'

(Kretzmann & McKnight, 1993, p.174).

Social capital in offline community is predicated on the social network. With social capital, benefits accrue, multiplying in accumulations. As Barabási identifies (2002), networks operate according to the 80/20 power rule. The *decile fabric*, operating in online/offline social brokerage through the value of *universalism*, engages with and advocates for formal resources to deliver effects to the whole community. The imperative driving the community assets-based development process is the building of relationships between formal institutions and neighbourhood social brokers to benefit the whole community.

I propose that as community institutions are frequently online, and accessible for interconnection, the perspective of the *decile fabric* that focuses on the building of informal/formal relationships has the precision required to describe online/offline community.

Putnam's classic definition of social capital:

‘those features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions’

(Putnam, 1993, p.35).

does apply to online/offline community but I argue that the ‘coordinated actions’ in the *decile fabric* of online/offline community are more likely to be between informal and formal entities and this sense is conveyed in SPENCE and not in the concept of social capital. So, when Putnam (2000, p.180) surmised that ‘the Internet will not automatically offset the decline of more conventional forms of social capital, but it has that potential’, the ‘conventional forms of social capital’ only pertain to offline community. The non-conventional forms of social connectivity across network and *latticework* are encompassed by the concept of *decile fabric*.

With institutions accessible online and community activists brokering online/offline relationships in an increased connectivity, I propose that the concept of social capital, predicated on ‘conventional forms’ needs reconfiguration to reflect and represent a new multiplex character. The ‘trust, norms and networks’ (Putnam, 1993) are reconstituted in SPENCE more precisely into the *capability* infrastructures of *trust*, *influence*, *information* and *intelligence*, embedded in *net/latticework*. The interdependent *capabilities* in themselves could be considered as an analytical means of expressing the ‘norms’ of online/offline community.

The theory also offers a measurement approach in the three *Cohesions* of the *decile fabric*. So, I put the case that the concept of *decile fabric* updates the concept of social capital and the concept of *capabilities* serves to enhance the understanding of ‘norms’.

In the Survey/Twitter Study discussion below the value of *universalism* is identified as important in community participation. *Universalism* is a brokering value that links diverse pockets of values, interests and needs. In the Twitter Study, I argue that community participants and *social brokers* use hashtags in a demonstration of *universalism*. *Social brokers* and community participants in the *decile fabric* uphold the value of *universalism* through their trust of others whatever their values, interests or needs (VINs) or demographic status. So, *universalism* (Schwartz, 2012), held by *social brokers*, facilitating diversity, could be considered an additional ‘norm’.

### 8.1.3 Sense of place and sense of community

In Chapter 1, I considered Tuan's (1979) account of place:

'...it has a history and meaning. Place incarnates the experiences and aspirations of a people; '...a reality that has to be clarified and understood from the perspectives of people who have given it meaning'

(Tuan, 1979, p. 387).

In community assets-based development, local places, e.g., parks, are regarded as institutions for alliance with *social brokers*:

'In many cultures, the park has been the centre of community life, the common space in which people find each other and build their lives together'

(Kretzmann & McKnight, 1993, p.175).

In the Twitter Study, there are many tweets that use general and particular place names in the hashtags that denote local institutions. For example, #welovemyddeltonroad is a volunteer run campaign to regenerate the high street of 'Myddelton Road'. The road is a 'common space in which people find each other'. The Twitter 'handle' gives meaning to the place as do the Twitter expressions that emanate from it, representing Tuan's understanding that 'place incarnates the experiences and aspirations of a people'. The Twitter 'handle' documents the 'incarnation' which gives an institutionalisation effect. The social entities with 'handles' in the Bowes and Bounds Green Case Study sample, e.g., the café 'The Step' and the shop 'Killickstores', have a nascent dimension of institution, combining the informal and formal. The Twitter 'handle' #welovemyddeltonroad, is designated informal network in the Table 6.11, *Social brokers in net/latticework*, but is in a process of formalising into a blended entity as it accrues support from other institutions, e.g., the local council.

I identified elements of the perspective of sense of community (SOC) in Chapter 1, elaborated by McMillan and Chavis (1986), that contribute to the understanding of change and continuity in community. SOC involves an amalgam of sub-concepts, e.g., membership, influence; integration and fulfilment of needs etc (McMillan & Chavis, 1986). I have aimed to configure SOC for online/offline community with the precision a model offers. For example, in the online/offline nascent place-institution of @welovemyddeltonroad SOC operates to provide aspects of *settlement*. From the SPENCE perspective, people's values, interests and needs are felt collectively in *proximity* in imagined community which is embodied in online/offline

*exchange*, situated in internal and external *settlement*. This situating of people's values, interests and needs gives people a feeling of:

‘...belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together’

(McMillan & Chavis, 1986, p.9).

In SPENCE, McMillan and Chavis's affirmation of Weber and Durkheim's historic argument and White and Laumann's modern view, that values provide ‘the integrative force for cohesive communities’ (McMillan & Chavis, 1986, p.13) is significantly supported and updated to be relevant to online/offline community.

#### **8.1.4 Augmented cognition**

In Chapter 1, I proposed that ‘habitus’ as the locus of cognition, is augmented in part by ‘cognitive technology’ (Carr & Harnad, 2011; Harnad, 2008) in *cybersphere*. I reference Bourdieu's argument that the reproduction of the social structure results from the ‘habitus’ of individuals ‘...when social and mental structures are in agreement and reinforce each other’ (Wacquant, 1998, p.9). So, with ‘habitus’, augmented by ‘cognitive technology’, is there a corresponding augmentation of social cognition (3.3.3.4, *Models of exchange*) in the reproduction of social structure in *cyberplace* and if yes, how is this effected? When there is social interaction bounded by virtual place in *cybersphere*, e.g., the interface of a website, it becomes *cyberplace*. The Twitter ‘handle’ @welovemyddeltonroad is a communication that emanates from, associates with and represents a place, as it gathers people through its hashtags to share its symbol of appreciation and advocacy. It is a representation of online/offline situated cognition. In online/offline community ‘social and mental structures’ are attached both to virtual settlement and a physical place. When ‘social and mental structures’, augmented by ‘cognitive technology’, are *grounded* in the intersection of virtual and physical situation, I propose that the locus of cognition, i.e. the ‘habitus’, becomes *further* augmented through ‘cognitive technology’ combining with situated cognition. The boosting of mental power (Brynjolfsson & McAfee, 2014) is possible through place-focused social technology in online/offline community. Other indications of online/offline *capability* below (8.2.1.1, *Capability measurement*) contribute to the proposition that situation though cognitive and social technology in online/offline community is an augmentation factor.

### 8.1.5 Village connectivity

The findings from the Case Study interviews and the other Interviews afford a different perspective from the Twofold Instrument. The managers of online/offline communities interpret how their communities were shaped and evolved. They give the moments of development which bear on the features, characteristics and nature of online/offline community.

An essential point shared by both Case Study community managers is the idea that online/offline community can derive from the ambition for better synthesis and integration, when faced by issues of division. In both Bowes and Bounds Green and Herne Hill, the settlements lie between two boroughs. From the interviews with managers of online/offline communities in Chapter 6 (6.2.1, 6.2.2) and Chapter 7 (7.2.1-7.2.4), there is a focus on regeneration as a solution that takes the form of what I term *village connectivity*. In the absence of formal support, urban issues such as lack of infrastructural cohesion bring about advocacy through the generation of an informal online/offline campaigning voice.

In order to create *village connectivity* from urban features, there needs to be a physical public meeting place. Once the run-down aspects of the street in Bowes and Bounds Green and the road infrastructure issues in Herne Hill were resolved, the social brokers in each area created a market. This facilitated connectivity, giving expression to the spirit of regeneration and in the case of Herne Hill, was followed by physical noticeboards as information hubs and a public piano as a social creativity hub; and in Bowes and Bounds Green, a community space in the café/bar/gallery in 'Myddelton Road'. After these achievements, there was an acceleration of social connectivity, affording a steady growth of exchange which led to *net/latticework* relationships.

Tönnies (2001) formulated the entity of 'Gemeinschaft' in which close kinship local networks underpinned community in the countryside. Tönnies (2001) contrasted this with 'Gesellschaft', which encompassed individualist, differentiated community in cities. Durkheim (Aldous, 1972) formulated the concept of 'organic solidarity', that was related and responsive to 'Gesellschaft' but placed high value in urban cohesion. He applies it to the social cohesion created in modern urban community through cooperation in differentiation. For Durkheim community is equally if not more effective in the modern settings of town/city. The desire for a synthesis and solidarity in *village connectivity* in the urban online/offline community combines resonances from both Tönnies' 'Gemeinschaft' and Durkheim's 'organic solidarity'. I propose that in online/offline community, whether in urban or indeed rural places, although my case studies are in urban areas, the 'organic solidarity' of Durkheim meets the 'Gemeinschaft' of Tönnies. There is both

cooperation in differentiation, diversity and close networks, created by online social connectivity and offline civic activity.

### ***Online/offline equilibrium***

I suggest that when the *settlement* has public and cyber places, there is an ambition for social connectivity across the channels. This is demonstrated in the Survey question 'Q5.3 How much do you prefer having friends with whom you communicate using both online and offline communication channels?' The findings in Chapter 6 confirmed the desire to have online/offline friends, even when the community in Case Study 1 had less online exchange than Case Study 2. This tentatively suggests a trend towards online/offline equilibrium.

The interrelationship between the 'Herne Hill Society' and the online 'Herne Hill Forum' brought the blending of community participants from different demographics. The Society's formal information providers negotiate with the local institutions such as the local council; and the online Forum's volunteers are informal campaigners who use online/offline exchange methods to generate civic improvements through the energy of debate, advocacy and campaigning, also working up connections with the local institutions.

I propose that the *village connectivity* of online/offline community tends to online/offline equilibrium in close but differentiated *net/latticeworks* and operates to engender civic activity from the *decile fabric* to benefit the whole community.

### **8.1.6 Company town**

The business model of the 'company town' is related to 'freemium'<sup>50</sup> and was raised in Chapter 1. It is out of scope of the non-profit based communities in the Case Studies, but is touched upon in the investigation in Chapter 7 (7.2.5, 7.2.6) in which two interviews with entrepreneurs who founded profit-based online/offline communities - 'Campfire Convention' and 'Streetlife' - gave insights into their business models. The digital entrepreneurs in both cases had combined social and profit-based motivations. With 'Campfire Convention' (7.2.5), the entrepreneur explicitly stated their vision:

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<sup>50</sup> Definition: <https://en.wikipedia.org/wiki/Freemium>

‘Empowering people within the community, hoping you can provide a sense of direction and purpose and bring out their skills. Promoting a sense of “we” above “I”, for the good of all’.

With ‘Streetlife’, although the financial motivation was simply stated - ‘...the idea is overtly commercial’ - the entrepreneur aimed to support diverse communities:

‘...we’re not restricting people into their own little, what tend to be homogenous communities’.

With ‘Streetlife’, there were a number of commercial operations to drive their business: there was a significant data operation to discover which areas to target for marketing pushes; they acquired social data from external sources to benefit the platform’s development; they used an in-company analysis software - ‘Lookup’ - that enabled the close study of every exchange by topic. With ‘Campfire Convention’, the entrepreneur was planning a subscription business model to place less dependence on using social data for developing their operations or as a commercial component. ‘Streetlife’ which was free to use depended on users volunteering data and generating content for company use as their price of membership. With the ‘company town’ approach, the popularity of a service determines its profitability. The ‘walled’ settlement, mining, analysing and selling social data is dependent on visitor volume. Neither ‘Streetlife’ (no longer operational) nor ‘Campfire Convention’ attained the necessary popularity for the ‘company town’ model to be deployed.

I tentatively propose that Marxist analysis, alluded to in Chapter 1, applies to commercial online social networks when certain business conditions of online community are not met. There are always viral life-cycle decline possibilities for online social networks. For example, MySpace rapidly lost popularity and went out of business because it did not meet the conditions of constant innovation in the face of the novel functionality offered by Facebook (Torkjazi, 2009). MySpace did not provide its users with a sufficient return for their marketable social productivity.

The interviews in Chapters 6 and 7 indicate that the popularity of online/offline community is directly a consequence of activities by the entrepreneur. This resonates with the concept of ‘Kürwille’ (Tönnies, 1955) i.e. ‘will agency’ integrally reproducing community. Communities can grow up rapidly over 4 months (7.2.3) or over a year. In the Case Study of Bowes and Bounds Green (6.2.1) the online/offline community formed from a small group with community development backgrounds, building on the existing infrastructure of a community association,



that derived from a residence association: ‘...after a year of operation this was no longer an experiment, this was a thing’.

### **8.1.7 Dichotomies**

In Chapter 1, 1.7, there were contextual questions supporting the main research questions that were framed in dichotomies: personal/collective, informal/formal role and diversity/homophily.

#### ***Informal/formal role***

In Durkheim’s (Aldous, 1972) concept of ‘organic solidarity’, the social relation is a dependency for *cohesion*, predicated on differentiated labour roles, driven by holistic values to complete the social whole. Does this theory of social relation as dependency apply to present day community? The *net/latticework* facet concept applies to the social relation between formal and informal entities in online/offline community.

In the interview with the ‘Cabinet Office’ official responsible for the ‘Community Life Survey’ (7.1.8), the question of the formal or informal community participant was discussed. It is formal volunteering that is considered a dependency, by implication of the Survey’s focus, not informal, e.g., organising a pub quiz. The distinction between formal and informal dependency operates less in online/offline community where there is an active interdependence between informal roles played by network organisations and those played by local institutions. The Case Study interviews in Chapter 7 (7.2.1, 7.2.2) discuss the interrelationships between the online/offline social entrepreneur and the ‘Amenity and Civic society’ or local council. With online/offline community the focus is on an interdependence of informal/formal roles not a differentiation. The focus on formal roles in the ‘Community Life Survey’ (Cabinet Office, 2015) is due in part to issues of longitudinal consistency. I propose that the modern connective social relation in online/offline community is still a role-differentiated dependency but tends to a blend of informal/formal.

The value of *universalism* prioritised by social brokers in the SPENCE Survey results (see below in Q2.10) also supports this quality of flexible connectivity between types of role and social circles in online/offline community.

#### ***Diversity/homophily***

In 8.2.3.4 *Roundedness measure*, the Survey/Twitter Study results shed light on the dichotomy of diversity/homophily in the Case Study of Bowes and Bounds Green. The

interview and Survey/Twitter results indicate that demographics within online/offline community tend towards a homophily of middleclass professionals under 50 (6.2.1, 6.2.2, 6.2.5). Indeed, the Survey sample of the combined case studies, had the following demographic characteristics: 13 out of 16 are female; 14 out of 16 are employed; 12 out of 16 have a high level of education; 12 out of 16 are of similar ethnicity (UK). But, importantly, these participants prioritise the value of *universalism*. So although the sample demographics point to a social dependency in online/offline community driven by basic homophily, the indicative results suggest that there is a collective ambition for a more integrative, diverse and holistic force.

### ***Personal/collective***

Rainie and Wellman (2012) advance the theory of ‘network individualism’ and Castells of ‘me-centred society’ formed from individuation, that reconstructs social relationships on the basis of individual interests, values, and projects (Castells, 2013).

With the theory of values, interests and needs (*VINs*) in the *proximity* facet of SPENCE, I have built on Castells’ argument, except that the concept of *VINs* pertains to aggregated relationships in social fabric, not to individuation. The Twitter Study observes congregated *exchange* and seeks to derive flexible interpretations from, e.g., the use of the hashtag code which denotes an intention to socially gather. The hashtag is expressed personally in agency but it was designed to have a collective social impact as a multi-threaded feature. It was designed to be ‘folksonomic’<sup>51</sup>, offering a topic in the meta tag, that acts both as a retrieval mechanism and a social grouping feature.

Like the blended nature of online/offline community, the dichotomy of personal/collective manifests as a synthesis. In the case of online social networks such as Facebook, where many *personal communities* are not locally situated, I support Wellman’s case for ‘network individualism’. But generally, in opposition to Durkheim (2014), I propose the relationship between individual agency and the collective structure does not form a parallel development: they are integrated.

This invites the main research question: ‘how should we investigate online/offline community?’. To what degree should the main experiment involve the observation of both personal and collective community? In the main experiment’s Twitter Study (Chapter 6), the

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<sup>51</sup> Definition: <https://en.wikipedia.org/wiki/Folksonomy>

tactical sampling method (Chapter 5) enables both, where the linked exchanges of 21 social brokers living in the same area show how the personal and collective intersect. The Survey method asks social brokers for their subjective views which come from their personal perspective.

SPENCE theory offers the collective view through five facets and the agency view in *entrepreneur*.

## 8.2 RQ2 How should we investigate online/offline community?

The following is a checklist of evaluative questions for the main Case Study method. It provides the key to the discussion below.

### **Key to evaluation of Case Study method (see 5.2.4)**

|  |   |
|--|---|
| a) Do the Survey evaluation questions show positive feedback?  | See 8.2.2 Survey                              |
| b) Do Twitter Study results confirm Survey results in the Bowes and Bounds Green Case Study?   | See 8.2.3 Twofold Instrument                  |
| c) Do the SPENCE <i>capabilities</i> appear effective?.  | See 8.2.1.1 Capability measurement            |
| d) Does the Survey, designed following consultation, used on its own in Herne Hill, appear more accurate and useful as an instrument?  | See 8.2.2 Survey                              |
| e) How feasible is the Twofold Instrument deployment, compared to other approaches?  | See 8.2.3 Twofold Instrument                  |
| f) How effectively could the Twofold Instrument be deployed as a tool in the comparison of different local online/offline communities. | See 8.2.3.5 Automating the Twofold Instrument |
| g) Could the <i>capability</i> calculations be automated effectively in the Twofold Instrument?  | See 8.2.3.5 Automating the Twofold Instrument |

### 8.2.1 SPENCE

SPENCE with its six facets, four capabilities and metrics applied in the Twitter Study, unifies the investigation methodology. It is embedded in the analytical structure of all of the methods: Survey, Twitter Study, Focus Groups and Interviews.

It offers logically integrated community theory as a given in its framework, as its facets interdepend. The 'Community Life Survey' (Cabinet Office, 2014a) does not have the same degree of integration in theoretical approach, although Government, i.e. ONS, has moved to develop a more theoretical understanding of social capital, drawing from the views of different

Government departments (7.2.8, 7.2.10). The 'Community Life Survey' has been partially shaped by the social policy of successive governments, e.g. 'The Big Society' agenda of the Conservative Government 2010-2017 with a focus on volunteering and well-being (7.2.8, 7.2.10); and a recent (2017-2019) inclusion of the concept of loneliness. SPENCE provides a classification-based logic approach to community theory, in which normative themes such as *diverse cohesion*, *decile fabric* and *roundedness* are nested.

The use of SPENCE to unify the methods has permitted a consistency in the analysis of results that streamlines their presentation in Chapter 6 and Chapter 7.

### **8.2.1.1 Capability measurement**

The testing of the *capability* formulations in the Twitter Study demonstrates how they could be deployed. The groundwork findings are indicative and work to show how a study involving a larger geographical area, e.g., London, and a greater number of case studies could be framed and analysed.

#### **Capability metrics expressed in Twitter Study**

The *capabilities*' congregations of interpretative metrics are applied in the Twitter Study using the Codebook, 4.3.1.2, and the *Survey/Twitter Study alignment* in Appendix 4.3 which maps them to the theory of the facets. The metrics are simple or complex interpretations of Twitter semantic elements. They are used to develop a qual/quant view of an online/offline community's capabilities. This approach is described in detail in Appendix 4.2, *The theory of Twitter codes*. In summary, the Twitter values are derived from the qual/quant socio-technical interpretation of code semantics within online social media. *Capability* analysis is performed by measuring the volume of semantic elements denoting different aspects of the *capabilities* in Twitter expressions issued by a *social broker*. Twitter expressions chosen by the broker to use for communications, also have the quality of implicit attribute, e.g., a hashtag expresses their values, interests or needs.

In Appendix 5.2, *Case Study 1, Twitter Study findings*, the volumes of semantic elements denoting different aspects of the *capabilities* in Twitter expressions are given in detail. The most salient results are given below. The results of the Twitter Study are calculated using percentages of the totals of types of Twitter expression. The Twitter semantic elements used by *social brokers* represent different particular aspects of community performance, e.g., *trust*, *meaningful diffusion*, *articulate expression*. The data sample's significance is in relation to its totals of expressions as it is not compared with other samples. With 21 *social brokers*,

including 1 social entrepreneur, and 22760 tweets collected over 6 months, the scores are internally formulated rather than benchmarked with other case studies. The results are indicative and intend to demonstrate the usefulness of the twofold approach. As mentioned, this Instrument, using a Twitter or other social media platform (9.2.3) could be applied in a future comparative analysis and benchmarking of online/offline community, e.g., for the London area.

### **Capability metrics results using Twitter platform**

#### ***Trust (see Appendix 6.2, Table 6.2.18)***

The total number of tweets for this sample is 7347. The number of tweets with at least 1 hashtag, is 2067. This means that over 25% of the total tweets contained a *trust expression*. If 100% of tweets contained hashtags, that would indicate a strong desire to share values, interests and needs. 25% indicates a moderate desire.

As pointed to in the hashtags classification method (Chapter 5), the hashtag expressing place is taken to represent *need-relatedness* and *settlement trust*. 40% of the total hashtag clusters express *need-relatedness/settlement trust*. This is a high proportion and shows that people connect over place in this case study. In Q1.3 of the Survey, offline community activity is represented by hashtags, e.g., '#WeloveMyddeltonRoad', '#MyddeltonRoadMarket'. This demonstrates the blend of the physical with virtual in online/offline community. Twitter 'handles' like these, advocate for types of place as blends of informal/formal, grown from community activism.

#### ***Influence (see Appendix 6.2, Table 6.2.19)***

There are not equal numbers of hashtag classes in the Bowes and Bounds Green Case Study findings as is demonstrated in Table 6.2.22, *Hashtag classification categories and sub-categories*.

There is an overall proportionate variation which gives the *roundedness* of the VINs. In this case study, the ratio was: 45, 97, 96 or 1:2:2. or 20: 40: 40. The SPENCE theory in Chapter 3, proposes that a *roundedness* in VINs might suggest a resilience and resistance to *influence* in online/offline community. If in these results, there had been a less balanced ratio with overwhelmingly more interests or values or needs, I suggest that this might bear on overall resilience to or receptivity of influence.

### **Information (see Appendix 6.2, Table 6.2.20)**

The use of URLs is tentatively indicative of the diffusion activity in the online/offline community: 47% of total tweets have a meaningful diffusion intent in the settlement i.e. the *information* is directed to named participants; and 76% of total tweets have URLs without mentions which indicates an intent to diffuse information more widely. This gap between the types indicates that *information* diffusion plays a significant role in the case study.

### **Intelligence (see Appendix 6.2, Table 6.2.21)**

The interpretative proposition is that a communicator who uses mentions, hashtags and URLs has an articulate Twitter style that denotes intelligence. 13% of the tweets of the *social broker* sample are 'articulate' and so intelligent. Over 25% of the total tweets contain the *trust* expression of the hashtag. 100% of tweets containing hashtags, could indicate a strong desire to share values, interests and needs to promote collaboration and knowledge in a community. So, 25% indicates a moderate ambition with consequences for the intelligent assimilation of *information*.

With the 25% of tweets containing hashtags, the above metrical summaries show how *interpretative flexibility* (8.2.3.3) works with the *trust* and *intelligence* views.

### **Cohesions**

In Chapter 4, 4.2.3, *Cohesions*, the three *Cohesions* within the decile fabric graph structure of the facet of *net/latticework* are set out: 1) *General cohesion*, 2) *Specific cohesion*, 3) *Diverse cohesion*. With 1 and 2, the social links are explicit through *exchange* or social interaction. With 3, the social links are implicit through hashtags.

In the imagined community, as Schelling's Model (1969) of residential segregation alerts us, *Cohesion* needs to be balanced with a moderate to high diversity. *Cohesion* can be problematic if it is based on homophily and is non-diverse, as shown by the *filter bubble* effect (Pariser, 2011) The coarseness or fineness of the pattern of hashtag clusters shows the breadth of the clustering, indicating the relative diversity. In the Case Study, in the findings in Appendix 6.2, there is a pointer to a fine diversity in the pattern of many and various small clusters. There is no coarse pattern of large clusters showing in-group homophily. The diverse pattern of hashtag clusters shows out-group social circles connected together through weak ties (Granovetter, 1983) by *social brokers* (Burt, 2007) who belong to a number of different hashtag groups.

### Demonstrating the calculation of decile fabric cohesions

The results given in Appendix 6.2, Table 6.2.25, *Net/latticework data*, demonstrate how the measurement of *decile fabric specific cohesion* can be achieved. They indicate that with *specific cohesion* in the *decile fabric*, five out of the 21 *social brokers* in the sample of the *decile fabric* are from the institutional *latticework*; the total network to *latticework exchange* edges is 21; the total network to *latticework* reciprocal links is 9; and the total possible reciprocal links or exchange edges between network and *latticework* is 80. So, 20% of *latticework* and network nodes have the possibility of being reciprocally linked. Of this, 9 out of 80, or approximately 10%, are actually linked in *specific cohesion*. This proportion is significant as it represents the informal to formal connections in an online/offline community through which resources flow in both directions.

### Summary of Twitter Study indicative results

#### **Capabilities:**

*Trust*: there is a moderate expression of *trust*.

*Influence*: there is an overall proportionate variation which gives the *roundedness* of the VINs.

*Information*: there is reasonable intent to personally communicate one to one but more to diffuse.

*Intelligence*: there was a moderate desire to collaborate in *intelligence* activities

#### **Cohesions:**

*General cohesion*: 43 reciprocal links out of a total possible of 400 which is approximately 10%. There is also 34% proportion of reciprocal mention/hashtags, indicating a reasonable degree of mutuality.

*Specific cohesion*: Approximately 10% are linked which suggests a reasonable degree of *net/latticework* cohesion.

*Diverse cohesion*: there is a fine diversity.

### 8.2.2 Survey

In Appendix 6.1, there is an analytical review of the effectiveness of the Survey. In summary, the review shows how the linearity and sequencing of the questions, repeating ideas in different contexts, effectively checks for confirmations and discrepancies. The review also highlights the importance of two questions, designed to be significant, that the analysis of results reveals to be central to the enquiry:

*Q4.2 How long, on average, does it take before new offline members of your social network convert to online friends and vice versa?*

The question asks about timings of friendships made either offline to online or online to offline after the relationship is first established. From the indicative results in Chapter 6, the respondents assume the conversion is inevitable and this supports a key conclusion, set out below, that online/offline community tends to an equilibrium with *social brokers* connected both online and offline.

*Q5.6 [Considering all the different channels in the preceding question], what is your use of online/offline channels in a day?*

The responses give substantial online channel use in both case studies which provides a useful overview perspective on the Survey results. It contextualises all of the previous answers. This question is a key backwards linking resource for the Survey. It shows how respondents are substantive online users, who, in the Survey completion, when considering their online/offline behaviours play down their online engagement. The Survey reports views on idealised behavior and the Twitter Study analyses recorded actual behavior. Participants could differ in their views and their actual behavior. Joining the Survey with the Twitter Study affords confirmation. The Twofold Instrument of Survey and Twitter Study provides this complementary approach.

In Appendix 6.1, the respondents' view of the survey was as follows:

|                          |
|--------------------------|
| Very effective - 4       |
| Reasonably effective - 5 |
| Neutral - 4              |
| Not very effective - 1   |

The Survey evaluation question (see 6.3.7, *Survey question on online/offline community, Q7.1*) did show positive feedback about the concept of online/offline community. Most respondents agreed that online/offline community is a social reality and that it is an interdependent blend: 'one and the same and feed of each other'. A respondent emphasises that online community is 'as an "organisation" in its own right'. Another, comments on the types of online channel supporting different social elements within the blend. The difficulty of ascertaining the degree of overlap is commented on and a *social broker* confirms how offline events grow from online engagement. There is a general agreement with the proposition of online/offline community as a new social reality, with the different channels of communication 'reinforcing each other'.



### **8.2.2.1 Survey as standalone instrument**

The Survey implementation yielded useful data about the nature of online/offline community. It effectively gathered the subjective viewpoints of social brokers. But as discussed below in 8.2.3.1 there is the missing dimension of an observational method. The Herne Hill Case Study is not as analytically in-depth as the Bowes and Bounds Green Case Study because there is no accompanying Twitter Study to complement the Survey's data and interpretation.

### **8.2.3 Twofold Instrument**

The Survey/Twitter Study Twofold Instrument demonstrates the agency/structure basis underpinning the reproduction of the 'habitus' into social structure. It was partly deployed as a Twofold Instrument to align with this theory. The agency of psychological sense of community (SOC) is expressed in the Survey and enacted in the structure of the Twitter Study. The Survey results, arising from a respondent's cognition, combine with the Twitter Study's collection of social data to enable a synthesised review of the nature of the online/offline community that combines agency and structure.

In Appendix 4.3, Table 4.3.15, *Survey/Twitter Study alignment by capability/facet*, there is the Twofold Instrument mapping. In Appendix 6.2, *Case Study 1, Twitter Study findings*, there is the quantification of *capabilities* through Survey/Twitter evidence mapping. The twofold alignment is not systematically tested in Chapter 6 because the facets and *capabilities* are not individually concatenated. But the broad conclusions below touch on the effects of the Survey and Twitter Study alignment, giving the key features of the Twofold Instrument.

### **8.2.3.1 View of behaviour v. observed behaviour**

With the direct questions in a Survey, people respond in a different way than they do when actively performing community online. For example, with Q2.13, it may be easier to cite values and interests as important in social connections than needs. In the Twitter Study, the needs, represented in types of hashtag, are shown to be widely expressed online, which counters the assumptions of the Survey, providing new indications. The observational approach of the Twitter Study, e.g., in the quantity of mentions of the online/offline community manager, give indications that have a collective objective validity, contrasting with the personal subjectivity of the survey response.

### **8.2.3.2 Confirmation**

In Chapter 6, the key questions about the nature of online/offline community, e.g. trust in online, social circle link generation and online channel use, are more fully answered by the Survey and Twitter Study working together to confirm results.

### **8.2.3.3 Interpretative flexibility**

The Twitter Study's flexibility of code interpretation lends a new dimension to the Survey's perspectives, e.g., the Twitter codes can indicate whether utterances are carrying personal messages or broadcast utterances to leverage influence, to diffuse authoritative information or to impart knowledge. This flexibility of interpretation, derived at code level, and applied between the *capabilities*, has a usefulness that can add value to the more interpretatively fixed survey approach. In Appendix 6.2, the detailed qual/quant Twitter Study results are set out by the four *capabilities* demonstrating the sample's extensive *interpretative flexibility*. This complements Chapter 6, where the Twitter Study results are selectively aligned with the Survey results by facet to highlight specific meanings.

### **8.2.3.4 Roundedness measure**

The Survey's direct questions on values, interests and needs, are useful to give a picture of the balance of these factors in a community, with the implications for *influence thresholds* (see 4.3.2 *Influence capability*) that point to community resilience. In the Twitter Study findings, Appendix 6.2, data derived from the classification of hashtags gives a rounded ratio of 1 (*values*): 2 (*interests*): 2 (*needs*) of *VINs* expressed in hashtags. So, the community expresses an equivalent number of hashtags on interests and needs which is double the amount of values. If the discussion of hashtags would have been skewed in favour of values, e.g., 2:1:1, this would have suggested that community conversations were focused on values in serious exchanges, leveraging advocacy. Informal communications leveraging advocacy are important but equivalently important types of communication for *roundedness* are the expression of interest and need. The top value of *universalism* in the Twitter Study aligns with the Survey's Q2.10 where the respondents also significantly preferred this value, to show that tolerance for other people's values was prioritised.

### 8.2.3.5 Automating the Twofold Instrument

With a careful systematic approach to sampling, the Twofold Instrument could be deployed as a benchmarking tool in the comparison of different local online/offline communities, e.g., in the London area. The account below gives an indication of how it could be automated.

First the complete pool by area of tweeters would be identified using a twitter analysis tool (e.g. 'Tweepmaps'<sup>52</sup> or 'Twitter Developer' premium operators<sup>53</sup>). Then the '1:9:90 rule' (Nielsen, 2006; Wu 2010) would be applied to identify the 10% of most active tweeters in the area; and of this selection, the top 10% (1% of the whole pool) would be invited by Twitter @mention to join the completion of the online survey. The most active tweeter could be defined in a standard way across the benchmarking investigation, e.g., *the average daily rate of tweet/mention should be greater than 1*. By matching the Survey participants with the tweeters, there would be a useful alignment which would serve comparative analytical tasks. The approach taken in the Twitter Study could then be deployed, i.e. summing the tweets by Twitter codes according to *capabilities* and then analysing them using flexible views on the significance of the codes, as suggested by the *Twitter Metrics Codebook*, 4.3.5.2. With the *decile fabric* cohesions, the *net/latticework* calculation requires the classification of nodes from their bio descriptions and then their mentions to each other within the sample. The *roundedness* assessment of *VINs*, by fine/coarse clusters, requires a classification of the hashtags used in the decile fabric. An automation of hashtag classification by *values*, *interests* and *needs*, is achievable but would require investment in programming. The 'groundedness' of the *psychological proximity* (see Appendix 6.2, Table 6.2.18, 1.1, *Actualised proximity*, and Appendix 5.6) would require an analysis of the hashtags to list every time people within a cluster mentioned each other. Automating the concatenation approach at Appendix 4.3, Table 4.3.15, to provide the means for an integrated analysis of the *capabilities* of an online/offline community, using data on the Twitter platform, would require the selection of core mappings from *capability* metrics to 'facet metrics'<sup>54</sup>. Some example of core mappings with facets are:

1. Place name hashtags/'handles' that represent community advocacy likely to be mentioned in survey - *settlement*
2. Place names in hashtag classification results and survey - *settlement*
3. *VINs* ratio to *VINs* questions in survey - *net/latticework*, *trust capability*
4. *VINs* ratio to survey *influence* questions - *net/latticework*, *influence capability*

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<sup>52</sup> <https://tweepmap.com>

<sup>53</sup> <https://developer.twitter.com/en/docs/tweets/search/guides/premium-operators>

<sup>54</sup> The facet metrics underpinning the Survey are given in Appendix 2.6.

5. Coarse/fine hashtag clusters to diversity questions in survey - *proximity*
6. Retweet totals and *influence* questions in survey - *net/latticework, influence capability*
7. Tweets total - *exchange*
8. Mentions total - *net/latticework, cohesions*
9. URLs total - *exchange, diffusion*
10. Top social brokers by tweets, mentions, followers - *entrepreneur*

#### **8.2.3.6 Current community analysis approach**

The 'Community Life Survey' has gone online in recent years after the method was thoroughly consulted in a three-year development to ensure its effectiveness (6.2.8). The online nature of the Government survey offers the potential to align it with associated investigations of online social media, such as the Twitter Study method used here.

### **8.3 RQ3 What are the policy implications for online/offline community development?**

#### **8.3.1 Policy environment**

The policy environment around the impacts of the Internet/World Wide Web and digital technology on society is complex and demanding. There is the impact on the high street. In the Government's parliamentary report 'High streets and town centres in 2030' (House of Commons, 2019) the 'Housing, Communities and Local Government Committee' conclude that the problems require 'greater social interaction, community spirit and local identity and characteristics' (House of Commons, 2019, p.6). There are the problems of online disinformation and 'fake news' (House of Commons, 2019) which involves '...the insidious ability to distort, to mislead and to produce hatred and instability...We must make sure that people stay in charge of the machines' (House of Commons, 2019, p. 6). The White Paper (2019) on 'online harms', issued by the 'Department for Digital, Culture, Media and Sport' (2019) expresses major Government concerns. The issue of addiction - 'compulsive gaming and social media and internet addiction' - is acknowledged by Claire Murdoch, the National Director for Mental Health (NHS England, 2019).

The policy implications for online/offline community development, that would contribute to addressing these issues are manifest in the proposed solutions set out in Chapter 9 under 9.3, *Policy recommendations*.

# Chapter 9 - Conclusion

## 9.1 Introduction

I have explored in my thesis the proposition that a benign shift is happening in the way we perform community. Both Case Studies demonstrate the beneficial impacts of online/offline community. Indeed, the regeneration of Bowes and Bounds Green was acknowledged with a recent award - 'The Great British High Street Awards, 2016' (HM Government, 2016). The commendation cited '...the power of local people and business areas working together to support their area' and referenced offline events rallying the community around their local high street and creating '...a really strong online presence through Twitter and local online forums' (HM Government, 2016).

The 'Herne Hill Forum' based online/offline community has achieved a sustained involvement in the regeneration of the local area, engaging with formal resources through harnessing its community assets with energy and advocacy.

I propose that the wider social connectivity and cohesion in online/offline community offers a civic support solution that would go some way in addressing the major impacts on society set out in Chapter 8, 8.3. The Case Studies show that when personal and social online/offline networks are congregated around a website and complemented by offline meetings in a neighbourhood, civic regeneration activities evolve to develop the community.

The following benefits of online/offline community are indicated by the Case Studies:

- the integration of agency with local social structure achieving a blend of personal/collective
- 'village' kinship combined with urban solidarity
- regeneration of streets, better transport infrastructure
- improved sense of community
- grounding of community performance in substantive and congregated physical and virtual place
- the situation of cognition in physical place that contributes to strengthening *internal settlement* or 'habitus' and social cognition

In regard to the latter point, with online/offline community there is the opportunity to harness 'cognitive technology' (Carr & Harnad, 2011) and keep control of the message (McLuhan,

1994). The view of Castells (*Chapter 1*) that:

‘...the transformation of the communication environment directly affects the forms of meaning construction...’

(Castells, 2015, p.6).

alerts us to how important it is to be aware of how meaning is constructed in environments impacted by the Internet and WWW. With online/offline community there is the potential to construct meaning in ‘collective intelligence’ (Verhulst, 2018; Mulgan, 2017) through situating and grounding cognition in the physical and virtual settlement of community.

### 9.1.1 Cohesion

In Chapter 8, 8.1.7, *Dichotomies*, I systematically addressed the dichotomies that were raised as issues in Chapter 1, 1.7. I conclude that these dichotomies in online/offline community tend to be syntheses. In a rounded perspective, they speak of a multivariate cohesion or density where there are multiple synthesised relations between people in communities, home/work, personal/collective, virtual/physical, formal/informal and external/internal place of cognition.

The impact of the Internet and WWW on society is to boost the informal/formal resource exchange within the *cybersphere* of communications: from political, diplomatic, social, military etc. The problems associated with that are touched on in Chapter 8, 8.3. I propose that if formal institutions communicate more informally in a managed socially cohesive environment, grounded in cyber/physical place there are social and civic benefits. When the communications of institutions are more two-way or ‘dialogic’ (Yue et al, 2019), they are easier to connect with, giving greater agency to the receivers of their services.

I propose that a main affordance of residential online/offline community is an increased density in the woven social fabric. There is improved community *Cohesion*, predicated on a greater exchange of resources between informal and formal community assets. In *net/latticework* terms, this is expressed in a multiplexity of dual graphs of *net/latticework*, each with two-way directed relations across layers. In residential online/offline community, the social brokers are mobilised in the *decile fabric*, to combine community assets, diversely.

## 9.2 Scope and limitations

### 9.2.1 Scope of definition

The scope of the definition of online/offline community in Chapter 1 (1.6.2, 1.7.3) clarifies that online/offline communities with a substantive degree of physical locatedness and aligned social media congregation are the focus of the thesis. The Case Studies combined personal/collective communities. The purely personal communities of Facebook were not in scope. Instead the *collective* Facebook page representing the local community was included in the scope, congregated with local Twitter and 'Streetlife' (acquired by Nextdoor).

But the nature of online/offline community is not simplified by being scoped. It is not predicated on the ego/person, or channel, or interest, or values, or need, or type of exchange. Instead, it is based on a complex blend of physical place joining with a congregation of virtual places with the intersections of personal/collective and informal/formal forces. These potentially give a heightened quality of community cohesion which is answered in the formulation of the novel concept of *decile fabric* with its three *Cohesion* measures.

### 9.2.2 Method scope and limitations

#### ***Model***

The SPENCE Model scope is determined by the definition of online/offline community above (9.2.1). But it does also apply to other forms of online/offline community, e.g., personal community and 'communities of interest', though the *settlement* facet would have less emphasis.

#### ***Twitter Study***

The Twitter Study was used in only one Case Study, with no comparative benchmarking afforded to test the quality of the metrics, so the results of the Twitter Study are tentative and indicative. They do however demonstrate the potential of a Twitter Metrics Codebook (4.3.5.2). However, the Codebook that was deployed limited the quality of interpretation by diverging too far from existing semantic interpretations established in the literature. In a wider deployment of the Twitter Study using a benchmark approach recommended below, the Codebook should be simplified with fewer semantic code compounds and less interpretive flexibility across the *capabilities*.

## **Survey**

The Survey experiment needed a greater volume of participants to yield substantive results but it did give salient pointers which addressed the research questions and demonstrated the usefulness of its design and the robustness of the conceptual organisation of the Model.

## **Twofold instrument**

The Model was tested by the Instrument's use and proved its worth as a means to align and integrate two methods. The results of the Twofold Instrument were only indicative but the method demonstrated how the analysis of a Survey combined with a Social Media Platform Study, using anonymously aligned samples, based on the theory of SPENCE, warrants future research.

### **9.2.3 Widening the scope - Facebook Study**

A future deployment of the Twofold Instrument could involve other social media platforms. In a study of multiple platforms, the anonymised alignment of their results with those of a Survey would still be effective. The SPENCE Model would effectively organise the interpretation and presentation of results. For example, a study of the Facebook platform would require the formulation of a Codebook of the semantic elements.

The Facebook API service most appropriate to Facebook (and Instagram and Reddit) research is 'Crowdtangle'<sup>55</sup> which is defined by Facebook as a 'public insights tool', enabling the analysis of public content in public accounts. It offers the benchmarking and comparative study of the performance of public accounts using the following features:

- the timing of posts
- the type of posts (video, image, text).
- which page or public account posted from, or which public group posted to.
- how many interactions (e.g. likes, reactions, comments, shares) or video views posts receive.
- which other public pages or accounts shared posts

It does not provide demographic information on users: 'CrowdTangle' can tell you a particular post earned 1,000 likes, but it does not indicate who liked it, where they are from or their

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<sup>55</sup> <https://help.crowdtangle.com/en/articles/4201940-about-us>



attributes data, e.g., age etc. There are differences in the available data compared to Twitter which does offer these demographics. In view of these differences, I propose that a SPENCE approach to coding Facebook data could involve the application of *capabilities* classification to the public accounts. A set of pages in a case study area could be classified by *capability*, e.g., a local library Facebook page could be classified as demonstrating the *trust* capability as the users are attached to the civic goals and values of the public library which suggest community trust; a local council page could be classed as *influence* as it leverages authority and resource in an area; a local newspaper page as *information* as it diffuses news; and a local college page as *intelligence* as it congregates local knowledge-making activities. Then the interaction on these pages, i.e. the post popularities, could demonstrate the relative performance levels of these *capabilities* within a case study area. The page could be considered as a formal entity and the interaction as informal. This could enable the calculation of *specific cohesion* (degree of resource exchange across the informal network and formal latticework) in the set of case study Facebook pages. This approach is simpler than the Twitter Metrics Codebook, as it does not depend on individual semantic elements, but together with the Twitter approach, it demonstrates the flexible applicability of SPENCE *capabilities* for coding social networking platforms.

### **9.3 Policy recommendations**

In view of the issues relating to the impacts of the Internet and WWW on community, touched on in Chapter 8, 8.3, and with the new challenges of the pandemic of 2020/21, the following novel approaches to community development and to the improvement of social fabric are suggested, based on the successful instances of online/offline community studied in the Case Studies. There have also been boost effects to online/offline community in the pandemic from increased home-working in the neighbourhood, yielding greater community assets available to the neighbourhood, and the overlapping of Intranets with residential online/offline community.

#### **9.3.1 Measuring national total of decile fabric**

In Chapter 1, 1.7.2, the nature of online/offline community is discussed in relation to its observable *cohesion* or solidarity. The benchmarking exercise discussed below, involves both the observation and the measurement of online/offline community, including its *Cohesions*. Putnam in 'Bowling alone' (2000) measured the social capital of the US, using a methodology that Halford & Savage describe as 'symphonic' (2017) in its width of scope, involving disparate

data sources predicated on basic organising principles. His overarching interpretive principle is that offline meetings evidence social capital. This underpins his ranging analysis of many categories of organisational membership/meeting data. With SPENCE and the measurement of online/offline community, it is the *decile fabric* that is measured, rather than social capital. The basic organising principles are those offered as novel concepts in 9.4.1, namely: the *capabilities (TIII)*, *VINs*, *diverse cohesion*, *specific cohesion*. With the *capabilities*, the 'norms' of online/offline community are measured. Putnam defines social capital crucially in terms of its 'norms' but does not use 'norms' as a metric.

The established concepts of social capital and social cohesion are allied, but not formally. With SPENCE, two novel *Cohesions* are articulated. Both *specific cohesion* and *diverse cohesion* are integral to the *net/latticework* or informal/formal nature of online/offline community. With the latter *Cohesion*, I tentatively suggest that increased brokerage between informal and formal circles, is likely to promote fine patterns of attribute variation. So *diverse cohesion* is in a direct proportion relationship with *specific cohesion*. The measurement implications could be explored in different fields in future research.

I propose that following in the steps of Putnam, a benchmarking exercise should be carried out to map the *decile fabric* of the country, revealing the extent of its *capabilities* and types of *Cohesion*.

#### **9.3.1.1 Map community assets**

In 8.2.3.5, *Automating the Twofold Instrument*, I detail an approach to benchmarking London boroughs. I propose that this could provide a basis for mapping community assets nationally to show the relative priorities of boroughs for community development initiatives. This demonstrates the community assets approach of Kretzmann & McKnight (1993), based on Tidey's online mapping initiative (2017).

#### **9.3.1.2 Use updated community survey (see 8.2.3.6)**

The Government 'Community Life Survey' (2014a) could be in part replaced by the SPENCE-based Twofold Instrument. The SPENCE Survey and 'Community Life Survey' could be combined, so that the latter's key longitudinal measures were retained, the former's investigation of *VINs* were prioritised, and the structure of the SPENCE theory of online/offline community were adopted.

### **9.3.1.3 Community development**

After the mapping of assets, a community development intervention would follow. It would involve the appointment of social entrepreneurs tasked with the congregation of virtual *settlement* (Twitter, Facebook, Nextdoor, Instagram, WhatsApp etc), the animation of neighbourhoods through offline activities and the management of a central information service in the form of a local website either as independent instances or in an integrated national platform.

### **9.3.2 Develop national digital infrastructure**

I recommend a nationwide local government programme of online/offline community construction, using SPENCE theory, to build *capabilities* within the asset layer of each local borough's *decile fabric*, to cascade to the whole community and borough by borough to improve national social fabric. The approach would build on existing web and social media infrastructure, joining with the *latticework* of formal community structures, including 'Amenity and Civic Societies'<sup>56</sup> (6.2.1, 6.2.2). It would also involve national surveying and the mapping of community assets (see above).

#### **9.3.2.1 Independent platforms**

In a national congregation of online community assets, the Case Studies demonstrate the advantages of platform independence. The 'village' grass roots drive in online/offline community could be built on by deploying independent 'homegrown' websites, e.g. using the WordPress package<sup>57</sup>. This would address the privacy concerns associated with the harvesting and analysis of data on social network platforms such as Facebook. Each website could be constructed using the SPENCE theory.

#### **9.3.2.2 Integrated national platform**

Alternatively, with 'blue sky' ambition, a new national social media platform could be developed as a joint third sector, public sector and private sector initiative. It could harness different aspects of online/offline life, supporting community in different *settlements*, from street unit, to ward to borough.

The platform could combine the social with economic, transforming the high street to provide a national online/offline retail platform integrated within the community.

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<sup>56</sup> <https://www.londonforum.org.uk/aboutus.php>

<sup>57</sup> Wordpress: <https://en.wikipedia.org/wiki/WordPress>

Additionally, given the importance of the *roundedness* of values, interests and needs in community, at a time of pandemic, support could be given for the creative and cultural industries. Integrated within the national platform could be a multifaceted showcase for live events (with an extensive archive) streaming from every type of venue, e.g., café, pub, music venue, art gallery, cinema, theatre etc. This part of the national platform could be made available internationally as a channel for the mainstream and fringe creative industry activities of the UK.

The whole national platform would involve a search system operating across it.

SPENCE would provide a basic Model on which to construct the national platform

## 9.4 Contributions

The subject of my thesis has emerged from the interdisciplinary field of web science with the sub-disciplines of computational sociology, community development, social psychology, computer science etc. The Model is an interdependent amalgam of novel concepts which are fully explicated in Chapters 3 and 4. I propose that the following concepts drawn from SPENCE express aspects of the social phenomenon of online/offline community that are particularly useful and can be applied in research and policy implementations in a mix of fields and disciplines.

### 9.4.1 Novel concepts

#### 9.4.1.1 *Decile fabric*

As discussed in Chapter 8, 8.1.2, the *decile fabric* concept points to the need to update our understanding of social capital in the online/offline community environment to attend to the new characteristics and social effects. The theory also offers a measurement approach in the three *Cohesions* of the *decile fabric* (8.2.1.1, *Cohesions*). So, I put the case that the concept of *decile fabric* updates the concept of *social capital* and the concept of *capabilities* - *trust, influence, information, intelligence* - serves to enhance the understanding of 'norms'.

#### 9.4.1.2 *Net/latticework*

In the account of *latticework* (4.1.2) in the SPENCE facet of *net/latticework* described in Chapter 4, there is the intuition of a *hexagonic closure* (outlined in Appendix 4.1), predicated on the triadic closure. This novel concept has a potential 'blue sky' applicability in a number

of different fields suggested below. The significance of the dual graph nature of *net/latticework* also has a potentially wide applicability.

#### **9.4.1.3 VINs ratio (roundedness)**

The *values, interests* and *needs* ratio, equating to the concept of *roundedness*, gives a measure for community resilience. I propose in Chapter 4, 4.3.2, *Influence capability*, that the degree to which VINs are in balance indicates the degree to which a community is influenceable by external sources. The concept of *diverse cohesion* below closely relates to this concept.

#### **9.4.1.4 Diverse cohesion**

*Diverse cohesion* is the degree to which the *general cohesion* in community, i.e. its classic density, has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked. It is instrumental in supporting *roundedness* in an online/offline community.

#### **9.4.1.5 Specific cohesion**

*Specific cohesion* is the reciprocal links between net and lattice nodes divided by the population's possible reciprocal links. It measures the resource exchange that occurs between informal and formal entities in an online/offline community.

#### **9.4.1.6 TIII**

The *capabilities* of *trust, influence, information, intelligence*, offer metrics for community and sociality performance. They provide the 'norms' of the *decile fabric*.

### **9.4.2 Applications**

There are applications that are in social science fields that are central to web science, i.e. sociology, social psychology, network science, social machines, and community development. With computer science, which is also central to web science, the application areas are AI, optical computing, and co-design. The applications of the core conceptual contributions are ranging, e.g., from the proven and evidenced to 'blue sky'.

### **9.4.2.1 Social sciences**

#### **Sociology**

The use of the Twofold Instrument, combining surveys with online social media analysis, provides a substantive example of a research method that is in its nascent stages in sociology (Sloan et al, 2020). The concept of *decile fabric* demonstrates the need to update the concept of social capital. It has the potential to replace it as a more relevant concept as online/offline community becomes dominant in society. *Specific cohesion* is a useful concept that addresses the increasing synthesis of informal/formal resource exchange in online/offline community. The concept of *diverse cohesion* builds on the established concept of social cohesion, adding the simple measurement principle of coarse/fine cluster variation in a *net/latticework*.

#### **Social psychology**

The Model would organise and enhance understanding of the concepts of situated cognition and ‘cognition technology’ in contemporary environments. With situated cognition in online/offline community, there is the effect of *internal settlement* that combines multiple cyberplaces through the performance of social *proximity* and *exchange* in physical locatedness (see 8.1.4, *Augmented cognition*). With ‘cognition technology’ (Carr & Harnad, 2011; Harnad, 2008), online social media operates within the physical bounds of neighbourhood, supporting the boosting of ‘collective intelligence’ (Verhulst, 2018; Mulgan, 2017).

#### **Community development**

The Model provides a basis for designing and implementing online/offline community. It can also be used to measure (see above) online/offline community to gauge its resilience, *Cohesions* and *capabilities*.

#### **Social machines**

The body of research into *social machines*<sup>58</sup>, inaugurated at the ‘University of Southampton’, is based on the vision of Sir Tim Berners Lee, (1999) conceptualised in his account of the co-constitution of the World Wide Web:

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<sup>58</sup> <https://www.sociam.org/about>

‘Computers can help if we use them to create abstract social machines on the Web: processes in which people do the creative work and the machine does the administration’

(Berners-Lee & Fischetti, 1999, p. 172).

SPENCE supports the design of sociality within a social machine (Halcrow, Carr & Halford, 2016).

### **Network science**

The triadic closure concept that evolved from sociology (Simmel, 1961) informs network science. The novel *hexagonal closure* concept is predicated upon triadic closure and would add a new conceptual element to social group theory and small world theory.

#### **9.4.2.2 Computer sciences**

##### **AI**

I propose that the concept of *net/latticework* is applicable in AI. In ‘blue sky’ terms, it would support understanding of an interface between the Deep Neural Network (DNN) of machine learning and a dynamic knowledge base, formed in *latticework*, incrementally growing from ‘inter-layer coupling’ (Pastor-Satorras et al, 2015, p.54) and inference in the *hexagonal closure*. In 4.2.2, Triadic closure, I describe triadic closure driving the intersection of network with *latticework*.

##### **Optical computing**

Continuing in ‘blue sky’ mode, the dynamic knowledge base, formed in *latticework*, described above, could be deployed in optical computing design. If it were materially formed from graphene, graphene’s hexagon lattice could be instrumented to operate the senary base and logic gates based on triadic and *hexagonal closures*.

##### **Co-design**

With graphene having the potential to have ‘natural’ senary logic gates operating within its hexagon latticework, future software and hardware could be co-designed.

### 9.4.2.3 *Blending the sciences*

The social sciences and computer sciences combine in the 'The Fourth Industrial Revolution' (Schwab, 2016; Brynjolfsson & McAfee, 2014) as physical, digital, and biological spheres are blended (Schwab, 2016). The growing shift to online/offline community offers great societal potential in *diverse* and *specific cohesions*, yielding high *capabilities* and *roundedness*. It affords important opportunities for creative interventions in national infrastructure.

My study has aimed to deliver a pragmatic output-based approach with contributions that add in helpful ways in future research and application areas.

## 9.5 Personal reflections

My PhD spanned just over six years, starting in September 2013. My submission was in January 2020 just before the pandemic 'lockdown' year of 2020 which delayed the viva until January 2021.

During the pandemic 'lockdown', in which offline society closed and people socially distanced, Government recommended that people in a range of professions worked from home. In neighbourhoods, a community volunteering phenomenon burgeoned in response, in which 750,000 people signed up to the online NHS volunteer scheme, 250,000 offered help to local offline volunteer centres, and an infrastructure of 4300 online 'mutual aid groups' sprang up<sup>59</sup>.

With the easing of the 'lockdown' in 2021, due to the growing protection of vaccines, there is an extraordinary opportunity to build on and formalise the reinforced residential online/offline community that was generated from the extensive home-working and mass support for local voluntary initiatives. I hope that the potential for permanently realising these discovered benefits of residential online/offline community will be developed by the Government.

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<sup>59</sup> <https://blogs.lse.ac.uk/covid19/2021/05/06/where-next-for-britains-4300-lmutual-aid-groups/>



# Appendices

## Appendix 2.1 - Pilot Review

The two Pilot surveys are included in the first of the ethics application forms in Appendix 2.4.

### **Target mature, wide area online/offline communities**

I realised that building online/offline community involved very active participation in the offline community of an area and would take significant time, e.g., a minimum of a year, and rapid results in the generation of community interest and participation were not achievable over the pilot's six-week duration. The premise for the community-building was a social interest in making arts/crafts and sharing pictures and commentary on a street-message board. The premise was not proven, despite comprehensive door-to-door leafleting, the involvement of street social entrepreneurs and the attraction of a celebrity - the poet John Hegley - leading a summer Sunday art-education event in the local library. The event did not initiate the necessary process of participant group formation. Neither did the purposive sample - the email based online/offline community - support the community-building goal. The group was not sufficiently diverse in their social activity and were not interested in brokering new connections or engagement in the street. The bounding of the study by area, in this case a street, worked to confirm the geographical case study choice, but it was clear that a wider area with established online/offline community would afford a better case study.

### **Use online survey**

The *purposive* sample of the street email group was invited to complete the e-survey, using the "University of Southampton" survey tool '*iSurvey*'. There were eight completions. The use of an online survey was confirmed as an effective method of engaging community participants and discovering their views on their neighbourhoods and community.

### **Draw on classic survey approaches**

In researching the questions for the survey, I used the Government's 'Community Life Survey' (Cabinet Office, 2014a) as a frame of reference and this also informed the development of the survey for the main experiment (Chapter 5). The survey was designed in the first quarter of 2014 to be a rapid pilot method to prepare the way for a future more in-depth survey. There were three parts with 61 questions in all: 1) 'Neighbourhood Offline - Community'; 2) 'Civic engagement in the local community'; 3) 'Neighbourhood - Online Community'. I reviewed the

questions in the 'Community Life Survey' a highly respected Government survey, conducted annually with a longitudinal approach using a set of questions repeated over years. I based the questions in 1) and 2) on a selection of the offline community and civic engagement questions of the 'Community Life Survey'. Out of the three sections of my survey, the last one separately addresses online community. A few of the questions in part 3) had a similar approach to particular questions in the 'Community Life Survey'.

### **Develop new survey approaches for new social phenomenon**

I designed new questions to address online/offline community as a concept. They were not generated from survey design theory or consulted. The purpose was to achieve rapid results and an approximate impression of people's views to align with the observation of behaviour on the Street Message Board.

The questions in part 3 were also significantly focused on a common sense view of *informal* online/offline community activities, e.g. use of social networking (Q3.1), online neighbourliness (Q3.2). They were not concerned with, for example, formal group joining (Q2.2), or approval ratings for local government performance, or donating resource (Q2.1-2.5). The emphasis in part 1 on offline community was on 'mixing socially' (Q1.11-1.19), and specifically enquired into the frequency, situation and diversity of social activity. This type of precision was not replicated in part 3 because I considered the concept of online/offline community to be both emergent to survey participants and in academic terms. Initial ideas about online/offline community evolving in the preliminary literature review, informed the direction and scope of the questions. The informal definition of online/offline community used in part 3 is offered in the question 3.8:

'An online-offline community is a community in which people get to know each other and engage with each other online (e.g. street message board, social networks, email) and offline (chatting in the street/shops/cafes etc).'

The questions were not purposely structured or coherently ordered by theoretical principles. But the questions were directed at the distinctions, relationships and dependencies between online and offline, in regard to particular aspects such as the relative engagement value of online or offline interaction (Q3.10). The question design requirement was basic intelligibility and clarity. The results of the survey are not included in Chapter 6.

### *Develop a series of interviews as an effective method*

Three loosely structured Interviews were conducted with two street social entrepreneurs and a self-titled community activist. The Interviews were initiated after the group development did not happen. As a pragmatic addition to the Pilot, they proved highly informative and established the Interview as an important part of the main experiment.

The results and discussion of these Interviews are given in Chapter 7, where they are considered alongside the other Interviews conducted over the course of the research, as an important part of the Interview Series, implemented to investigate the nature of online/offline community.

### **Formulate online/offline community theory to inform methods**

I understood that without coherent theory of online/offline community, the research instruments of survey and interview could only be loosely structured. The Pilot results revealed the need for an in-depth formulation of a theory of online/offline community.

### **Use existing social media platform**

The Pilot showed that the observation of online activity and behaviour would be relevant in the study of online/offline community. With the street's email group, observation would have been ethically problematic as the interaction was intentionally private. The group members who completed the online survey expressed interest in the use of an online platform at street or ward level that had a public notice board function. The survey results showed that the street and ward unit based online platforms were viewed positively as a social interaction technology intervention. The design and implementation of the street message board did not follow a community-based participatory research approach. I selected blogging/website software used as a de facto standard in the 'hyperlocal' website ecosystem<sup>60</sup>, i.e. WordPress.

The 'hyperlocal' ecosystem based around 'neighbourhood news' (White et al, 2017) generated by citizen-journalists for community-building and other civic purposes. I added a Twitter component to the WordPress configuration to support the social interaction of the board as the microblogging technology was established, popular technology. But as community engagement had not been generated in the short six-week Pilot duration, and the opportunity of involving the community in the design was not taken at the outset, the effectiveness of the

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<sup>60</sup> The list mapping the 'hyperlocal' ecosystem was maintained by 'Talk about local' which is no longer operational, but the list of 'hyperlocal' websites, giving the technology they use, is still available: <http://localweblist.net/about/>

design was not proven. However, later, I did follow the CBPR approach, by offering the technology of the board to the three community activists who had been interviewed to use following my pilot, and they considered its potential and the management resource required to support it. The technology proved less attractive and easy to use than existing national platforms. The community activists briefly experimented with the platform 'Streetlife', later taken over by the US online/offline community platform Nextdoor<sup>6162</sup> but the public online/offline community expression did not sustain.

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<sup>61</sup> Nextdoor is a local community national platform, founded in the US, and growing in Europe: <https://nextdoor.co.uk>

## Appendix 2.2 - Focus Group 1

The stated goal of FG1 in 2015 was: 'To test in which ways the SPACE model is effective and how it can be improved'.

### **a) Evaluation method**

I used a qualitative evaluation method. The discussion was structured by SPACE facets. The first iteration of the Model had five facets that are briefly described here and set out in more detail in Chapter 3 in which they have been adjusted, following the FG1, in a transformation to the complete Model SPENCE.

This model-led structured approach enabled the analytical division of the discussions into *model adherence* and *model augmentation*. The data giving the views of the participants on online/offline community were separated from the evaluation of the model into the category 'Online/offline community views'. The *model adherence* category was designed to evaluate the intelligibility and relevance of the facets. The *model augmentation* category was designed to identify what was missing from SPACE. The FG1 results directly fed into the formulation of the final version SPENCE. Salient quotes from the FG1 discussions are organized by these three categories below.

### **b) Participants**

There were four participants and one facilitator. The four participants were social entrepreneurs from the following online/offline communities in local areas in London:

<http://www.bowesandbounds.org>

<http://www.hernehillforum.org.uk>

<http://www.brixtonbuzz.com>

<http://westhampsteadlife.com>

There was a facilitator 'to ascertain in the most meaningful way the participants' actual views rather than to persuade the interviewees' (Vaughn et al, 1996, p.xix).

### **c) Results**

The results were drawn from the categories used in the detailed transcript analysis, presented below. FG1 is referenced in the Interview Series in Chapter 7.

In summary, the main findings comprised:

- The *Entrepreneur* facet was recommended by a number of participants<sup>63</sup>, who talked about the lack of the community development and management agency role in the model.
- The least intelligible facet was *propinquity*. Both the concept and its old-fashioned term were not fully understood.
- There was also confusion about *activity* and *connection*.
- *Settlement* and *exchange* were the easiest to grasp.

### ***Selected quotes from transcript***

#### **1. Model adherence**

*Support for the clarity of the facet exchange:*

'We've just gone down the route of opening a forum, which has been pretty successful. It's only been going about three months, got a reasonable uptake. People are still working out how to use it I think; not technically, but what they can get out of it'.

'The stuff we write on the website is discussed on the forum, is discussed on Twitter, it's discussed offline. Yeah, it's not that big a world of one neighbourhood. So, things that are being talked about are being talked about everywhere, on the street and in multiple channels'.

'I would say mine is growing towards a growing share of interacting between selves, which is what I've been trying to encourage actively, but it's still probably, let's put a number on it and say 70-30 favour reacted to me, but it's changing'.

'But, there are discussions that take place without me involved at all and they are fewer, but they - yeah, they're there, so I would guess probably 70-30 is'.

'I think on the bulletin boards on Brixton, I just checked actually. Probably, maybe one out of 10 is me'.

'It was a bit of both. It started as a football political site and then I stuck on a forum...we're almost at the cutting edge of bulletin board development, because XenForo who we now work with, for a while we were their biggest installation. We talked to - the guy who does our texter who is amazing, he talks to them the whole time because things happen from the amount of traffic that we have to keep going back to them. Similarly for the listings for Brixton Buzz, this isn't working, we've run out of space or whatever. We were lucky from the time we started, but

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<sup>63</sup> The two FG1 participants who agreed further participation in the main experiment's Case Studies did not accept this term. I took their reluctance to mean they were informal community contributors or social brokers rather than legally bounded in organisation terms.

there was no shortage of people who wanted to express online, but I think they've got to feel it's worth their while'.

*Support for the clarity of the facet of settlement:*

'So, Bowes and Bounds Connected. It's a community forum for a bit of north London that is half in Haringey, half in Enfield, the fag end of two boroughs and an area that neither of them care about. We're physically bounded by major roads, the North Circular, which has undergone a huge amount of redevelopment work over the last couple of years that lots of local people are concerned about. Green Lanes, a road that runs through from north London right the way into Stoke Newington borough, so a very busy high street shopping bit'.

'That seems to be a bit of a given as part of how you do settlement...'

'So, our core area is the settlement if you like. The core area is bounded by physical structure. In terms of membership of the website, people who join up, people who participate, they are mostly people who live in that area, but we have by design, porous boundaries. We are open to anyone that associates with that area, travels through it, has an interest in it and so on'.

'Having said that, within that area, we don't have for example major shopping streets. So, people will talk about the shopping areas that are adjacent to it that are not bounded by the nominal zone. We don't have a big park or anything. There are a couple of small community gardens, so people talk about things that are happening in the park, festivals in the summer and so on that are not within the core area, but are used - facilities that are used by people who do live in that core area'.

'The area that we cover, again is very nebulous in that anyone that thinks they are in or are interested in Herne Hill is. It's that simple. It's self-defining, self-selecting. We don't say that road is in Herne Hill and that one next to it isn't. It's nothing like that. So, people have different interest. It may be traders who come from elsewhere and trade in Herne Hill. It might be service providers who want to do their yoga service or classes whatever in the area, or it could just be local people who do definitely live in the area'.

'Geographically, we've started to create a centre of Herne Hill, which we didn't have seven or eight years ago, and we're trying to - there was a strong need for a physical centre of a place, rather than it just being a traffic jam, which it was for many, many years. So, it's an interesting way of creating that physically and a digital presence that we've redone recently by removing the word Herne Hill Forum and just replacing it with Herne Hill'.

'So, I'm from West Hampstead Life in West Hampstead, northwest London. So, in terms of area, it's similarly self-defining, but it's also defined by the content that we, I, predominately put out. So, the population of what I consider West Hampstead is about 33,000 and it's centred on - we do have a High Street, centred on West End Lane which is a quite nice shopping street, but because we have Kilburn High Road and Finchley Road as our borders, they're

quite strong borders. People don't particularly cross over that much in terms of their day-to-day life. They act as quite firm borders. North and south borders are more fluid, but in the end, people engage with whatever they want to talk about'.

'I think just on the imaginary communities thing, it's an interesting point, because I think the newspaper - the fact that everyone's reading West Hampstead Life, it's the only dedicated source of West Hampstead news. We just fall between the two local papers in the area. They don't really cover the area that much, even though they're both private papers'.

*Settlement can be variously bounded and interconnected:*

'Well, there are so many forums that cover different parts. The Brixton Buzz forum - the Brixton Buzz part is the only geographical. There's London. There are geographical areas'; '...because it's where people have found this safe space'; 'Geographically, they're scattered all over the place'; 'So, it's a bit difficult because I'm so broad on this, that it's a bit difficult to stick...'

## **2. Model augmentation**

*Support for an additional facet of 'agency/entrepreneur', combining social and commercial motivation, to found and sustain online/offline community:*

'What we have, the ruling is for a bona fide educational or entertainment activity, people can have a free listing; that's fine. They put their own listing up. That's up to them. But when it comes to the weekly email update, I will curate what's the interesting stuff and I'll choose. There's stuff that's community led, there's stuff that's free and stuff that's interesting'.

'So, I've tried to encourage anybody on anything to say yeah, that's newsworthy, why don't you do a news article? I've tried to curate it that way than to have my writing on it'.

'Who is curating, creating, determining what goes in there. They're not [i.e. users]'.

'It might have to be moderated or curated in some way and it's up for discussion as to what the criteria would be, but it can't survive just on one or two people'.

'It's a big difference. If I put posters, banners on Urban75, I think a lot of people would leave'.

'I would say mine is relatively institutional, but it doesn't need a hierarchy; it just needs - it needs agency. It needs someone or a group, it doesn't matter what it is, has to drive it. That doesn't need to be hierarchical'.

'I think that - I don't know that I have driven any change in that myself, but I think just the fact that as more people come online, they find they find the site and people - resident associations all know about me and they tend to spread the word a bit. So, judging by the kind of email traffic I get and comments on Twitter, I think we're broadening out. I would like to think we are



pretty representative, because we don't really have many minority groups in any sense, particularly in the area. We're unusual in that sense'.

*Acknowledgment of sponsorship need and part-commercial motivation:*

'I understand that. I'm quite happy being in that position. I don't mind defending the - we have this at the moment on the forum, we have one of these estate agents, an obvious source for this kind of thing - and the estate agent has currently got a banner ad in the forum and in fact, today, someone wrote a very critical piece about the estate agent. That's fine, it stays up, they're welcome to respond. There's no...'

'The problem is if you get a big sponsor who then says you don't want that in and you rely on that sponsor, I never want to be in that position'.

'But I'm very clear to anyone who signs up to be sponsor that they have absolutely zero editorial control'.

'Basically, all the people - people contribute anonymously. I don't know who they are. They give a standing order. Standing orders, every month the money goes in. It's quite a healthy balance'.

'Do you know how much the average - roughly - do people give £5 or £100?'

'Sometimes people just give you money. Like I'll go in the pub and they give you a few quid. I can't guarantee that goes towards the servers'.

'So, you proactively go and recruit people'. 'If you're a - I'm quite a visible person in the community. I know a lot of people who they know about the website. They don't actually look at it that much but I could easily go and pull them in and I do that a lot, generally just to enrich the discussion'.

'...it's funded in an unusual way. Because we had so much traffic, it's quite expensive. The way it's funded is people donate anonymously. They get no benefits, they get no privileges. They just get to see this site carrying on'.

'I nearly asked earlier about listings and about funding. Because I know locally, it started to scavenge the local free papers because there was no listing stuff going online'.

'Do you make money off listings any of you? So no, our revenue comes from basic banner ad sponsored posts, that kind of thing'.

'It's funny, because the funders, if ever we apply for grants they want to know exactly who it is you're going to deliver and...'

*Critique of 'connectivity' facet, suggesting it is folded into another facet:*

'There has to be connectivity otherwise there is no community. So yes, it's interesting which channels people use but I wonder if that could be folded into one of the other elements and that gives you a [?] for curations'.

*Use of term 'channels' adds clarity, supporting the concept of online/offline community:*

'I'm slightly confused the bit between connectivity which seems to be just the kind of channels'.  
'The stuff we write on the website is discussed on the forum, is discussed on Twitter, it's discussed offline. Yeah, it's not that big a world of one neighbourhood. So, things that are being talked about are being talked about everywhere, on the street and in multiple channels'.  
'Channels online. We have a website which is a forum, so there are blogs, photographs, videos that people have uploaded, all sorts of stuff. It's based on Ning software, so it's a fairly basic interpretation of Ning software. We have a Facebook channel which has about 500 members, about two and a half thousand people follow on Twitter and YouTube channels and Flickr pages and stuff. But we use Facebook and Twitter effectively to drive traffic to the website. That's the function'.

'Our channels are, I think we're unusual in that we started only on Twitter. So, I started a Twitter account six years ago @whampstead, which relentlessly only ever talked about West Hampstead, kind of nothing else and that's now at 11,000 or something followers. Fairly soon after that the website came along, West Hampstead Life'.

'I'm a bit different to the rest of you because the online-offline mix has been from the site from the start. There's a craft club, there's a cycling club, there's all these things that have spun out'.

'The offline part of what we do is pretty huge and it's one of the three big strands. I think of it as there's the website, there's Twitter and there's offline.'

'...that one is extremely straightforward. It's just what channel do you use?'

*Critique of 'propinquity' facet, suggesting it is not a helpful concept for maintaining community:*

'...and then you think, was I? Fine. Is that what you call it? That's fine. You can label it if you want. I will just continue doing it if that's alright with you. We won't have a propinquity meeting at all or whatever you want to call it. We'll just keep on'.

*Activity (traffic) facet is clarified as discussion/exchange*

'I'll stick to Brixton, because the rest is too broad. But between Brixton Buzz and Urban75, the Brixton forum which are linked completely, there's an awful lot of activity. We're doing three, four, or five posts every day, probably more on the Brixton Buzz website and that feeds directly into forum discussion and that's bringing - the traffic on the site is going through the roof. It's doubling'.

*Critique of academic quality of the model, arguing an organic, pragmatic approach is needed in sustaining and building online/offline community:*

'My [unclear] like any academic framework, it feels quite artificial. So, I think as soon as you started talking about it, we inevitably just broke through all those five barriers, because when you're living it, you can't - you don't break it down that way'

'...have immense trouble working out. I wrote a pretty successful board and I never thought one of these things ever. I just do it. My thing, I've run the site, I've never cared about anything. I've responded organically.

'I'm not sure is it - the other dimensions seem very sprawling to me and very difficult to get your head around for most of us I think...'

## Appendix 2.3 - Focus Group 2

FG2 built on the findings of FG1 after which the 1st version of the model SPACE transformed to SPENCE.

FG2 had a number of key purposes in the research design: to test the robustness of SPENCE and the intelligibility and relevance of its metrics. There were unanticipated outputs that included the discovery of the quality of metrical flexibility. This is encompassed by the concept of *interpretative flexibility* described in Chapter 2, 2.3.5.1.

In planning the Focus Group, I characterised online/offline community as originating from an IT-led system i.e. a website forum, as demonstrated in the main experiment case studies of Herne Hill and Bowes and Bounds Green. So FG2 was predicated on building an IT system-led online/offline community. I used a key element of the IT systems development methodology 'Agile'<sup>64</sup> i.e. the *user story*<sup>65</sup> that generates user requirements. There are three parts of the user story: role, goal and benefit. I used the goal concept for the SPENCE facet metrics. I fixed the generation of user stories in the FG2 around the *goal* of the metric that I termed a *set goal* as it was an existing guiding element to construct the role and benefit elements around. The first iteration of the metrics of SPACE/SPENCE were converted into the *set goals* of 'Agile' to steer user requirements gathering to design an IT-led community system. The metrics addressed sub-concepts within the Model's facets. The user requirements gathering involved the identification of IT system features that would address the *set goals* in each facet. I described the SPENCE Model to the group and facilitated a discussion that was structured by SPENCE facet and metrics-based *set goals*. This led to the unanticipated discovery that the SPENCE metrics were *interpretatively flexible* in their capacity to convert to *set goals*.

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<sup>64</sup> 'Agile' software methodology supports the evolutionary development of software using the principles of adaptive planning, rapid and flexible response to change, rapid delivery, continuous improvement see the manifesto for 'Agile' Software Development'.

<sup>65</sup> User story: user stories are used with 'Agile' software development methodologies; in software development, a user story is a description consisting of one or more sentences in everyday or business language that captures what a user does or needs to do as part of his or her function; a user story encapsulates the action of one function; it captures the 'who', 'what' and 'why' in a simple, concise way. It uses a template, e.g.,: As a <role>, I want <goal/desire> so that <benefit>.

### **a) Evaluation method**

The evaluation method was qual/quant method i.e. it evaluated the intelligibility of the SPENCE metrics/*set goals* by counting the proportion of *user stories* generated by the participants in each of the SPENCE facets, qualitatively judged relevant and fitting when matched with the set goal and facet conceptual meanings.

### **b) Participants**

I selected four participants who were planning to build online/offline communities, from three different work sectors, private and public:

<https://www.remindmecare.com> - a medical services start-up

<https://hackney.gov.uk> - London Borough of Hackney

<http://www.vassallandcoldharbour.org.uk> - Lambeth Borough Ward of Vassal and Coldharbour

### **c) Results**

The metrics proved intelligible as *set goals*. The participants were able to generate a reasonable range of user stories for each facet, using the *set goals*. FG2 proved that the metrics did function reasonably well as *set goals*; that they were intelligible in an IT community systems design function. The evaluated metrics fed into both the design of the Survey Instrument, and the combined data analysis method applied to the Survey results aligned with the Twitter Study results (Appendix 4.3).

#### *Interpretative metrics*

The unanticipated result, emerging from the design of the FG2, was proof that the metric had the conceptual flexibility to be transformed into an 'Agile' user story *goal*. After the Survey design and Twitter Study design were conducted, *interpretative metrics* emerged (see Chapters 2, 4 and 5), based on Twitter syntax, co-constituted by the four *capabilities* within the facet of *net/latticework*, contextualised in the other facets of SPENCE.

The metrics evolved during the revision of the model from SPACE to SPENCE. In SPACE, they were based on Twitter code functions and basic network analysis principles. When SPACE transformed to SPENCE, they became *interpretative* and less structured on formal network analytical principles, e.g., 'centralities. These principles are scientifically constituted from empirical observation. The *interpretative metrics* are based on socially co-constituted artefacts, e.g., Twitter syntax such as the hashtag, interpreted using a coherent integration of interdisciplinary principles in the SPENCE model (Chapter 3).

## Appendix 2.4 - Ethics applications for Stage 1

### 1. Stage 1 Pilot ethical application

Authorised Ethics Committee ERGO application form - Ver 6.5

|  |                               |                  |
|--|-------------------------------|------------------|
| Reference number: ERGO/9348  | Version: 2.0                  | Date: 2014-03-28 |
| Name of investigator(s): Caroline Halcrow  |                               |                  |
| Name of supervisor(s) (if student investigator(s)): Professor Les Carr   |                               |                  |
| Title of study: An investigation into the potential for building sustainable online-offline community in a street in the London Borough of Hackney through an online arts-based intervention |                               |                  |
| Expected start date: 18/04/2014  | Expected end date: 06/06/2014 |                  |

### ***Pre-study***

#### **Characterise the proposed participants:**

Residents in the London Borough of Hackney street, Lordship Park, N16 5UD and N16 5UA, between the ages of 18-70.

#### **Describe how participants will be approached:**

On the Easter weekend, when people are at home, flyers, consent and participation forms will be distributed door to door, advertising and providing detailed information about the project to residents. Email addresses will be gathered where possible. Emails will be circulated to all of the people who give their emails (during canvassing or subsequently). Emails will be sent out regularly (but not over-frequently) before each major event (i.e. Workshop/Survey) or activity (i.e. survey, tweeting, art-sharing on street message board), during the course of the 6 week study.

#### **Describe how inclusion and/or exclusion criteria will be applied (if any):**

At the door-to-door canvassing, by email and at workshops, the age group 18-70 will be specified.

Etiquette rules for email and social network use will be given out at the canvassing with clear guidance that moderation will be implemented in the case of issues being reported. This moderation could lead to exclusion.

**Describe how participants will decide whether to take part:**

Alongside flyers, given out at the canvassing activity, and the launch workshop, participation information forms and printed consent forms will be distributed. The consent forms will be collected during canvassing presentations and at the end of the Launch Workshop. The online survey will also include the consent and participation information as will the emails inviting survey participation. People will be encouraged to take part in the survey by email. Taking part in adding art to the street message board is an activity that people have time to decide to participate in. Maximum participation will be encouraged at the launch.

***During the study*****Describe the study procedures as they will be experienced by the participant**

The participants, (residents), will have one thought-provoking online survey to complete and the opportunity of interviews to volunteer to take part in (by invitation to residents and local online-offline community builders), all raising questions about offline neighbourhood community and how online-offline community might add an extra social dimension. There is one launch workshop. Street residents have the opportunity of enjoying sharing the art online that they create in hobbies, with their neighbours. The venue for the workshop is the local library near to the street under study.

**Identify how, when, where, and what kind of data will be recorded:**

Survey responses, emails, blogs, tweets and interview discussions will be stored/recorded.

***Post-study*****Identify how, when, and where data will be stored, processed, and destroyed.**

The email/postal addresses and interview audio-recordings and transcripts will be kept in the storage on the researcher's iPad, iPhone, Mac, Dropbox, Southampton networks and might be kept, if appropriate, in the secure cloud belonging to the transcription service in Australia, 'Sterling Transcription'. The Tweets from Twitter IDs owned by participants, and the identified or anonymised art on the street message board will be available on the World Wide Web and participants will be aware of this and will have given their consent. The data will not be destroyed during the course of the PhD.

**LORDSHIP PARK ONLINE-OFFLINE COMMUNITY PILOT**

## PARTICIPATION INFORMATION FORM - PRINTED AND ELECTRONIC (AS PART OF ONLINE SURVEYS 1 AND 2)

This study has been approved by the Ethics Committee of the 'University of Southampton'.

### **STUDY PURPOSE**

To survey the population of Lordship Park to find out your views on your neighbourhood and on the extent of your social networks and social resources in your neighbourhood.

To conduct a pilot to increase online-offline social networks and social resources in the street by encouraging you to participate in activities, including sharing email addresses, sharing social networking names, and using a street message board to share the art and crafts (e.g. photos, paintings, videos, music, crafts, twitter poetry) you create in hobbies.

To discuss, in interviews with a selection of residents and local online-offline community builders, the potential for sustainable growth of online-offline community, its benefits/disbenefits and the approach of using e.g. arts-based online activities as facilitators.

### **STUDY PROCESS**

Your participation is entirely voluntary and you have the right to unconditionally withdraw at any time and for any reason. I will email significant information about the project findings (e.g. contained in journal articles or public study reports) to the people who have participated in the project.

### **RESEARCH/PERSONAL DATA**

The survey data you provide will be anonymous and used in research. Once collected it is not possible for you to request its removal, although it can be revised (see below).

You have the right to request changes to or delete any personal data (i.e. in your shared art online, blogs, tweets) at any time and for any reason.

You can contact me to request changes/deletions at [caroline@streetcom.org](mailto:caroline@streetcom.org)

Your data will be stored on my iPad, iPhone, computers, Dropbox, 'University of Southampton' computer and networks, and may be kept temporarily on the servers of the transcription service which might be used for the interviews.

The anonymous research data will not be destroyed. The personal data on public networks (e.g. Lordship Park Twitter account) will be destroyed on the completion of my PhD in 2016, unless a case is made to the researcher to own the account by local residents.

Your data will be used for analysis in the context of the online-offline community study focus.

Your data will be kept confidential and in an anonymous state.



## **1st SURVEY**

### **A. NEIGHBOURHOOD – OFFLINE COMMUNITY**

Here is a question about your household.

1.1 How many adults, aged between 18-70 are in your household.

Here are some questions about the area that you live in.

I am going to ask about your opinions on a number of places.

1.2 I would like you to tell me how strongly you feel you belong to each of the following areas using the answers below.

First, your immediate neighbourhood? (How strongly do you feel you belong?)

- (1) Very strongly
- (2) Fairly strongly
- (3) Not very strongly
- (4) Not at all strongly
- (5) Don't know

And now your local area. By this I mean the area within a 15-20 minute walk from your home (How strongly do you feel you belong?)

- (1) Very strongly
- (2) Fairly strongly
- (3) Not very strongly
- (4) Not at all strongly
- (5) Don't know

1.3 For the next few questions I want you to focus on your immediate neighbourhood.

1.3.1 Roughly how many years have you lived in this neighbourhood?

Under a year etc

Answer must be in the range from 0 up to 99: \_\_\_\_

1.3.2 Would you say that this is a neighbourhood you enjoy living in?

- (1) Yes, definitely

(2) Yes, to some extent

(3) No

1.3.3. To what extent would you agree or disagree that people in this neighbourhood pull together to improve the neighbourhood?

(1) Definitely agree

(2) Tend to agree

(3) Tend to disagree

(4) Definitely disagree

(5) Don't know

(6) Nothing needs improving

1.3.4 To what extent do you agree or disagree that people in this neighbourhood share the same values?

(1) Strongly agree

(2) Agree

(3) Disagree

(4) Strongly disagree

(5) Don't know

1.3.5 There are different opinions about what values are important in society.

Should individuals take responsibility for helping other people in their local community?

(1) Strongly agree

(2) Tend to agree

(3) Tend to disagree

(4) Strongly disagree

(5) Don't know

1.3.6 Taking everything into account, how would you describe your overall attitude towards the local area? Would you say you feel ...

(1) very proud of the local area

(2) fairly proud of the local area

(3) not very proud of the local area

(4) or not at all proud of the local area?

(5) Neutral

(6) Don't know

1.3.7 On the whole do you think that over the past two years this area has got better or worse to live in, or haven't things changed much?

- (1) The area has got better
- (2) The area has got worse
- (3) The area has not changed much
- (4) Have lived here less than two years

1.3.8 Taking everything into account, how satisfied or dissatisfied are you with the way your local authority runs things? Please choose your answer from this card.

- (1) very satisfied,
- (2) fairly satisfied,
- (3) neither satisfied nor dissatisfied,
- (4) fairly dissatisfied,
- (5) or very dissatisfied?
- (6) Don't know

1.3 Now I would like to ask you some questions about your wider local area. I mean the area within 15-20 minutes walking distance.

1.3.1 To what extent do you agree or disagree that this local area, (within 15-20 minutes walking distance), is a place where people from different backgrounds get on well together?

- (1) Definitely agree
- (2) Tend to agree
- (3) Tend to disagree
- (4) Definitely disagree
- (5) Don't know
- (6) Too few people in the local area
- (7) All same backgrounds

1.3.2 What sorts of things, if any, prevent people from different backgrounds from getting on well together in this local area (within a 15-20 minute walk)?

Open answer

1.4 The next question asks about whether you have mixed socially (e.g. having informal conversations) with other groups of people in different areas of your life in your neighbourhood and your local area?

1.4.1 At your work, school or college?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never
- (7) Not Applicable
- (8) Don't know/No opinion

1.4.2 At your child's crèche, nursery or school?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never
- (7) Not Applicable
- (8) Don't know/No opinion

1.4.3 At a pub, club, café or restaurant?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never
- (7) Not Applicable
- (8) Don't know/No opinion

1.4.4 At a group, club or organisation you belong to, e.g. a sports club or social club?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never

- (7) Not Applicable
- (8) Don't know/No opinion

1.4.5 At the shops?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never
- (7) Not Applicable
- (8) Don't know/No opinion

1.4.6 At a place of worship?

- (1) Daily
- (2) Weekly
- (3) Monthly
- (4) At least once a year
- (5) Less often
- (6) Never
- (7) Not Applicable
- (8) Don't know/No opinion

1.5 Which, if any, of the things below do you think would encourage people to mix together in the neighbourhood?

- A. Social events outside of work, school or college
- B. Fetes, festivals and fairs
- C. Shared hobbies, sports clubs
- D. Going to the same health services, post offices
- E. Going to work, school or college together
- F. Using the same arts and cultural facilities
- G. Using the same shops and restaurants
- H. Using the same leisure centres/sports facilities
- I. Going to pubs or clubs
- J. Travelling together by bus or train
- K. Visiting each other's homes
- L. Visiting each other's community centres

M. Visiting each other's religious places of worship

O. Online social networking services

P. Something else – text box

None of these

Don't know

1.6 Now thinking about whether you can influence local political decisions and local affairs.

1.6.1 How important is it for you personally to feel that you can influence decisions in your local area? Would you say it is

(1) very important?

(2) quite important?

(3) not very important?

(4) not at all important?

(5) Don't know

1.6.2 Generally speaking, would you like to be more involved in the decisions your Council makes that affect your local area?

(1) Yes

(2) No

(3) Depends on the issue

1.6.3 Do you agree or disagree that you can influence decisions affecting your local area?

(1) Definitely agree

(2) Tend to agree

(3) Tend to disagree

(4) Definitely disagree

1.6.4 And affecting London?

(Do you agree or disagree that you can influence decisions)

(1) Definitely agree

(2) Tend to agree

(3) Tend to disagree

(4) Definitely disagree

(5) Don't know

1.6.5 If you wanted to influence decisions in your local area, how would you go about it?

- (1) Contact the council/a council official
- (2) Contact my councillor
- (3) Contact my MP
- (4) Contact my assembly member (for Wales and London)
- (5) Sign a petition
- (6) Organise a petition
- (7) Attend a council meeting
- (8) Attend a public meeting
- (9) Contact local media or journalists
- (10) Other, specify
- (11) Wouldn't do anything
- (12) Don't know

1.6.6 Below are some things people have said would make it easier for them to influence decisions in their local area. Which, if any, of these might make it easier for you to influence decisions in your local area?

- (1) If I had more time
- (2) If the council got in touch with me and asked me
- (3) If I could give my opinion online/by email
- (4) If I knew what issues were being considered
- (5) If it was easy to contact my local councillor
- (6) If I knew who the local councillor was
- (7) If I could get involved in a group making decisions about issues affecting my local area/neighbourhood
- (8) Other, specify
- (9) Nothing
- (10) Don't know

1.6.7 Now I would like to ask a few questions about trust. How much do you trust

1.6.7.1 Your local council.

(Do you trust it a lot, a fair amount, not very much, or not at all?)

- (1) A lot
- (2) A fair amount
- (3) Not very much
- (4) Not at all

1.6.7.2 I'd now like to ask you about how you view other people. Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

- (1) People can be trusted
- (2) You can't be too careful
- (3) Depends

## **B CIVIC ENGAGEMENT IN THE LOCAL COMMUNITY**

Now I have some questions about civic engagement activities in your local community.

1 Now I want to ask you about any unpaid help you, as an individual, may have given to other people, that is apart from any help given through a group, club or organisation. This could be help for a friend, neighbour or someone else but not a relative.

- (1) Keeping in touch with someone who has difficulty getting out and about (visiting in person, telephoning or e-mailing)
- (2) Doing shopping, collecting pension or paying bills
- (3) Cooking, cleaning, laundry, gardening or other routine household jobs
- (4) Decorating, or doing any kind of home or car repairs
- (5) Baby sitting or caring for children
- (6) Sitting with or providing personal care ( eg washing, dressing) for someone who is sick or frail
- (7) Looking after a property or a pet for someone who is away
- (8) Giving advice
- (9) Writing letters or filling in forms
- (10) Representing someone (for example talking to a council department or to a doctor)
- (11) Transporting or escorting someone (for example to a hospital or on an outing)
- (12) Anything else
- (13) No help given in last 12 months

1.1.1 Over the past 12 months, about how often have you done this kind of thing/all the things you have mentioned?

Would you say ...

- (1) at least once a week,
- (2) at least once a month,
- (3) or less often?
- (4) Other



1.2 I'd like you to think about any groups, clubs or organisations that you've been involved with in the neighbourhood and local area during the last 12 months. That's anything you've taken part in, supported, or that you've helped in any way, either on your own or with others. Please exclude giving money and anything that was a requirement of your job.

1.2.1 Please tick the groups, clubs or organisations you've taken part in, supported or helped, over the last 12 months.

- (1) Children's education/schools
- (2) Youth/children's activities (outside school)
- (3) Education for adults
- (4) Sport/exercise (taking part, coaching or going to watch)
- (5) Religion
- (6) Politics
- (7) The elderly
- (8) Health, Disability and Social welfare
- (9) Safety, First Aid
- (10) The environment, animals
- (11) Justice and HumanRights
- (12) Local community or neighbourhood groups
- (13) Citizens' Groups
- (14) Hobbies,Recreation/Arts/Socialclubs
- (15) Trade union activity
- (16) Other
- (17) None of these

1.2.2 In the last 12 months, have you given unpaid help to any groups, clubs or organisations in any of the ways shown below?

- (1) Raising or handling money/taking part in sponsored events
- (2) Leading the group/member of a committee
- (3) Organising or helping to run an activity or event
- (4) Visiting people
- (5) Befriending or mentoring people
- (6) Giving advice/information/counselling
- (7) Secretarial, admin or clerical work
- (8) Providing transport/driving
- (9) Representing

(10) Campaigning

(11) Other practical help (eg helping out at school, shopping)

(12) Any other help

(13) None of the above

1.2.2.1 Overall, about how often over the last 12 months, have you generally done something to help this (these) group(s), club(s) or organisation(s).

Would you say ...

(1) at least once a week,

(2) less than once a week but at least once a month,

(3) or less often?

(4) Other

(5) Don't know

1.2.3 How did you find out about opportunities to give unpaid help?

(1) Through previously using services provided by the group

(2) From someone else already involved in the group

(3) From a friend not involved in the group/by word of mouth

(4) Place of worship

(5) School, college, university

(6) Doctor's surgery

(7) Community centre

(8) Library

(9) Promotional events/volunteer fair

(10) Local events

(11) Local newspaper

(12) National newspaper

(13) TV or radio (local or national)

(14) Internet/organizational website

(15) Volunteer bureau or centre

(16) Millennium Volunteers

(17) Employer's volunteering scheme

(18) Careers centre/careers fair

(19) Other way (please specify)

1.3 In the last 12 months, have you done any of the things listed below? Please include any activities you have already told me about. Please do not include any activities related to your job

- (1) Been a local councillor (for local authority, town or parish)
- (2) Been a school governor
- (3) Been a volunteer Special Constable
- (4) Been a Magistrate
- (5) None of these

1.4 And again, in the last 12 months, have you done any of the things listed below? Please include any activities you have already told me about. Please do not include any activities related to your job.

Member of:

- a group making decisions on local health services
- a decision making group set up to regenerate the local area
- a decision making group set up to tackle local crime problems
- a tenants' group decision making committee
- a group making decisions on local education services
- a group making decisions on local services for young people another group making decisions on services in the local community
- (7) None of these

1.4.1 And about how often have you done this kind of thing/all things you have mentioned over the last 12 months?

Would you say it was....

- (1) at least once a week,
- (2) less than once a week but at least once a month,
- (3) or less often?
- (4) Other

## **C NEIGHBOURHOOD – ONLINE COMMUNITY**

Do you use social networks?

Yes/No.

If yes, which social networks do you use?

Twitter  
Facebook  
LinkedIn  
Pinterest  
Youtube  
Tumblr  
Soundcloud  
Other  
Open answer

How do you think you could be neighbourly online? Here are some ideas, do you agree?

Giving neighbours in your street your email address –

Yes/No

Giving neighbours in your street your social network names

Yes/No

Using a street message board to talk about street issues with your neighbours

Yes/No

Other

Open answer

How close do you want to be in contact with your neighbours on the street?

face-to-face contact

email contact

street message board contact

social network contact (e.g. Twitter, Facebook)

other

none

Would you like it if the street had an online message board, which you and your neighbours could post messages to?

Yes/No

If yes, why?

Open answer.

6. Would you be happy to let your neighbours know what your online social network names were so they could 'follow' you.

Yes/No

7. Would you like your neighbours to know your email address?

Yes/No

8. Would you like your personal email address(es) to be in an email directory as in a phone directory.

Yes/No

9. An online-offline community is a community in which people get to know each other and engage with each other online (e.g. street message board, social networks, email) and offline (chatting in the street/shops/cafes etc).

Would you like to be a part of an online-offline community in Lordship Park?

Yes/No

10. If your neighbours knew your online contact details (e.g. email, social network names, street message board name) and knew you to talk to face-to-face, would this make you feel you belonged more to a street community?

Yes/No

11. Is online communication as engaging or connecting as talking face-to-face in the street?

Yes/No

12. Would it be enjoyable to let neighbours see what art and crafts you make as a hobby by sharing it on a street message board with the arts and crafts of your neighbours?

Yes/No

13. Would you find it easier to talk to street neighbours from different backgrounds online at first before you make contact face-to-face?

Yes/No

14. Would you prefer an online-offline community to be bigger than a street? If yes how big?

Ward

Borough

London

15. Do you think your online and offline social networks have value? If yes what kind of value?

Personal/social

job-related or financial

shared interest and life-style

16. Do you invest time in building your online social networks?

Yes/No

And if yes, why?

you feel more connected to people

it might be useful in job-related or financial ways

it might help your offline social networks

17. Would you be interested in contacting or being contacted by your neighbours using online communications (e.g. email, social networks, street message board) to work with them in volunteering or council-related activities in your neighbourhood?

Yes/No

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2nd SURVEY

NEIGHBOURHOOD – ONLINE-OFFLINE COMMUNITY

Did you take part in the planning the art-sharing event by email?

Yes/No

If yes, did it increase your sense of belonging to an online-offline community?

Did posting tweets to the street message board increase your sense of belonging to an online-offline community?

Yes/No

If yes, was it because:

the collection of tweets showed how the street could be creative together

you were proud of how people worked together to achieve something positive

you could see the creativity of your neighbours

you could share your own creativity

all of these

3. Did sharing your art, crafts, music, videos, photographs etc on the online street message board increase your sense of belonging to an online-offline community?

Yes/No

If yes, why

Open answer

4. After the street pilot, did you become closer in a positive way with your neighbours in Lordship Park?

Yes/No

If yes, was it through

using online communications (email, street message board, sharing social networking)

meeting face-to-face at the two workshops

organizing the art-sharing event by email

all of these

none of these

5. After the street pilot, are you more interested now in using social networks so that you can connect with your neighbours?

Yes/No.

If yes, which social networks would you use to connect with your neighbours better?

Twitter

Facebook

LinkedIn

Pinterest

Youtube

Tumblr

Soundcloud

Other

6. After the street pilot, how do you think you could be neighbourly online? Which of these ways do you prefer?

Giving neighbours in your street your email address

Giving neighbours in your street your social network names

Using a street message board to talk about street issues with your neighbours

Other

7. After the street pilot, which of these ways of being in contact with your neighbours on the street makes you feel closer?

Face-to-face contact

Mobile phone contact

Email contact

Street message board contact

Social network contact (e.g. Twitter, Facebook)

Other

All of these

None of these

8. In the street pilot did you find the street message board effective?

Yes/No

If no, how would you improve the street message board?

Open answer.

9. After the pilot, do you have further ideas on how to build online-offline community?

Open answer



10. After the pilot, would you now like your neighbours to know your email address?

Yes/No

If yes, why

Open answer

11. After the pilot, would you now like your personal email address(es) to be in an email directory as in a phone directory.

Yes/No

12. An online-offline community is a community in which people get to know each other and engage with each other online (e.g. street message board, social networks, email) and offline (chatting in the street/shops/cafes etc).

Did the pilot make you feel the benefits of belonging to an online-offline community in Lordship Park?

Yes/No

If yes, what did you think were the benefits?

Open answer

13. After the pilot experience, do you think that if your neighbours knew your online contact details (e.g. email, social network names, street message board name) and knew you to talk to face-to-face, would this make you feel you belonged more to your street community?

Yes/No

14. After the pilot experience, do you think online communication is as engaging or connecting as talking face-to-face in the street?

Same

More

Less

15. Do you think another approach (e.g. neighbourhood watch, voluntary work) to making people connect and work together online-offline would have been as effective as the arts approach used in the pilot?

Yes/No

If no, do you think that community and participatory arts offer a unique way of making people develop closer connections?

Yes/No

If yes, can you say more:

Open answer

16. Did you find it easier during the pilot to talk to street neighbours from different backgrounds online (e.g. email, social networks, street message board) before you made contact face-to-face?

Yes/No

17. Did you change your mind after the pilot, about the value of your online and offline social networks?

Yes/No

If yes, what new values did you discover?

Online

Personal/social

job-related or financial

shared interest and life-style

all of these

Offline

Personal/social

job-related or financial

shared interest and life-style

all of these

18. Does an online social network have a different value to an offline social network?

Yes/No

If yes, which value does it have more of:

Personal/social

job-related or financial  
shared interest and life-style

19. Did you find the online social network had value in enabling you to find out more information about your neighbours?

Yes/No

If yes, did the social network information give you the sense that there was potential social resource available if required?

Yes/No

If yes, did the online social network make it easier to connect with neighbours who could provide social resource?

Yes/No

20. Will you invest more time in building your online social networks in the neighbourhood as a result of your experiences in the street online-offline community pilot?

Yes/No

And if yes, why?

you feel more connected to people

it might be useful in job-related or financial ways

it might help your offline social networks

21. Are you more interested now, after the pilot, in contacting or being contacted by your neighbours using online communications (e.g. email, social networks, street message board) to work with them in volunteering or council-related activities in your neighbourhood?

Yes/No

22. With the experience of the pilot, would you now prefer an online-offline community (e.g. sharing emails, social networking names, message boards) to be bigger than a street?

If yes how big?

Ward

Borough

London

If yes, why?

Open answer

23. With the experience of the pilot, do you think online-offline community has 'denser' or more tight-knit social networks?

Yes/No

24. With the experience of the pilot, do you think that the people you know less well in the street would become closer through online-offline community?

Yes/No

25. With the experience of the pilot, do you think that the people in the street you know well would become even closer through online-offline community?

Yes/No

26. With the experience of the pilot, do you think that there is a clustering of similarity (everyone has the same background or interest) or a growth of wider connectivity (people have different backgrounds and interests) in online-offline community?

Yes/No

27. With the experience of the pilot, do you think online-offline community is more resilient (i.e. less prone to social issues and more community-minded in solving issues) than offline community?

If yes, do you think that the resilience would mean less external community interventions would be necessary in some communities?

28. With the experience of the pilot, do you think online-offline community would make a community more autonomous or self-reliant?

Yes/No

29. With the experience of the pilot, do you think that the growing density of networks in online-offline community would gain a momentum so it increased in a continuous way?

30. With the experience of the pilot, do you think that people would make connections first online and then offline or the other way round or both equally?

Online first then offline

Offline first then online

Both equally

### References

IPSOS MORI (2008). Understanding social capital in Camden: Findings from the 2008 social capital survey. London: Borough of Camden.

DCLG (2009). 2007-08 Citizenship survey: Technical report. London: HMSO.

Mertens, D. M. (2012). Transformative research and evaluation. New York: Guilford Press.

ONS (2014). Opinions and lifestyle (opinions) survey information guide 2013-14. London: HMSO.

## LORDSHIP PARK ONLINE/OFFLINE COMMUNITY PILOT

### Consent form – printed and electronic (as part of online surveys 1 and 2)

I understand that my participation is entirely voluntary and I have the right to unconditionally withdraw at any time and for any reason.

I agree to take part in a number or all of the following pilot activities (as indicated by a tick):

- ☐ Sharing my email, social network names (e.g. Twitter, Facebook) with neighbours in the street and the researcher selectively at my discretion
- ☐ Completing an Online Survey
- ☐ Taking part in an interview with the researcher (by invitation)
- ☐ Emailing digital versions (e.g. photos) of the art and crafts I create in hobbies to the online street message board
- ☐ Tweeting from my personal Twitter account to the Lordship Park Twitter account

Please initial or tick the box (for online) if you agree to take part in the study

## **DPA PLAN**

### **A PERSONAL DATA**

#### **Email personal data stored by researcher**

The email addresses of residents of the street, Lordship Park, in the London Borough of Hackney, will be gathered by the researcher at the beginning of the project. Only residents who consent to share emails will share them. If the emails are inaccurate they will return rejection messages. The emails will be used to invite people to take part in the online survey and to remind people of the pilot activities so they can participate. The emails from residents received electronically or gathered manually by the researcher will not be matched with formal names or postal addresses. The emails will be stored on the researchers 'University of Southampton' owned Mac computer. They will only be destroyed on completion of the PhD as there is the possibility of a longitudinal study being developed.

#### **Email and social network personal data shared amongst neighbours**

At the Launch Workshop, the participants will be asked to share details of their email addresses and social networking names with their fellow participants. It will be made clear that residents can opt-in or opt-out.

#### **Twitter data**

The pilot participants who tweet to the Lordship Park Twitter account will be sharing their twitter account names with their neighbours and publicly on the World Wide Web.

#### **Focus group data**

The focus group transcripts will be anonymous.

#### **Linking consent**

The consent forms will be linked and matched to pilot activities by total counts of participation in each activity, e.g. ensuring there at least the number of email address agreements as emails shared. The interview element of the consent forms will be cross-checked with the participation in interviews, but no identification of participants will be recorded or transcribed.

**Relevance of personal data**

The personal data shared with the researcher is vital to the project's process: emails are required to alert and link would-be participants to the pilot's activities. The emails, Twitter and social networking names shared for use amongst neighbours are integral to the process of the pilot as social capital is built by neighbours communicating online and as the hypothesis positing the benefits of the online-offline community can only be tested by significant connectivity.

**How the data will be protected by appropriate security**

The security measures will be those in use by the 'University of Southampton' and other professional services such as 'Dropbox', 'Sterling Transcription' and Twitter. Additional measures, such as special encryption, will not be deployed.

The email addresses and interview audio-recordings and transcripts will be kept in the storage on the researcher's iPad, iPhone, Mac, Dropbox, Southampton networks and the secure cloud belonging to the transcription service, 'Sterling Transcription', based in Australia. This data will be held temporarily for transcription and then destroyed.

The tweets, from Twitter IDs owned by participants, and the anonymised art on the street message board will be available on the World Wide Web and participants will be aware of this and will have given their consent.

Only the researcher will have access to their iPad, iPhone, Mac and Dropbox, using the security measure of password protection. The Southampton University networks are available to the researcher via the security measure of password protection and system administrators. The transcription service 'Sterling Transcription' might have access to interview transcripts. The Twitter street account will be viewable on the World Wide Web; the street message board will be available to those with internet access who know the URL.

**Giving participants access to their personal data**

It is unlikely that the personal data held by the researcher, i.e. email and social network addresses, will need to be accessed by participants.

## B RESEARCH DATA

### **Art data**

The art data sent to the street message board would have no identifying details. It would constitute anonymised research data.

If art data emailed to the street message board needs to be accessed in the sense of being revised or taken down, the researcher would be contacted and would ensure the participants wishes were met.

### **Online survey data**

The online survey, using 'iSurvey' (<https://www.iSurvey.soton.ac.uk>), will be anonymised so the data collected will be research data, not personal data.

Research data from the survey and interviews will be anonymised so there is no requirement to give access via the FoPSE Office. If participants choose to revise online survey contributions they can resubmit surveys without the intervention of the researcher.



## 2. FOCUS GROUP 1 ETHICAL APPLICATION

Ethics Committee Ver 6.6d

|   |                                 |                  |
|---|---------------------------------|------------------|
| Reference number: 13959   | Version: 0.1                    | Date: 2015-02-18 |
| Name of investigator(s): Caroline Anne Halcrow  |                                 |                  |
| Name of supervisor(s) (if student investigator(s)): Professor Leslie Carr, Professor Susan Halford, Professor Dame Wendy Hall   |                                 |                  |
| Title of study: Evaluation of SPACE Model of Online/Offline Community   |                                 |                  |
| Expected study start date: 7/4/15   | Expected study end date: 8/5/15 |                  |
| Note that the dates requested on the "IRGA" form refer to the start and end of data collection. These are not the same as the start and end dates of the study for which approval is sought.<br><br>Note that approval must be obtained before the study commences; retrospective approval cannot be given. |                                 |                  |

### ***Pre-study***

#### **Characterise the proposed participants**

The proposed participants are leaders of online/offline communities e.g. local forums; and academics associated with the SOCIAM Programme at the 'University of Southampton'.

#### **Describe how participants will be approached**

The participants will be approached by formal email. The invitation/introduction email to participants who have agreed to take part will contain presentational material on the topics to be discussed in the Focus Group.

The participants are external to FPSE because the methodology requires data collection from experts in managing online/offline communities.

#### **Describe how inclusion and/or exclusion criteria will be applied (if any)**

The Focus Group members are determined by their role as leaders of online/offline community in London.

#### **Describe how participants will decide whether to take part**

The time availability, perceptions of relevance and levels of interest of approached individuals will be the determining factors for participation. The initial approach to participants will be

followed up if interest and availability is positive. Individuals will reply by email to the email invitations to accept participation in the Focus Group.

### ***During the study***

#### **Describe the study procedures as they will be experienced by the participant**

The participants of the Focus Group will be involved in structured discussions. They will be asked to evaluate a model of online/offline community in the group discussion. Descriptive information will be provided (not a list of questions) in advance of the group by email to prepare participants for evaluative discussion. The focus group should last around an hour and a 1/4. The Focus Group will be facilitated by a third party, an experienced facilitator in conjunction with my support. This will ensure a fully open and evaluative discussion in which critical and discursive explorations are encouraged.

#### **Identify how, when, where, and what kind of data will be recorded (not just the formal research data, but including all other study data such as e-mail addresses and signed consent forms)**

The email addresses, formal research data (e.g. transcripts, analysis of transcripts), consent forms, and other project documents will be stored on the computer, owned by the University, that I use for my PhD studies; and my two other computers.

Discussions of the Focus Group will be audio-recorded and transcripts made by a third party. The transcripts of the Focus Group will be made by a Transcription Company and temporarily stored on their secure system.

### ***Post-study***

#### **Identify how, when, and where data will be stored, processed, and destroyed**

The email addresses, formal research data (e.g. transcripts, analysis of transcripts), consent forms and other project documents will be stored on the MAC computer, owned by the University, that I use for my PhD studies; and my own PC computer.

All the data will be kept following the completion of my PhD in 2016; and all significant research data will be held for a minimum of 10 years.

## PARTICIPANT INFORMATION

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/13959                                | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form. Your participation is completely voluntary.

**What is the research about?** This is a PhD research project which aims to evaluate a model of online/offline community. The study is supported by the Web Science Institute at the 'University of Southampton'. At the completion of the PhD in the next year(s), elements of the work of the Focus Group might be included in the methodology chapter of the PhD, to which you will have access to see how your data was used.

**Why have I been chosen?** You have been approached because you are experts through either experience and/or theory of online/offline community. You are part of a directly selected group of participants.

**What will happen to me if I take part?** You will first receive information about the topics for discussion in the Focus Group by email; at the group you will sign the consent form and then you will be invited to share your views, ideas, criticisms and opinions about the model for online/offline community in a structured discussion, facilitated by two facilitators. The Focus Group will take about an hour in total.

**Are there any benefits in my taking part?** It is expected that the discussions will be illuminating and insightful and there will be the opportunity for networking with the other participants. It is expected that the study will add to current knowledge about online-offline community.

**Are there any risks involved?** There are no particular risks associated with your participation.

**Will my data be confidential?** All data collected is anonymous / Your data will be held on a password-protected secure University personal laptop and on a password-protected secure

PC owned by the researcher (subject to the same controls as University owned laptop), and used only in accordance with the Data Protection Act (1998). In addition, the data will be anonymised by separating identifying data from data content in the audio recording process at the Focus Group. Your data will be linked to your consent form by manual means. It will be stored 10 years after the date of the submission of the PhD. If you would like to access your data after your participation, change it, or withdraw it, please contact the investigator (cah4g12@soton.ac.uk) or the project supervisor (lac@ecs.soton.ac.uk) who will arrange this.

**What happens if I change my mind?** You may withdraw at any time and for any reason. You may access, change, or withdraw your data at any time and for any reason prior to its destruction. You may keep any benefits you receive.

**What happens if something goes wrong?** Should you have any concern or complaint, contact me if possible (cah4g12@soton.ac.uk), otherwise please contact the Office (A.Glen@soton.ac.uk) or any other authoritative body such as Head of Research Governance.

## CONSENT FORM TEMPLATE

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/13959                                | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

Please initial the box(es) if you agree with the statement(s):

I have read and understood the Participant Information (version 0.1 dated 2015-03-20) and have had the opportunity to ask questions about the study. ☐ this study is completely anonymous / will be stored on password protected computers and that this information will only be used in accordance with the Data Protection Act (1998). The DPA (1998) requires data to be processed fairly and lawfully in accordance with the rights of participants and protected by appropriate security. In addition, the DPA (1998) makes provision for an appropriate authority, such as the Police, to access data held by the study for the purpose of...

Name of participant (print name).....

Signature of participant.....

Date.....

## DPA PLAN

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/13959                                | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

The following is an exhaustive and complete list of all the data that will be collected (through the Focus Group). A questionnaire is not used: structured discussion is the Focus Group approach.

The data is relevant to the study purposes because the model of online/offline community – SPACE – needs to be evaluated by relevant experts in the field. The data is adequate because it should be relevant and the data is not excessive because it is the volunteered opinion and considered views of active Focus Group participants.

The data will be processed fairly because there will be transcripts providing the baseline evidence from which analysis will be drawn and the participants will have given explicit consent for the data to be processed and used to revise the SPACE Model and for it to be included (in anonymised form) in the write-up of the methodology in the PhD, where appropriate.

The data's accuracy is ensured because of the provision of audio recordings and transcripts.

Data will be stored on the Investigator's two laptops: MAC owned by SU; and PC, owned by the Investigator. The data will be held in accordance with University policy on data retention. Data files will be protected by passwords; laptops will be protected by passwords; physical data will be kept in secure storage in the Investigator's flat. Data will be processed on the computers in the following ways: email addresses, consent forms, audio recordings and other project documents will be stored on the MAC that is password protected. The transcripts of the discussion will be stored and analysed on the Investigator's PC using NVivo.

The transcript of the Focus Group will be made by a Transcription Company – Sterling Transcription - and temporarily stored on their system.

The data will be kept for a minimum of 10 years following the completion of the PhD, likely to be autumn 2016.

The data will be processed in accordance with the rights of the participants because they will have the right to access, correct, and/or withdraw their data at any time and for any reason.

Participants will be able to exercise their rights by contacting the investigator (e-mail: [song.art@virgin.net](mailto:song.art@virgin.net)) or the project supervisor (e-mail: [les.carr@soton.ac.uk](mailto:les.carr@soton.ac.uk)).

The data will be anonymised by the transcripts of the audio recordings not having names. Consent forms will be linked to the data by issuing at the Focus Group.

The following data – audio recordings – will not be transferred outside the European Economic Area (EEA) for processing. The protection controls that will be put in place for this data by Sterling Transcription comprise secure server, password protection, and delivery of transcript documents via intranet account rather than email: 'All audio files and transcribed documents sent via client login are SSL encrypted for maximum security' (Sterling Transcription, 2015). Sterling Transcription also adheres to the Privacy and Electronic Communications (EC Directive) Regulations 2003, the Data Protection Act 1998 and the Telecommunications (Data

Protection and Privacy) Regulations 1999. The standard NDA used by Sterling Transcription is attached with the application.

### 3. FOCUS GROUP 2 ETHICAL APPLICATION

Ethics Committee Ver 6.6d

|   |                                   |                  |
|---|-----------------------------------|------------------|
| Reference number: ERGO/13959  | Version: 0.1                      | Date: 2015-06-11 |
| Name of investigator(s): Caroline Anne Halcrow  |                                   |                  |
| Name of supervisor(s) (if student investigator(s)): Professor Leslie Carr, Professor Susan Halford, Professor Dame Wendy Hall   |                                   |                  |
| Title of study: Evaluation of SPACE Model of Online/Offline Community   |                                   |                  |
| Expected study start date: 1/08/15  | Expected study end date: 30/09/15 |                  |
| Note that the dates requested on the "IRGA" form refer to the start and end of data collection. These are not the same as the start and end dates of the study for which approval is sought.<br><br>Note that approval must be obtained before the study commences; retrospective approval cannot be given. |                                   |                  |

#### ***Pre-study***

##### **Characterise the proposed participants**

The proposed participants for the Focus Group are would-be leaders of online/offline communities e.g. local forums, in health-care field.

The proposed participants for the electronic survey of 3 local online/offline communities are adults over 18-75 who are recipients of electronic newsletters sent by the community leaders.

##### **Describe how participants will be approached**

The participants will be approached by formal email. The invitation/introduction email to participants who have agreed to take part will contain presentational material on the topics to be discussed in the Focus Group. The participants are external to FPSE because the methodology requires data collection from experts in managing online/offline communities.

If any e-mail lists are used, justify their use

**Describe how inclusion and/or exclusion criteria will be applied (if any)**

The Focus Group members are determined by their role as leaders of online/offline community in London.

**Describe how participants will decide whether to take part**

The time availability, perceptions of relevance and levels of interest of approached individuals will be the determining factors for participation. The initial approach to participants will be followed up if interest and availability is positive. Individuals will reply by email to the email invitations to accept participation in the Focus Group.

***During the study*****Describe the study procedures as they will be experienced by the participant**

The participants of the Focus Group will be involved in structured discussions. They will be asked to evaluate a model of online/offline community in the group discussion. Descriptive information will be provided (not a list of questions) in advance of the group by email to prepare participants for evaluative discussion. The focus group should last around an hour and a 1/4. The Focus Group will be facilitated by a third party, an experienced facilitator in conjunction with my support. This will ensure a fully open and evaluative discussion in which critical and discursive explorations are encouraged.

**Identify how, when, where, and what kind of data will be recorded (not just the formal research data, but including all other study data such as e-mail addresses and signed consent forms)**

The email addresses, formal research data (e.g. transcripts, analysis of transcripts), consent forms, and other project documents will be stored on the computer, owned by the University, that I use for my PhD studies; and my two other computers.

Discussions of the Focus Group will be audio-recorded and transcripts made by a third party. The transcripts of the Focus Group will be made by a Transcription Company and temporarily stored on their secure system.

**Participant questionnaire**

As an appendix, if using a questionnaire, reproduce any and all participant questionnaires or data gathering instruments in the exact forms that they will be given to or experienced by



participants. If conducting less formal data collection, provide specific information concerning the methods that will be used to obtain the required data.

## ***Post-study***

### **Identify how, when, and where data will be stored, processed, and destroyed**

The email addresses, formal research data (e.g. transcripts, analysis of transcripts), consent forms and other project documents will be stored on the MAC computer, owned by the University, that I use for my PhD studies; and my own PC computer.

All the data will be kept following the completion of my PhD in 2016; and all significant research data will be held for a minimum of 10 years.

## **PARTICIPANT INFORMATION**

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/13959                                | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form. Your participation is completely voluntary.

**What is the research about?** This is a PhD research project which aims to evaluate a model of online/offline community. The study is supported by the Web Science Institute at the 'University of Southampton'. At the completion of the PhD in the next year(s), elements of the work of the Focus Group might be included in the methodology chapter of the PhD, to which you will have access to see how your data was used.

**Why have I been chosen?** You have been approached because you are experts through either experience and/or theory of online/offline community. You are part of a directly selected group of participants.

**What will happen to me if I take part?** You will first receive information about the topics for discussion in the Focus Group by email; at the group you will sign the consent form and then you will be invited to share your views, ideas, criticisms and opinions about the model for

online/offline community in a structured discussion, facilitated by two facilitators. The Focus Group will take about an hour in total.

**Are there any benefits in my taking part?** It is expected that the discussions will be illuminating and insightful and there will be the opportunity for networking with the other participants. It is expected that the study will add to current knowledge about online-offline community.

**Are there any risks involved?** There are no particular risks associated with your participation.

**Will my data be confidential?** All data collected is anonymous / Your data will be held on a password-protected secure University personal laptop and on a password-protected secure PC owned by the researcher (subject to the same controls as University owned laptop), and used only in accordance with the Data Protection Act (1998). In addition, the data will be anonymised by separating identifying data from data content in the audio recording process at the Focus Group. Your data will be linked to your consent form by manual means. It will be stored 10 years after the date of the submission of the PhD. If you would like to access your data after your participation, change it, or withdraw it, please contact the investigator (cah4g12@soton.ac.uk) or the project supervisor (lac@ecs.soton.ac.uk) who will arrange this.

**What happens if I change my mind?** You may withdraw at any time and for any reason. You may access, change, or withdraw your data at any time and for any reason prior to its destruction. You may keep any benefits you receive.

**What happens if something goes wrong?** Should you have any concern or complaint, contact me if possible (cah4g12@soton.ac.uk), otherwise please contact the Office (A.Glen@soton.ac.uk) or any other authoritative body such as Head of Research Governance.

## CONSENT FORM TEMPLATE

### Consent Form

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/ 13959                               | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

Please initial the box(es) if you agree with the statement(s):

I have read and understood the Participant Information (version 0.1 dated 2015-03-20) and have had the opportunity to ask questions about the study. ☐ this study is completely anonymous / will be stored on password protected computers and that this information will only be used in accordance with the Data Protection Act (1998). The DPA (1998) requires data to be processed fairly and lawfully in accordance with the rights of participants and protected by appropriate security. In addition, the DPA (1998) makes provision for an appropriate authority, such as the Police, to access data held by the study for the purpose of...

Name of participant (print name).....

Signature of participant.....

Date.....

## DPA PLAN

### DPA Plan

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: ERGO/ 13959                               | Version: 0.1 | Date: 2015-02-18 |
| Study Title: Evaluation of SPACE Model of Online/Offline Community |              |                  |
| Investigator: Caroline Halcrow                                     |              |                  |

The following is an exhaustive and complete list of all the data that will be collected (through the Focus Group). A questionnaire is not used: structured discussion is the Focus Group approach.

The data is relevant to the study purposes because the model of online/offline community – SPACE – needs to be evaluated by relevant experts in the field. The data is adequate because it should be relevant and the data is not excessive because it is the volunteered opinion and considered views of active Focus Group participants.

The data will be processed fairly because there will be transcripts providing the baseline evidence from which analysis will be drawn and the participants will have given explicit consent for the data to be processed and used to revise the SPACE Model and for it to be included (in anonymised form) in the write-up of the methodology in the PhD, where appropriate.

The data's accuracy is ensured because of the provision of audio recordings and transcripts. Data will be stored on the Investigator's two laptops: MAC owned by SU; and PC, owned by the Investigator. The data will be held in accordance with University policy on data retention. Data files will be protected by passwords; laptops will be protected by passwords; physical data will be kept in secure storage in the Investigator's flat. Data will be processed on the computers in the following ways: email addresses, consent forms, audio recordings and other project documents will be stored on the MAC that is password protected. The transcripts of the discussion will be stored and analysed on the Investigator's PC using NVivo.

The transcript of the Focus Group will be made by a Transcription Company – Sterling Transcription - and temporarily stored on their system.

The data will be kept for a minimum of 10 years following the completion of the PhD, likely to be autumn 2016.

The data will be processed in accordance with the rights of the participants because they will have the right to access, correct, and/or withdraw their data at any time and for any reason. Participants will be able to exercise their rights by contacting the investigator (e-mail: song.art@virgin.net) or the project supervisor (e-mail: les.carr@soton.ac.uk). The data will be anonymised by the transcripts of the audio recordings not having names. Consent forms will be linked to the data by issuing at the Focus Group.

The following data – audio recordings – will not be transferred outside the European Economic Area (EEA) for processing. The protection controls that will be put in place for this data by Sterling Transcription comprise secure server, password protection, and delivery of transcript documents via intranet account rather than email: 'All audio files and transcribed documents sent via client login are SSL encrypted for maximum security' (Sterling Transcription, 2015). Sterling Transcription also adheres to the Privacy and Electronic Communications (EC Directive) Regulations 2003, the Data Protection Act 1998 and the Telecommunications (Data Protection and Privacy) Regulations 1999. The standard NDA used by Sterling Transcription is attached with

## Appendix 4.1 - Latticework

Network science is an academic field comprising a significant interdisciplinary body of literature, ranging from telecommunications networks, computer networks, biological networks, semantic networks to social networks. There is extensive research into the properties and effects of networks. Examples of common social network concepts are: degree distribution, path lengths, ego graph, local clustering co-efficient, component sizes, betweenness centrality etc.

### Latticework

With the *latticework* graph, the theory has been less explored although it is established as a pattern (Barabási, 2002). 'Latticework science' does not exist as a discipline. Its properties are not equivalently examined. The dictionary definition is: 'a regular geometrical arrangement of points or objects over an area or in space *specifically*, the arrangement of atoms in a crystal'.<sup>66</sup>

I propose that as with network, *latticework* can provide a social metaphor - the *social lattice*. Granovetter's (1983) graph theory is applicable to the *latticework*.

### ***Suggested features of the hexagon latticework***

I have assumed the geometric unit in a *latticework* is the hexagon, as it exists commonly in nature, e.g. crystal, honeycomb, the structure of graphene. I suggest below features of *latticework* that it would be useful to explore in future research:

- the hexagon cell unit divides into triangles
- each triangle would have triadic closure effects. The sociological concept of triadic closure was originated by Simmel (1961).
- there is a closure effect that could be termed *hexagonal*.
- there is *superpositionality* in the latticework with one node forms a part of three neighbouring hexagons
- the hexagon unit and the latticework have properties
- the edges between the nodes in the perimeter could be termed 'strong' and the internal edges joining up the perimeter nodes could be termed 'weak'.

---

<sup>66</sup> <https://www.merriam-webster.com/dictionary/lattice>

### ***Suggested properties:***

I would like to propose some ideas about social *latticework* patterns:

- the hexagon cell constitutes a group of 6 points and 6 links.
- the 6 nodes and 6 edges operate as the perimeter.
- in the *latticework*, each node is a part of 3 different cells, showing *superpositionality*.
- each hexagon divides into triangles between the 6 perimeter nodes.
- within the triangles, formed from two perimeter edges, triadic closure operates as an internal edge.
- using this approach, there would be 6 triadic closures.
- these could be expressed as follows:

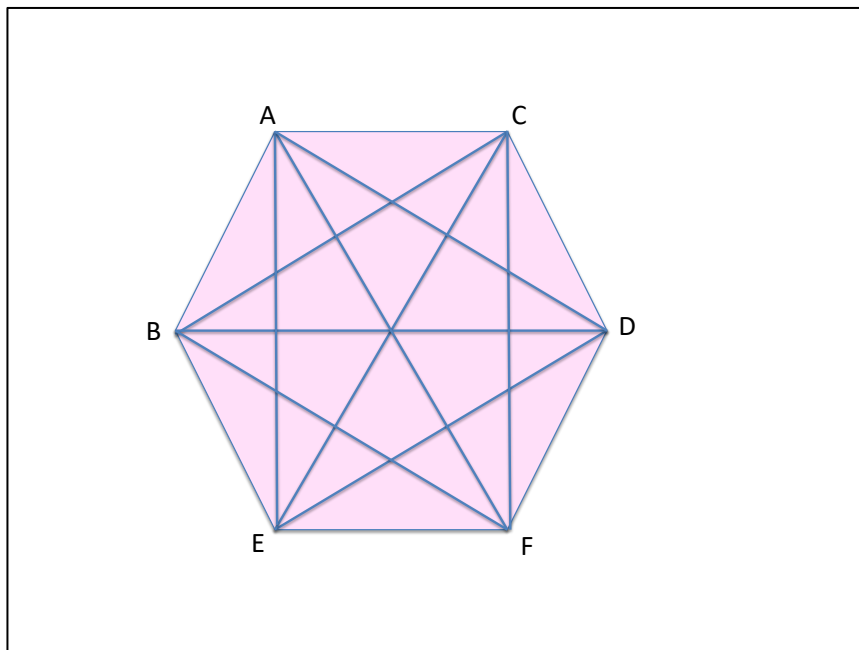
A-B, A-C = B-C      A-B, B-E = A-E  
B-C, B-D = C-D      C-D, D-F = C-F  
B-E, D-E = B-D  
D-E, D-F = E-F

- the logic of the *hexagonal* closure logic is: if A has links to B and C which have links to D and E and F then it will also link with F.
- there are 6 *hexagonal closures* between nodes - they are the long diagonal bisectors.
- in the 6 point set of the hexagon, the triadic and hexagonal closures are not part of the 6 point/edge set. They are new internal edges.
- the total number of perimeter and internal edges: 6 perimeter links, 6 triadic links and 6 *hexagonal* links.
- each *hexagonal* link is inferential from all the triadic closures of the hexagon, i.e. it is a 6 point closure. It also involves a 4 point closure, either side of its bisecting diagonal.

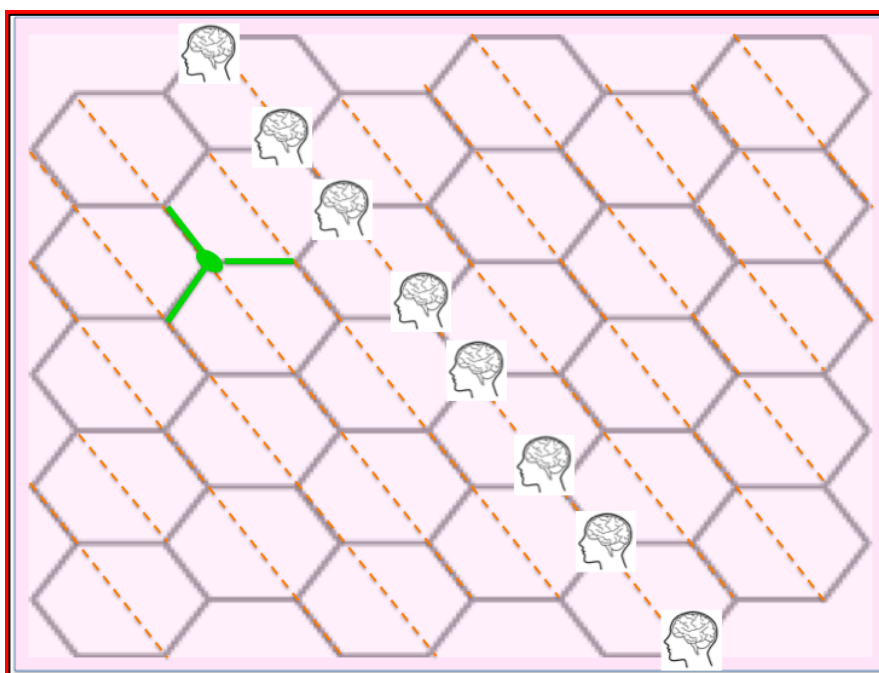
### ***Symbolic values***

- symbolic values of tie strength, false/true, probability, 'boolean circuit logic' could be applied to the geometrical logic of nodes and edges.
- *hexagonal* links gives nodes a 'bridging' function across the whole hexagon.
- bridges are inferential of the *capital* of the whole cell.
- weak links give brokerage (Granovetter, 1983)
- the more diverse the cell's attributed symbolic values, the more powerful the individual node valency and brokerage in terms of bridging across clusters, using weak link theory.

**Figure 4.1.17: A hexagon with 6 triadic and 6 hexagonal closures**



**Figure 4.1.18: Social latticework with superpositionality**



The green 3 node line demonstrates superpositionality in three cells.

## Appendix 4.2 - The theory of Twitter codes

In each *capability*, an interpretative framework is applied to Twitter codes. The framework is based on the theory of the *capability* (Chapter 4). This involves assigning interpretative value to the conventional coded expressions, e.g., hashtags, mentions, retweets etc.

### *Socio-technical constructs*

Twitter codes are socio-technical constructs that have evolved in praxis. Different interpretative values are given to the permutations of the coded expressions contained in tweets. I suggest that Goffman's 'microanalysts of interaction mode' (1981) is applicable to Twitter codes. The hashtag could be viewed as a 'ritualization' (Goffman, 1981) or a 'line' (Goffman, 1955).

The Twitter hashtag can be interpreted in a number of ways. Bruns describes the Twitter hashtag as '...a largely user-generated mechanism for tagging and collating those messages - tweets - which are related to a specific topic' (2011, p.2). It has the other key function of establishing a community of interest around a topic. Laniado (2010) also argues that the Twitter hashtag congregates a community of interest topic discussion and is used for greater efficiency of topic organization and retrieval. With Kwak et al (2010) he proves this efficiency in topic and events marking in empirical research. However, Huang et al (2010) consider that the hashtag is more commonly intended to be used to join public discussions in a social tagging conversational approach. People respond to each other's tagging or freshly mint affectively in an a priori way. It is used to self-organise content a posteriori for future retrieval but Ames (2007) concludes it is more socially motivated. With Bruns (2011), although the focus is narrowly on hashtags used 'to coordinate public discussion and information-sharing on news and political topics' (Bruns, 2011, p.3), he asserts the '...interpretation of using a thematic hashtag in one's tweet as an explicit attempt to address an imagined community of users who are following and discussing a specific topic...' (Bruns, 2011, p.4). This insight of Bruns is central to the SPENCE *capability* approach and is analysed in detail below.

### *SPENCE interpretation*

The SPENCE interpretation follows from Bruns's view but expands it. Bruns proposes that '...to include a hashtag in one's tweet is a performative statement...' Bruns (2011, p.7) calculates that the more connected people are in discussion around a hashtag the greater the community: he sums this up as 'the ratio of responding to non-responding hashtag posters'. He argues that the more the hashtag is used '...the more can the hashtag community be said



to act as a community' (2011, p.6). He does not define what he takes community to mean, but claims that the hashtag can, with mass use and conversations between posters, congregate a community of interest more 'thoroughly'. The SPENCE term would be 'cohesively'.

Bruns decides that '...it is unlikely that significant, unified communities of interest will exist around generic hashtags such as #Japan or #Australia' (2011, p.5). He asserts: '...tweets carrying such generic hashtags will cover so wide a range of topics as to have very little in common with one another' (2011, p.5). With SPENCE, I suggest that the generic place hashtag, e.g. #Australia, #Japan, has implicit communities of interest existing around them that are held together by the basic need of relatedness (Deci, 2000). Bruns (2013) uses the '#qldfloods' which covered the January 2011 floods in south-east Queensland, Australia to exemplify a hashtag indicating an event. In SPENCE, this type of event hashtag is interpreted as evidence of people gathering in a communion of universalism values, demonstrating mutual trust. So, there is an expansion of Bruns' interpretation, reading more motivational significance into the generic and event hashtags.

So, with SPENCE, the hashtag voluntarily self-declares aspects of affect, interest and motivation about the poster and the aggregate community of posters sharing a hashtag. There is social cohesion through conversation within the community of interest and the demonstrated need for relatedness or sharing of values. I suggest that the hashtag is of such significance in the tweet that it lends itself to classification. The classification outlined below, is by the SPENCE sub-concepts of *psychological proximity*, *VINs*.

Bruns (2013) asserts the metrical importance of the hashtag. His intention is to measure 'genuine community' although this is only explicitly stated in a footnote:

'For want of a better term, we use "community" loosely here: overall, hashtag participants may act more or less strongly as a genuine community. Indeed, our metrics provide useful measures for the extent to which they do so'

(Bruns, 2013, p.6)

So Bruns and SPENCE are involved in the same endeavour. In his earlier paper (2011) he proposes: '

...a picture of hashtag communities not as separate, sealed entities, but as embedded and permeable meso-level spaces which overlap both with the macro-level flow of messages across longer-term follower/followee networks and with the micro-level

communicative exchanges conducted as @replies between users who may or may not have found one another through the hashtag itself, as well as with other, related or rival, hashtag communities at a similar meso-level'

(Bruns, 2011, p.6).

This shows precedence for the SPENCE Twitter Study approach used in measuring community in the Bowes and Bounds Green Case Study 1 (see Chapter 6).

Bruns bases his experiment to test a proposed toolkit of metrics on a dataset entirely 'defined by the presence of one common hashtag' (2013, p.11). Like SPENCE, he proposes a toolkit of metrics

'...that describe the contributions made by specific users and groups of users' that is '...useful for a comparison of patterns across different cases'

(Bruns, 2013, p.5).

But unlike with SPENCE, the direct interpretation he applies to each hashtag metric is not made explicit. He offers a 'visibility' metric that boils down to:

'@mentions received/tweets sent ratio which points to the relative impact of messages from a specific user have on the overall hashtag conversation. A user tweeting frequently but receiving few replies would have a ratio well below 1, indicating limited impact; a user whose few tweets were widely @replied to or retweeted would have a ratio well above 1, indicating significant impact'

(Bruns, 2013, p.7).

The concept of 'visibility' subsumes in SPENCE into the composite *influence capability* metric. The visibility sub-metric only applies to the online/offline community manager in the case study.

The visibility and activity (i.e. volume generation of tweets) concepts are used by Bruns to divide his hashtag 'community of interest' into percentiles using the 90/9/1 division (Tedjamulia, 2005). This enables him to add up the total number of tweets sent by the percentile.

The sample for the Bowes and Bounds Green case study is a portion of the 10% upper activity and visibility percentile, termed *decile fabric*, described in Chapter 4. There is no data on the

90% so the relative contribution of each percentile is not calculated.

Bruns' experiment does enable the comparison between the tweeting behavior of the percentiles and the consequent interpretation:

'the lead users form a highly discursive community (more than 55% of their tweets are genuine @replies), while the less active percentiles mainly retweeting (more than 51% of the tweets by the least active 90% of users are retweets). The leaders send an unusually large amount of genuine @replies, given that @replies to hashtagged tweets often do not themselves contain the hashtag – the #auspol leadership group, then, appears to deliberately 'perform' its conversations in front of the wider userbase, by hashtagging @replies'

(Bruns, 2013, p.8).

His interpretive measures are: 1) discursiveness 2) genuine replies 3) performance of conversation. The interpretive measures 1) and 2) are subsumed into the SPENCE *trust capability* metrics in which Bruns' 'thoroughness' of community connectivity, outlined above, is expressed as cohesion.

Bruns concludes that his toolkit approach

'demonstrates how the quantitative approach to analysing *Twitter* data at large scale...can generate clear evidence of communicative patterns on *Twitter*'

(Bruns, 2013, p.14).

SPENCE expands on Bruns' toolkit, that divides a hashtag community of interest into percentiles through visibility and activity, and interprets the relative degrees of 'gatewatching', discursiveness and genuine replies, offering a comprehensive theory-based approach to interpreting 'communicative patterns on Twitter' centred in the context of online/offline community.

VINs in the *proximity* facet of SPENCE give the nature of the silent bond, or communion between people. These categories inform the analysis of Twitter hashtags and are used in the interpretative frameworks of *trust* and *influence*.

## Appendix 4.3 - Twofold Instrument alignment by SPENCE capability/facet

Table 4.3.15: Survey/Twitter Study alignment by capability/facet

|                   | A Trust   | B Influence   | C Information  | D Intelligence  |
|-------------------|---|---|--|---|
| <b>Settlement</b> | <b>Interpretative metrics:</b><br>4. Settlement Trust   | <b>Interpretative metrics:</b><br>3. Influence expressions<br>7.1 Total influence | <b>Interpretative metrics:</b><br>2. Total information   | <b>Interpretative metrics:</b><br>1. Collaboration  |
|                   | <b>Survey questions:</b><br>1.1, 1.2, 1.3, 1.4, 4.6, 5.6  | <b>Survey questions:</b><br>4.6   | <b>Survey questions:</b><br>4.6  | <b>Survey questions:</b><br>4.6   |
| <b>Proximity</b>  | <b>Interpretative metrics:</b><br>1.1 Actualised proximity<br>1.2 Strongly actualised proximity<br>1.3 Diverse cohesion<br>1.4 Trust attributes ratio<br>2. Trust expressions<br>5. Trust topics<br>6. Exchange trust | <b>Interpretative metrics:</b><br>1.1 Influence threshold<br>7.1 Total influence  | <b>Interpretative metrics:</b><br>1.1 Information-seeking event<br>2. Total information<br>4. Broadcast knowledge transfer<br>5. Personal knowledge transfer<br>6.. Received knowledge transfer<br>7. Repeated articulate expression | <b>Interpretative metrics:</b><br>1. Collaboration<br>2. Social interaction<br>3. Expertise and know-how<br>4. Total knowledge expression<br>5. Influence threshold |

|                 |   |  |  |  |
|-----------------|---|--|--|--|
|                 |   |  |  |  |
|                 | <b>Survey questions:</b><br>2.6, 2.7, 2.9, 2.11, 2.13, 2.14, 2.15, 2.16, 4.6  | <b>Survey questions:</b><br>2.6, 2.7, 2.9, 2.11, 2.13, 2.14, 2.15, 2.16  | <b>Survey questions:</b><br>2.6, 2.7, 2.9, 2.11, 2.13, 2.14, 2.15, 2.16  | <b>Survey questions:</b><br>2.6, 2.7, 2.9, 2.11, 2.13, 2.14, 2.15, 2.16  |
| <b>Exchange</b> | <b>Interpretative metrics:</b><br>1.1 Actualised proximity<br>1.2 Strongly actualised proximity<br>1.3 Diverse cohesion<br>1.4 Trust attributes ratio<br>6. Exchange trust, | <b>Interpretative metrics:</b><br>1.1 Influence threshold<br>1.2 Significantly achieved influence<br>1.3 Repeated influence-articulate expression<br>1.4 Exchange cohesion<br>2. Total influence expressions<br>3. Influence knowledge transfer/diffusion<br>4. Personal influence knowledge transfer<br>5. Influence receptivity<br>6. Social interaction | <b>Interpretative metrics:</b><br>2. Total information<br>4. Broadcast knowledge transfer<br>5. Personal knowledge transfer<br>6. Received knowledge transfer<br>7. Repeated articulate expression | <b>Interpretative metrics:</b><br>1. Collaboration<br>2. Social interaction<br>3. Expertise and know-how<br>4. Total knowledge expression<br>5. Influence threshold<br>6. Received knowledge transfer<br>7. Articulate expression<br>8. Intelligence trust |
|                 | <b>Survey questions:</b><br>3.1, 3.2  | <b>Survey questions:</b><br>3.3, 3.4, 3.5, 3.6   | <b>Survey questions:</b><br>3.3, 3.4, 3.5, 3.6   | <b>Survey questions:</b><br>3.1, 3.2   |

|                        |   |   |  |  |
|------------------------|---|---|--|--|
| <b>Net/latticework</b> | General cohesion<br>Diverse cohesion<br>Specific cohesion               | General cohesion<br>Diverse cohesion<br>Specific cohesion   | General cohesion<br>Diverse cohesion<br>Specific cohesion  | General cohesion<br>Diverse cohesion<br>Specific cohesion  |
|                        | <b>Survey questions:</b><br>4.1, 4.2, 4.4, 4.5, 4.6, 4.7                | <b>Survey questions:</b><br>4.3, 4.4, 4.5, 4.8, 4.9, 4.10, 4.11   | <b>Survey questions:</b><br>4.3, 4.4, 4.5, 4.11  | <b>Survey questions:</b><br>4.3, 4.4, 4.11   |
| <b>Channels</b>        | <b>Interpretative metrics:</b> n/a                                      | <b>Interpretative metrics:</b> n/a  | <b>Interpretative metrics:</b> n/a   | <b>Interpretative metrics:</b> n/a   |
|                        | <b>Survey questions:</b><br>5.1, 5.2, 5.3, 5.6                          | <b>Survey questions:</b><br>5.1, 5.2, 5.4, 5.6  | <b>Survey questions:</b><br>5.1, 5.2, 5.6  | <b>Survey questions:</b><br>5.1, 5.2, 5.6  |
| <b>Entrepreneur</b>    | <b>Interpretative metrics:</b><br>8.1 Trust expressions<br>8.2 Exchange | <b>Interpretative metrics:</b><br>7.1 Total influence<br>7.2 Influence knowledge transfer<br>7.3 Personal influence knowledge transfer<br>7.5 Influence threshold<br>7.6 Articulate expression<br>7.7 Achieved influence/exchange | <b>Interpretative metrics:</b><br>8.1 Total information<br>8.2 Broadcast knowledge transfer<br>8.3 Personal knowledge transfer<br>8.4. Received knowledge transfer | <b>Interpretative metrics:</b><br>9.1 Total knowledge expression<br>9.2 Influence threshold<br>9.3 Articulate Expression<br>9.4 Receptive Knowledge Transfer<br>9.5 Trust Expression<br>9.6 Social interaction |
|                        | <b>Survey questions:</b><br>6.2, 6.3                                    | <b>Survey questions:</b><br>6.1, 6.2  | <b>Survey questions:</b><br>6.4  | <b>Survey questions:</b><br>6.4  |

## Appendix 4.4 - Notes to supplement Twitter Metrics Codebook (4.3.5.2)

**Table 4.4.16: Trust metrics**

|     | Interpretative metrics  | Twitter syntax                      | Calculations  |
|-----|---|-------------------------------------|---|
| 1.  | <i>Complex</i>  |                                     |   |
| 1.1 | Actualised proximity (proximity divided by exchange)                          | HT clusters with one-way mentions   | Proportion of hashtag cluster with mentions, averaged over all clusters                         |
| 1.2 | Strongly actualised proximity (proximity/exchange divided by net/latticework) | HT clusters with two-way mentions   | Proportion of hashtag cluster with reciprocal mentions, averaged over all clusters              |
| 1.3 | Diverse cohesion  | HT cluster pattern                  | Diversity pattern of clusters by size - coarse/fine denoting homophily or heterogeneity of VINs |
| 1.4 | Trust attributes ratio  | HT classified into VINs categories  | VINs as ratio i.e. <i>roundedness</i>   |
|     | <i>Simple</i>   |                                     |   |
| 2.  | Trust expressions   | Total tweets with HTs               |   |
| 3.  | Trust expressions in groups   | HT clusters                         |   |
| 4.  | Settlement trust  | Relatedness-place HTs               |   |
| 5.  | Trust topics  | Unique HTs                          |   |
| 6.  | Exchange trust  | Total tweets with hashtags/mentions |   |
| 7.  | Social interaction  | Total tweets with mentions          |   |
| 8.  | <b>O/OC Manager</b>   |                                     |   |

|     |                   |          |  |
|-----|-------------------|----------|--|
| 8.1 | Trust expressions | Hashtags |  |
| 8.2 | Exchange          | Mentions |  |

## Notes

### Metric 1.1

*Actualised proximity* is the *proximity/exchange* measure: this is the calculation of the number of Twitter hashtags in clusters that are actualised by the mentions of *exchange*.

### Metric 1.2

*Exchange/network* measure: this is the amount of *exchange* that is reciprocal and therefore constitutes the strong tie of *net/latticework* (Granovetter, 1973).

### Metric 1.3

The coarseness or fineness of the pattern of hashtag clusters shows the breadth of the clustering. This is taken to indicate the relative diversity, with the pattern of many and various small clusters demonstrating a fine diversity, and the coarse pattern of large clusters showing in-group homophily.

### Metric 2

As discussed above, the hashtag is a significant communication pattern: ‘...interpretation of using a thematic hashtag in one’s tweet as an explicit attempt to address an imagined community of users who are following and discussing a specific topic...’ (Bruns 2011, p.4). This insight of Bruns can be condensed into the view that trust is demonstrated in explicitly addressing and sharing conversations with imagined community. The hashtag in SPENCE, when used to address and participate in an imagined community, centrally involves the expression of trust.

### Metric 4

Tuan’s (1979) account of place and space underpins the concept of *settlement trust*:

‘Place, however, has more substance than the word location suggests...it has a history and meaning. Place incarnates the experiences



and aspirations of a people.' It is '...a reality that has to be clarified and understood from the perspectives of people who have given it meaning'

(Tuan, 1979, p. 387).

As set out above, '...trust is a measure of confidence that an entity or entities will behave in an expected manner' (Sherchan, 2013, p.2). So, there are expectations of a settlement and the meaning inscribed in it. If the meaning is consistent with expectations and is attractive to people, they will demonstrate 'Settlement trust'. In Twitter, it is proposed that the expression of settlement trust is shown in tweets that use place name hashtags.

#### **Metric 6**

As described in SPENCE, it is the view that *trust* is expressed by a hashtag. If the user directs that expression of trust at another person, there is *exchange trust*. Bruns is interested in the discussion around a hashtag and has formulated the calculation of 'the ratio of responding to non-responding hashtag posters' (2011, p.6). It is proposed that if a poster uses a hashtag in discussion with another person, they are engaged in a trust transaction or exchange trust.

**Table 4.4.17: Influence metrics**

|     | <b>Interpretative metrics</b>              | <b>Twitter syntax</b>               | <b>Notes</b>  |
|-----|--|-------------------------------------|---|
|     | <i>Complex</i>                             |                                     |   |
| 1.  | Influence threshold                        | VINs as ratio                       | Equivalent to <i>trust attributes ratio</i> , where a balanced ratio indicates <i>roundedness</i> in the threshold. |
| 1.2 | Significantly achieved influence           | Retweet duplicate instances >2      |   |
| 1.3 | Repeated influence - articulate expression | Retweet with hashtags/URLs/mentions |   |
| 1.4 | Exchange cohesion                          | Mention totals in populations       | Total of social broker mentions in sample divided by total of all mentions they use.                                |

## **Appendix 5.1 - Survey design**

There were a number of steps in the iterative design and formulation of the main experiment SPENCE Survey to ensure a robust output:

- a) Pilot Survey lessons (Appendix 2.1)
- b) First draft, using SPENCE model with metrics, informed by design of classic community surveys
- c) Rapid consultation with two case study social entrepreneurs leading to second draft design
- d) Consultation with social brokers in case study areas and with Web Scientist PhD Researchers
- e) Final draft design

### ***Stepped account of the design***

#### ***Step a) Pilot Survey lessons***

The Pilot surveys contributed to the design of the Stage 2 Survey. The Pilot survey design lessons pointed to the need for the formal organisation of questions using the theory of online/offline community.

#### ***Step b) First draft, using SPENCE model with metrics, informed by design of classic community surveys***

SPENCE with metrics provided a base for the question design. The metrics were derived both from the 'set goals' of FG2 and from the alignment of the Survey with Twitter features. The Survey design process involved testing each question against three prior classical survey instruments. The 'Community Life Survey' (2014a) used in the Pilot was considered along with Chavis' 'Sense of Community Index' created in 1990 (Chavis, 2008) and Buckner's (1988) 'Neighbourhood Cohesion' instrument. The scope and metrical approach of the two latter instruments are described briefly below. Historical surveys created in the 1980-90, do not investigate the nature of online community, although online community existed as an entity (Chapter 1).

## Classic community instruments

### Chavis

The Chavis instrument (2008) identifies the degree to which there is 'sense of community' (SOC) in a community. The instrument's purpose is the measurement of SOC based on the concept developed by McMillan and Chavis (1986), outlined in Chapter 1. It has 12 questions, whose results when totalled give the SOC score. There are four subscales, formed from four groups of sequential questions: membership, influence, reinforcement of needs and shared emotional connection:

The sub-scale of 'influence' supports the SPENCE *capability of influence* (see Chapter 4). The index has a simple and basic quality. The extent of the theoretical backing is the grouping of questions into four sub-scales that correspond with the theory of 'sense of community' set out by McMillan and Chavis (1986).

### Buckner

The purpose of the 18-question instrument is to measure neighbourhood cohesion (Buckner, 1988). It is based on three postulates or 'dimensional indicants' derived from an extensive literature review: 1) attraction to neighbourhood, 2) level of neighbouring i.e. interaction and 3) collective psychological sense of community. As with the Chavis instrument (2008) the 18 questions divide into the three postulate groups. All three dimensions relate conceptually to facets or concepts in the SPENCE Model, but indirectly to the *capability* metrics (Chapter 4). Buckner (1988) differentiates between the individual and collective 'sense of community': the node and the network; the personal and the collective view.

## SPENCE Survey compared to classic surveys

The SPENCE Survey with aligned Twitter Study attempts to investigate not just the individual or collective sense of community. The empirical 'view' of Chavis and Buckner (1988) is constructed from implicitly directed questions. The SPENCE theory is explicit in the section introductions and overall structure.

The SPENCE Survey is extensive and would take around 30-45 minutes to complete (judging by the responses of the social entrepreneurs, managers, using *iSurvey* timings - see Step c). It requires more input than the Chavis instrument (2008) which has only 12 questions, arranged in 4 implicit themes. The SPENCE Survey has almost 12 questions in each of its six sections/facets. This detailed, comprehensive and thorough approach corresponds with the 'Community Life Survey' (2014a) approach. The SPENCE model contains the essential

aspects of the concept of online/offline community. The Chavis index (2008) investigated the concept of SOC. Buckner's (1988) survey had the added dimensions of attachment and interaction.

The emphasis in the 'Community Life Survey' (2014a) is on trust and influence in communities and how they are formally expressed<sup>67</sup>. My Survey enquires into informal expressions of trust and influence, e.g. online exchange of communication and diffusion. In the 'Community Life Survey', there is an emphasis on civic engagement activity through joining and volunteering for groups and organisations, addressed by *Sections 4* and *5*. My Survey enquires into the online/offline social fabric that provides the informal cohesions of society that underlie the organisations. The 'Community Life Survey' asks how involved respondents are through volunteering or civic engagement in a comprehensive range of formal services that would provide information/data. The SPENCE Survey emphasis is on identifying the information/data resources that are held and perceived as on offer in online/offline community.

***Step c) Rapid consultation with two case study social entrepreneurs leading to second draft design***

The responses from the rapid consultation with the two case study social entrepreneurs is given in Appendix 5.2 which also gives the question intentions and design notes. The *raison d'être* for this step was proof of concept. I wanted a rapid evaluation of the Survey by community experts to indicate if there were major problems that would require either an overhaul or manageable revisions. I wanted to involve the social entrepreneurs in the evaluation of the instrument at the outset, in the spirit of community based participatory research theory (Chapter 2). Their proofing provided a 'sanity check' on the model-based structure, a general review of the wording and approach of the questions and a crucial direction on the issue of the intelligibility of the concept of online/offline community as experienced by individual respondents. In this rapid proof of concept consultation, I did not use a formal questionnaire review theory. But I did structure the review around six questions that I emailed the two social entrepreneurs:

1. Does the SPENCE structure work?
2. Which questions don't make sense?
3. Which questions are too hard to answer?

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<sup>67</sup> One of the Interviews (see below and Chapter 5) was conducted with the erstwhile head of the Community Life Survey Unit in the Cabinet Office during which the formal/informal approach was discussed at length.

4. How long does it take to complete?
5. Are there questions that might appear too intrusive?
6. Does the survey make online/offline more understandable?

In their responses they did not directly answer 1,4,5, and 6. They answered 1,2,3 implicitly. The SPENCE structure was not disputed but this might be because they participated in the first Focus Group 1 and understood the conceptual framework. They did not have issues understanding the Survey section introductions that were lay SPENCE facet descriptions. I took from this that the basic structure of the Survey was intelligible.

The Herne Hill social entrepreneur made a key point that the concept of online needed to be divided from offline in some of the questions, e.g., concerning trust and influence. Their comments implicitly addressed Question 6, 'does the survey make online/offline community more understandable?' by promoting greater intelligibility in question design. They suggested that trust and influence in online/offline community would not be intelligible to *social broker* survey respondents as an online/offline blend. I revised the questions for the 2nd draft as guided by the social entrepreneur to give greater granularity to the data analysis, separating answer categories into offline and online. On the steer of the social entrepreneur, I divided questions e.g., those on trust and influence into online and offline categories.

I appreciated that the concept of the blended community experience might not be intelligible to the survey respondents. I determined that gathering views of community experience in two channel categories a priori would afford a posteroi analysis of the intersection and overlap of the individual and collective experience. And this a posteroi analysis of the Survey data would align and combine with the analysis of the online community Twitter Study data.

The a posteroi approach addresses the question of how to survey a new social reality such as online/offline community that has not surfaced as a common sense understanding. The twofold nature of the instrument used in the main experiment attempts to address the blended reality that a survey by itself would not sufficiently investigate. The Herne Hill social entrepreneur's steer demonstrates the transition phase between the realities of separate types of online and offline community and the intersection of online/offline community.

#### ***Step d) Consultation with social brokers and with Web Scientist PhD Researchers***

The 'Question Appraisal System - QAS-99' (Willis, 1999) evaluation approach for questionnaire design was used. It provides a well-regarded and established method for the

evaluation and review of survey questions. It was originally developed for the 'Centers for Disease Control and Prevention'. In the consultation described below, the simplified QAS-99 checklist is deployed.

There was a total of four users and four experts involved in the consultation. 'Users' equate to *social brokers* and 'experts' equate to PhD Researchers in web science. The expert reviewers are web scientists studying PhDs that are sociology-led. The users are residents of the two areas of Herne Hill and Bowes and Bounds Green. They were selected by the social entrepreneurs as being likely to be interested in participating and they self-selected. This approach was adopted to combine in one consultation two different groups of reviewers: experts, users. The review could have been sequential in two stages. But I wanted to make them simultaneous to enable comparison across the two groups using the same version of the Survey and match the user with expert responses. This also saved time. The evaluation experience for the expert was different from that for the user. Both types of reviewer viewed the 'iSurvey' online survey. This mixed approach enabled an integrated analysis of each question, informed by the expert and user perspectives. The formal 'QAS-99' review approach was complemented by the informal, qualitative user responses.

## User

The user completed the review prompts that followed each question. The review prompt was based on the Question 3 of the 'QAS-99' checklist.

|   |
|---|
| STEP 3 - CLARITY: Identify problems related to communicating the intent or meaning of the question to the respondent. |
| 3a. WORDING: Question is lengthy, awkward, ungrammatical, or contains complicated syntax.                             |
| 3b. TECHNICAL TERM(S) are undefined, unclear, or complex.   |
| 3c. VAGUE: There are multiple ways to interpret the question or to decide what is to be included or excluded.         |
| 3d. REFERENCE PERIODS are missing, not well specified, or in conflict.  |

The answers were open-ended to give the respondent scope. I simplified it to make it suitable for a non-expert in survey design. It asked five questions as below.

1. How well the question matches its intention.
2. Is the wording effective?

3. Are there technical terms that are not clear?
4. Are there a number of interpretations of the question so it is not clear what is being asked for?
5. Are any time periods mentioned in the question clear?

The intention for each question was included in the 2nd draft Survey for evaluation to clarify the question's target for both types of reviewer. It was meant to provide additional information and context for the user and expert. The user was specifically asked about the effectiveness of the question, matched to intention (see Appendix 6.2).

## **Expert**

The evaluation experience for the expert involved the completion of a document of tailored QAS-99 form templates. The QAS-99 approach ensured rigour in the question design by using an established method of review. Each expert did one or two sections so that they could specialise on a section and be familiar with the scope. There was no double expert review of any sections.

### *Technical approach*

The first part of the consultation response detailed for each question the expert commentary on the questions. The second part is the user's comments. The form structure for the first part of the response is based on the QAS-99 Survey analysis form. I adapted the simplified QAS-99 checklist<sup>68</sup> to make it easier for the expert reviewer to complete. For the users the analytical approach required to complete the form was not used as it would have been too technically challenging for the layperson *social broker* respondent. But to maintain a continuity between the expert and user reviewers' contributions, I focused the user review prompts on Question 3 of the QAS-99 form, translating the question-prompts into layperson's terms to retain the same structure and focus of the question so it aligned with the expert reviewer's comments. I considered Question 3 to be the most important question in the QAS-99 form.

The Survey questions are alternate numbers (except for the first five standard demographic questions of *proximity*) because the online Survey that was presented to them for review via a link was designed for both the user and the expert reviewer to complete. Questions are followed by a review question for the user to complete (and for the expert to ignore). The experts were emailed the QAS-99 adapted checklists to complete with the following instructions:

---

<sup>68</sup> QAS-99 Checklist: <https://www.cdc.gov/healthyyouth/evaluation/pdf/brief15.pdf>



## QUESTION REVIEW PROCESS

The following templates are derived from the QAS-99 Survey Review Method.

FOR EACH QUESTION:

*type in question number.*

*type in yes or no as appropriate*

*whenever a YES is typed, write detailed notes on the appropriate form that describe the problem.*

They emailed back the completed forms. The consultation responses from the users were received via the 'iSurvey' system<sup>69</sup> deployed by the 'University of Southampton'. Both responses were then brought together in the following forms and analysed comparatively. The decisions on question revision are also documented there. There was a total of eight respondents in this 2nd stage of survey consultation: four users and four experts.

Each of the users and experts reviewed one or more facets as follows:

### ***Survey review by facet***

| SPENCE facet | Users   | Experts |
|--------------|---------|---------|
| Settlement   | M, P    | F       |
| Proximity    | M, P, R | J       |
| Exchange     | M, P, G | G       |
| Network      | M       | J       |
| Channels     | M       | Je      |
| Entrepreneur | M       | Je      |

### ***Expert and users' consultation responses***

The consultation involved both experts and users to provide a comparison between their views to ensure that the Survey was technically robust and intelligible to respondents. Some of the review comments, e.g., in *settlement*, revealed a contrast between an academic perspective and a user perspective.

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<sup>69</sup> 'iSurvey' system: <https://www.iSurvey.soton.ac.uk>

The adapted QAS-99 checklist forms were used for ease of response and to offer a technical analysis of the effectiveness of the question to support effective revision. Question 3 of the checklist was simplified to be deployed in the user review question. By retaining the same structure and focus of the full QAS-99 checklist used by the experts, it enabled the cross-comparison of both types of comment.

With qualitative responses, even structured by the QAS-99 survey design theory, there is always wider significance that can be gleaned for the main subject under investigation, i.e. online/offline community. In Appendix 5.2, wider significances are noted to both support the drafting of the final SPENCE Survey version and to feed into the analysis of the nature of online/offline community undertaken in the discussion of main experiment and Interview Series results in Chapter 7.

So the consultation of the SPENCE Survey, although intentioned for instrument evaluation and formulation, also contributes to the main experiment's analysis of the nature of online/offline community. The responses of the eight consultation participants are integral to the overall inquiry.

With the analysis of the question responses, I review the comments to discern what revisions need to made. The expert does not have higher value than the user. The comments are filtered and analysed so that if more users or experts accept the question than critique it, the question's revision will be minimal. But if there is a particularly insightful critique from one reviewer and not the others, this will be acted on even if it is in the minority, if it touches on a wider online/offline community significance. Both the technical survey design perspective, i.e. the standards for good quality survey design, and broader and in-depth research goals inform the revision judgments.

There appeared to be no issues with the users' completion of the simplified QAS-99 Question 3. Their comments fit the question sections in large part. The set of user review comments for *net/latticework*, *channels* and *entrepreneur* appeared not as effective as those for *settlement*, *proximity* and *exchange* when there were two or more users. There is also a variance in the expert review comments quantity: some reviewers took issue with more questions proportionately per section. This might be to do with the novel nature of the section or the engagement style of the expert reviewer. In designing the survey, I appreciated that *settlement*, *proximity*, *channels* and *entrepreneur* were novel facets in the SPENCE Model. Without precedent from classic surveys, the questions were more difficult to design than for the more familiar facets of *exchange* and *net/latticework*. But there was also novelty in the

question design even for the more familiar facets as the online/offline nature of community required a different approach to the classic community surveys. For example, the SPENCE *net/latticework* facet concept and metric of *capabilities* are novel. The fact that there were not more review comments for *net/latticework*, could be attributed to the intelligibility or unfamiliarity of the concept. The *metachannel* concept in the *channels* facet, raised issues with the expert reviewer either because it was a novel idea or because it was not explained effectively. So, a part of the question design evaluation was the testing of the clarity of the SPENCE facets/concepts. When comments had a wider resonance, there was implicit engagement with the SPENCE conceptualisation as well as the research goals in general. There were fewer review comments that raised wider implications in *channels* and *entrepreneur*. Many factors might account for this, e.g., the user's fatigue with survey completion, the unfamiliarity of the core concepts of the facets etc.

*Section 7.* invited direct comments on the experience of completing the Survey and on its perceived effectiveness. Two users completed this and gave useful qualitative feedback. I considered whether to include this section in the Survey by listing the advantages and disadvantages (see below). After reviewing these, I concluded that the section would be effective.

***Survey consultation feedback on the experience of the survey***

| Advantages  | Disadvantages   |
|---|---|
| It gains information about the intelligibility of the model, without inviting technical comment on the facet/concept structure. | The model's conceptual structure was formulated from literature review and Focus Group evaluation. The issue of the questionnaire intelligibility is separate from the conceptual validity of SPENCE. Retesting SPENCE would require a more thorough and focused evaluation method. |
| It finds out if there were unacceptable questions.  |   |
| The question of the social reality of online/offline community is usefully asked.   | Does the survey lead respondents to the view that online/offline community is a new social reality?   |
| <i>Section 7</i> gives a reflexivity to the survey and participatory authority to the user.                                     | Is there too much evaluation of different kinds designed into the survey?   |

|   |  |
|---|--|
| The Section would be removed in field applications following the PhD. |  |
|---|--|

**Step e) *Final draft design***

The final draft of the SPENCE Survey was systematically formulated from the consultation, question by question, as demonstrated in Appendix 5.2. The structure is given in Chapter 6

## Appendix 5.2 - Survey consultation and revision process

All final draft Survey questions were consulted and reviewed in the process described in Appendix 5.1. Here is the illustration of that process (review steps *b* to *e*) for Q1.1. The full review and revision documentation are not included in the appendices because of the volume and detail involved. But the systematic nature of the Survey consultation and revision analysis is demonstrated here.

### Review of Survey - Online/Offline Community Manager comments on 1<sup>st</sup> Draft of Survey

**Question 1.1** *In offline Herne Hill, which features/areas of significance/sacred spots do you visit regularly?*

- ☐ *Park*
- ☐ *Sports Centre*
- ☐ *Shops*
- ☐ *Cafe*
- ☐ *Market*
- ☐ *Other - Please specify*

| <b>ID + 'iSurvey' version</b>   | <b>Intention</b>   | <b>Design point background</b>   | <b>Revision in consultation (Manager)</b>   | <b>Answer-scoring</b>  | <b>Comparison</b>   |
|---|--|--|---|--|---|
| Q1.1<br>In offline Herne Hill or Bowes and Bounds Green, which features/areas of significance do you visit regularly? | The question intends to discover the key offline places visited frequently in the locality and regarded with warmth and affection. | The use of the term 'sacred spots', although academic, is too leading implying a significant attraction to place in the questions. It is not used here as religious – it is used here as secular but this term is easy to misread. | Herne Hill Manager:<br><br>'We don't have a sports centre as such. It should be called the "Brockwell Lido".<br><br>'Park - we have two - Ruskin Park and Brockwell Park.'<br><br>'Not sure if "cafe" is relevant as a sacred space - people will have their favourite on rather than a generic "cafe". I would change the txt to "a local cafe". ' | High - out of 6<br><br>The answer approach is nominal and it is the number of answers given that determine score.<br><br>The individual view is available but it is the collective view that is the priority.<br><br>Use of place hashtag would map to this survey question. | Assets/Scorecard 14 in Community Life<br>It is likely I will use the list from Community Life Survey;<br><br>A. A general/grocery shop<br>B. A pub<br>C. A park<br>D. A library<br>E. A community centre/hall<br>F. A sports centre/ facility/ club<br>G. A youth club/centre/ facility<br>H. A health centre/GP practice<br>I. Chemist |

|  |  |  |   |  |   |
|--|--|--|---|--|---|
|  |  |  | <p>The Herne Hill Manager comments on the appropriateness of the term 'sacred'...it is clearly ambiguous.</p> <p>Revision:</p> <p>In offline Herne Hill or Bowes and Bounds Green, which features/areas of significance do you visit regularly?</p> |  | <p>J. Post Office</p> <p>K. Primary school</p> <p>L. Secondary school</p> <p>M. A church/place of worship</p> <p>N. Public transport links (for example a train station or bus route)</p> <p>O. None of the above</p> <p>Chavis and Buckner do not specify amenities.</p> |
|--|--|--|---|--|---|

**Question 1.1 Sample - Review of Survey - Web Scientist Expert comments on  
2<sup>nd</sup> Draft of Survey**

|  |
|--|
| <b>Question 1.1</b>  |
| 1. SETTLEMENT  |
| <b>QUESTION NO: 1.1</b>  |
| <b>In offline Herne Hill or Bowes and Bounds Green, which features/areas of significance do you visit regularly?</b> |

|  |
|--|
| <b>QUESTION INTENTION: The question intends to discover the key offline places visited frequently in the locality and regarded with warmth and affection</b>   |
| STEP 2 - INSTRUCTIONS: Look for problems with any introductions, instructions, or explanations from the respondent's point of view   |
| 2a. CONFLICTING OR INACCURATE INSTRUCTIONS, INTRODUCTIONS OR EXPLANATIONS  |
| Y  |
| The question in combination with the explanation of intention imply an assumption; that one may visit a feature/area of significance regularly because they are attributed to positives such as warmth and affection. The assumption may not be valid. Perhaps the question may need to be asked more specifically in the first place and not only detailed in its description of intention. |
| <b><i>My judgement on reviewer's comments:</i></b> <i>The positive assumption is inappropriate. The reviewer is right.</i><br><i>A neutral attachment to place is required. The intention was less precisely constructed than the question – it was intended as an aid for the review process.</i>   |
| 2b. COMPLICATED INSTRUCTIONS, introductions, or explanations.  |
| N  |



|   |
|---|
| STEP 3 - CLARITY: Identify problems related to communicating the intent or meaning of the question to the respondent.   |
| 3a. WORDING: Question is lengthy, awkward, ungrammatical, or contains complicated syntax.   |
| N   |
| 3b. TECHNICAL TERM(S) are undefined, unclear, or complex.   |
| Y   |
| Measure of Regularity/frequency is not specified and can be contradictory. E.g. Perhaps once a year may be considered regularly, but not frequently?  |
| <b>My judgement of reviewer's comment:</b> Yes, 'frequently' is what is required not 'regularly'.   |
| 3c. VAGUE:  |
| Yes - there are multiple ways to interpret the question or to decide what is to be included or excluded.<br><br>Based on the answer to 3.b, the question and explanation of intention may leave the participant with a choice between prioritizing the regularity/frequency of the visits and the measure of positivity/negativity associated with the place. |
| 3d. REFERENCE PERIODS are missing, not well specified, or in conflict.  |
| Y/N I'm not sure.   |
| STEP 4 - ASSUMPTIONS: Determine if there are problems with assumptions made or the underlying logic.  |

|   |
|---|
| 4a. INAPPROPRIATE ASSUMPTIONS are made about the respondent or about his/her living situation.  |
| Y   |
| Similar to the answer to 2a. For example, regular visits to a place of worship may be associated with negative emotions and social pressure (E.g. fear of being judged by the acquaintances), and not due to associating the place with positive emotions such as warmth and affection. |
| 4b. ASSUMES CONSTANT BEHAVIOR or experience for situations that vary.   |
| Y   |
| The identity of the place may evolve to be contradictory with their initial identity. The way the participant relates themselves to a place may also change in time.<br>The intention will shift to 'neutral attachment'.   |
| 4c. DOUBLE-BARRELED: Contains more than one implicit question.  |
| N   |
| STEP 5 - KNOWLEDGE/MEMORY: Check whether respondents are likely to not know or have trouble remembering information   |
| 5a. KNOWLEDGE may not exist: Respondent is unlikely to know the answer to a factual question.   |
| Y   |

|   |
|---|
| Similar to the answer to 5b.  |
| 5b. ATTITUDE may not exist: Respondent is unlikely to have formed the attitude being asked about.   |
| Y   |
| A participant may have been associating their regular visit to a place of significance with positive emotions for a specific period of time. But this may have changed later. The respondent may not have a conclusive answer to the negativity/positivity associated with the place overall.   |
| 5c. RECALL failure: Respondent may not remember the information asked for.  |
| Y   |
| <p>Details may be forgotten affecting the overall emotions associated with the place, and specific data points may remain. As a result, the association to the place may get reconstructed. E.g. regular visited places may become romanticized, demonized, etc.</p> <p>The reviewer's analysis is too in-depth. I am interested in a neutral attachment/attraction from a commonsense view.</p> <p>Attachment may be habitual. I think people in the UK tend to go to places because they want to.</p> |
| 5d. COMPUTATION problem: The question requires a difficult mental calculation.  |
| Y   |

|  |
|--|
| It may. It may involve analyzing conflictual experiences of a regularly visited place.   |
| STEP 6 - SENSITIVITY/BIAS: Assess questions for sensitive nature or wording, and for bias.   |
| 6a. SENSITIVE CONTENT (general): The question asks about a topic that is embarrassing, very private, or that involves illegal behavior.  |
| Y  |
| Perhaps it should be added that these information should only be shared if they do not make the participant uncomfortable, or an option like "I prefer not to answer" could be added to the responses.<br>I do not think this question is a sensitive one in the UK, unless the places listed were controversial. The religion of the 'place of worship' is not specified. |
| 6c. SOCIALLY ACCEPTABLE response is implied by the question.   |
| N  |
| STEP 7 - RESPONSE CATEGORIES: Assess the adequacy of the range of responses to be recorded.  |
| 7a. OPEN-ENDED QUESTION that is inappropriate or difficult.  |
| N  |
| 7b. MISMATCH between question and response categories.   |
| N  |
| 7c. TECHNICAL TERM(S) are undefined, unclear, or complex.  |

|  |
|--|
| N  |
| 7d. VAGUE response categories are subject to multiple interpretations.   |
| Y As noted in 2a, 3b, 5b, 5c.  |
| N  |
| 7e. OVERLAPPING response categories.   |
| 7f. MISSING eligible responses in response categories.   |
| Y - e.g. coffeeshop  |
| <b><i>My judgement:</i></b> I agree. The Users said this should be added too.  |
| 7g. ILLOGICAL ORDER of response categories.  |
| N  |
| STEP 8 - OTHER PROBLEMS: Look for problems not identified in Steps 1 - 7.  |
| 8. Other problems not previously identified.   |
| Y/N – I can't think of anything at the moment, but I can't say there is no other problem. There may be other problems. |

**Question 1.1 Sample - Review of Survey - Community participant comments on  
2<sup>nd</sup> Draft of Survey**

USER 1

How well the question matches its intention:

The intention is confused: regular v. frequent

Is the wording effective?:

one of the most popular places to visit is a coffee shop, but not listed

Are there technical terms that are not clear?:

Are there a number of interpretations of the question so it is not clear

what is being asked for?:

YES. the intro " Herne Hill or Bowes and Bounds Green, which

features/areas of significance do you visit regularly? is followed by

"The question intends to discover the key offline places visited

frequently". Regularly and frequently are NOT the same. once every 6 months could be regular but is hardly frequent.

Are any time periods mentioned in the question clear?:

NO. You need to define what you mean by frequent e.g. "2 or more times per week" say

USER 2

How well the question matches its intention:

Good match, except that there is one glaring omission: cafes and restaurants, of which Herne Hill has many.

The same comments are made as the expert in regard to regular/frequent.

The added need for defining intervals for regular is expressed.

My revised question will have the word 'frequent'. This should be defined.

Restaurants required too. Distinct from cafes.

This critique of 'warmth and affection' is correct. It is not needed. A neutral attachment is required.

The emboldening would be useful.

Point taken.

## Appendix 5.3 - Interview design

The interview design approach is exemplified in the Interview with the policy-maker from 'The Good Things Foundation' (7.2.9) which is described below.

I did not use the SPENCE Model directly because I considered that the policy-maker interview required an exploratory approach, informed by the functions of the organisation. My stated approach (verbatim) in developing the checklist at the time is given here:

'I looked at what "The Tinder Foundation" (now "The Good Things Foundation") are doing. I considered what policy issues are emerging in my studies and brainstormed these using ideation. From this I extracted a set of interview questions, which I revised iteratively, until I was satisfied that they represented a set that covered the context/ground of the goals/aims of the Foundation and matched with the related issues/ideas emerging from my research. I also wanted to mix open questions with directed questions to find out their views without my ideas and then their views when directed by my ideas. I intend that this interview tests my ideas as well as gathers new ideas about building community and the policy context of building community. I will use the questions as a framework for the interview, but I intend that the interview is responsive too and the line of enquiry emerges in a two-way process.'

### Background

'The Good Things Foundation' operates online/offline - it is an example of the blend/balance. It is a social enterprise/mutual organisation promoting digital community and digital skills. Established in December 2011 as a staff-owned mutual with a team of 40, supporting a network of 5,000 local community partners and working with hundreds of national organisations. They aim to support thousands of community partners to be smarter in how they use digital technology, through website information and guidance and online education and through their management of the 'UK Online Centres'.

The Foundation leads the 'UK Online Centres' network, a diverse collection of 5,000 local places that support people to improve their digital skills in order to improve their life chances. These local partners shape their offer based on the needs of their communities, and offer a vast array of services including debt and benefits advice, employability skills and healthy lifestyle classes. The network includes organisations ranging from community anchor organisations and libraries to places of worship, housing associations and internet cafés. Each



is different, but all are committed to digital and social inclusion, and to helping the hardest to reach to develop new skills and confidence, so they can progress to outcomes including further learning, employment and improved health and wellbeing.

The Foundation works closely with 'UK Online Centres' to support them to help their communities, providing training, marketing materials and advice, online learning products, grant funding, and to ensure their voices are heard at a national level.

Interview checklist

### **A The Foundation questions - 20 minutes**

How does the Foundation help community?

What are definitions of community for the Foundation?

Has it shifted because of social media and online community?

What shape does UK society/community have if 10 million are offline?

Is the strategy for improving access to online clearsightedly O/O driven

i.e. emphasising the blend and the choice and the empowerment of having the interdependence of O/O

Do they recognise that O/OC could be a new unacknowledged social reality for the majority and a goal for those without access currently?

What does the Foundation think about an approach that assumes and emphasises a balance/blend of online/offline?

In which UK Online Centres would continue in a community role after digital skills were universal

What are the Foundation smart tools to help build community meant to do?

Build an O/O blend? Offline or online-led?

Out of the tools (e.g. getting funding, organising marketing, managing projects), what proportion use types of community (e.g. crowd-funding/sourcing) to develop the *focus* community?

What does the crowd-based approach to community-building (e.g. spacehive) say about society's community performance?

## **B General questions (40 minutes)**

Online/offline community is: 'Simultaneous or sequential integrated performance of community in a blend of online/offline'

What are the major policy issues for online/offline society?

What are the advantages/disadvantages of online-led and offline-led

What are the advantages/disadvantages of balance

What should the public services in online/offline society/community be i.e. post-digital skills building - what would the policy initiatives be?

[Post-Digital inclusion skills building (that are significant O/OC events in their own right)]

Making most of the 'public sphere' afforded by O/OCs? How?

Internet/wifi/home broadband as subsidised utility for all? Is this feasible? Do social housing organisations do this?

O/O well-being advice for individuals?

Digital addiction countered by balanced O/O behaviours

Sustained online/offline community-building?

e.g. ward forums

Street units

Civil society meetups/events (Streetlife, independent web O/OCs, 'unter')

Matching offline events to online exchanges

Form dotted line structures/envelopes of online community partnerships...starting from systematic tweet mentions to offline events organisation.

How would you formulate policy with a new O/O paradigm of society?

- e-survey consultations (e.g. 'Community life')
- use social media as a 'public sphere' for consultative effect
- gather general e-stats on the frequency of O/OCs to determine the national landscape

Have they mapped the online/offline community landscape?

- e.g. the balance of private sector/public sector
- the balance of independent/national platform
- the envelopes of local area digital provision (e.g. twitter, facebook, websites, streetlife)
- the big interest/needs/values based national provision (e.g. mumsnet, netmums)

- measure instances of O/OCs for policy-making (e.g. resource allocation)

Do they consider or are they aware of the weightings of online-led/offline-led community services in local areas?

Why are some communities more effective and deeper than others, e.g. Urban 75, WHamp Twitter community and 'Streetlife', Mumsnet.

How do they measure them?

- Do they use a model?
- views/hits/visits in online community?

How would you deliver the suggested policy initiatives - which delivery mechanisms?

*Suggested policy initiatives*

- How to deliver policy? e.g. e-nudge?
- Build postal address email system
- Build institutional local O/OCs to enable
- transparent overt O/OC nudge
- Develop gov to local gov to O/OC distribution channels
- e.g. herne hill market development has social entrepreneur congregating and organising resources across website and local Twitter and Facebook accounts
- 'Streetlife' 'civic and community' topic

*Examples of policy ideas*

- Could Facebook/Twitter formally perform as 'public sphere'?
- Informing policy formulation

How could this be achieved

What processes are necessary to introduce?

- People's understanding that their use of social media is considered
- Currently petitions on No.10 site have to reach a volume before they become influential (<https://www.gov.uk/petition-government>)

If social media likes/dislikes were formally measured on topics of social importance would this enable the 'public sphere' influence...

What attitude would the public have to a systematic approach?

What should the public services in online/offline society be?

- Digital inclusion skills building
- Internet/wifi/home broadband as subsidised utility for all
- Well-being advice for individuals on digital addiction

How to achieve balance of online/offline

- Advantages of balance
- Advice for online/offline community-building
- Ward forums
- Street units,
- Meetups

## Appendix 5.4 - Ethics application for main experiment Stage 2

Ethics Committee -Ver 6.6d

|   |                                  |                  |
|---|----------------------------------|------------------|
| Reference number: <b>ERGO/23260</b>   | Version: 0.2                     | Date: 2016-10-03 |
| Name of <b>investigator(s)</b> : Caroline Anne Halcrow  |                                  |                  |
| Name of supervisor(s) (if student <b>investigator(s)</b> ): Professor Leslie Carr, Professor Susan Halford, Professor Dame Wendy Hall   |                                  |                  |
| Title of study: SPENCE Model and Survey Evaluation and Deployment   |                                  |                  |
| Expected study start date: 17/8/16  | Expected study end date: 31/1/17 |                  |
| Note that the dates requested on the "IRGA" form refer to the start and end of <i>data collection</i> . These are not the same as the start and end dates of the study for which approval is sought.<br>Note that approval must be obtained before the study commences; retrospective approval cannot be given. |                                  |                  |

### ***Pre-study***

#### **Characterise the proposed participants**

The proposed participants for interviews are managers of online/offline communities and policy-makers in the field of online/offline community. The proposed participants for the consultation and review of the survey questionnaire are the 2 O/OC managers of the London-based local online/offline communities, users nominated by the O/OC managers and 'expert' academic researchers working in areas related to web science. The proposed participants for the electronic survey of 2 London-based local online/offline communities are adults over 18-75 who are recipients of electronic newsletters and/or viewers of O/OC websites, and/or followers on social media managed by the community leaders.

#### **Describe how participants will be approached**

All the different types of participants will be approached by an electronic communication or phone call, initiated by the researcher. The core content of e-communications will be drafted by the researcher.

Proposed subjects for interview will be approached via email, face-to-face or by phone call. The 2 online/offline community managers, users nominated by the O/OC managers and 'expert' academic researchers working in areas related to web science, will be approached by email for the consultation and review of the Survey questionnaire. Citizens engaging in

surveys in local London areas will be informed of the survey, including the URL to the 'iSurvey' form, by the O/OC managers using e-newsletter and/or on the home page of websites, and/or by social media. All the participants are external to FPSE because the methodology requires data collection from:

- new and existing leaders/managers of online/offline communities
- ordinary citizens who take part in London local area online/offline communities

**Describe how inclusion and/or exclusion criteria will be applied (if any)**

Interview subjects are determined by their knowledge and experience of managing online/offline communities. Survey consultation and review participants are knowledgeable about the uses of and the users of online/offline communities and/or the evaluation of survey instruments.

The citizens (aged 18-75) who engage with the 2 London area online/offline communities and are in receipt of the electronic newsletters and/or visit the websites and/or follow the online/offline community via Facebook/Twitter are considered to be included in the study.

**Describe how participants will decide whether to take part**

The time availability, perceptions of relevance and levels of interest of approached individuals will be the determining factors for participation. The initial approach to subjects for interview will be followed up if interest and availability is positive. Interview subjects may register interest over the phone, face-to-face or by email. The 2 online/offline community managers have agreed to take part, from a previous study engagement. The users nominated by the O/OC managers will be asked by the O/OC managers if they would like to take part on the basis of information provided by the project researcher. The 'expert' academic researchers working in areas related to web science will be invited by the project researcher and would decide to participate given their availability and interest.

The members of the London local area O/OCs will decide on whether to take part from the information given in the description of the survey purpose and desired outcomes. They will complete the e-survey if they view the exercise as useful and interesting. They will be informed that they can optionally provide their Twitter handle in the e-Survey to give matching contextual information to an analysis of their Twitter activity over a 6-month period. Details of the analysis of Twitter activity will be given. It involves using the tool 'Localnets.org' that gathers the tweets of *sources* of social brokers or prominent communicators in local communities. Their activity seeds into wider networks which are analysed by the package using simple network science approaches. As the information on Twitter is public, details of this research component have

not been included in the ERGO submission. But as there is the new requirement to ask participants to optionally identify their Twitter 'handles' in the survey, it is necessary to describe this aspect of the research to participants so they are aware that their Twitter activity and responses to the Survey could be matched to provide inter-dependent context.

### ***During the study***

#### **Describe the study procedures as they will be experienced by the participant**

##### **INTERVIEWS**

The interviewees will be asked questions selected from a structured list of themes and talking points but the interview will progress in the form of a reciprocal conversation in which both the interviewer and interviewee will explore facts, ideas and perspectives as they arise within the case-study-focused context of defining, measuring and building online/offline communities.

##### **SURVEY CONSULTATION**

The 2 managers, the users nominated by the O/OC managers and 'expert' academic researchers working in areas related to web science will be sent a link to an 'iSurvey' version of the survey questionnaire by email. The 'experts' will be each allocated a section of the Survey to review. They will be asked to complete QAS99 forms for each of the questions in their section. The users recommended by O/OC managers will be asked to complete the whole Survey, qualitatively noting any issues with questions such as intelligibility, design intention, wording or answer formats on the e-survey itself.

##### **SURVEY OF LONDON AREA ONLINE/OFFLINE COMMUNITIES**

The member of the O/OC will either receive an email, phone-call, tweet or direct message in Twitter, read in an e-newsletter or on a website, in which a description of the survey and its purpose and the purpose of the related Twitter research will be set out. They will then choose to take part, by following an URL to a survey on 'iSurvey'.

#### **Identify how, when, where, and what kind of data will be recorded (not just the formal research data, but including all other study data such as e-mail addresses and signed consent forms)**

The email addresses, Twitter 'handles', formal research data (e.g. transcripts, analysis of transcripts, survey consultation discussion, survey results), consent forms, and other project

documents will be stored on the computer (if in digital form), owned by the University, that I use for my PhD studies; and my two other computers; or in folders in my abode (if in print copy form).

Discussions of the interviews will be audio-recorded and transcripts made (where appropriate) by a third party, i.e. a Transcription Company and temporarily stored on their secure system.

The completed survey data will be stored in 'the cloud' supporting the 'iSurvey' system (<https://www.iSurvey.soton.ac.uk>).

### ***Participant questionnaire***

As an appendix, if using a questionnaire, reproduce any and all **participant** questionnaires or data gathering instruments in the exact forms that they will be given to or experienced by **participants**. If conducting less formal data collection, provide specific information concerning the methods that will be used to obtain the required data.

### ***Post-study***

#### **Identify how, when, and where data will be stored, processed, and destroyed**

The email addresses, Twitter 'handles', formal research data (e.g. transcripts, analysis of transcripts, survey results, survey consultation results, interview recordings), consent forms and other project documents will be stored on the MAC computer, owned by the University, that I use for my PhD studies; and my own PC computer.

All the data will be destroyed after the study has been completed.

### **PARTICIPANT INFORMATION**

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: <b>ERGO/23260</b>                     | Version: 0.2 | Date: 2016-10-04 |
| Study Title: SPENCE Model and Survey Evaluation and Deployment |              |                  |
| Investigator: Caroline Halcrow                                 |              |                  |

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form. Your participation is completely voluntary.



**What is the research about?** This is a PhD research project that aims to define and measure online/offline community. The study is supported by the 'Web Science Institute' at the 'University of Southampton'. At the completion of the PhD in the next year(s), elements of the work of the engagement in which you are involved (e.g. Interview, Survey consultation, e-Survey) might be included in the methodology chapter of the PhD, to which you will have access to see how your data was used.

**Why have I been chosen?** You have been approached because you have knowledge and experience of either managing or using online/offline communities. You may be part of a directly selected group of participants or be self-selecting, according to interest and perceived relevance.

**What will happen to me if I take part?** If your engagement is by *interview*, you will be contacted by email/phone call to arrange the interview time. The interview will last around 40 minutes. It will take place by Skype or face-to-face in a suitable professional environment. A conversation guided by a pick-list of questions, will centre on the management of online/offline communities. If your engagement is in the *survey consultation and review*, there will be an email with a link to an e-survey, review forms completion for a section of the e-Survey or pilot e-Survey completion-review process. If your engagement is by *e-Survey*, the questionnaire will require around 45-60 minutes to complete. If you choose in the e-Survey to volunteer your Twitter handle, your survey data would be matchable with Twitter activity review for the period March-August 2016. The survey data and the Twitter activity analysis would provide inter-relatable context.

**Are there any benefits in my taking part?** It is expected that the engagement will be illuminating and insightful. The *interview* conversation should prove mutually rewarding, exploring new themes and affording insights. The *survey consultation and review* will afford insights into community membership survey approaches. Completing the *e-Survey* will give a set of new perspectives on online/offline community. It is expected that participation in the study will add to your current knowledge about online/offline community.

**Are there any risks involved?** There are no particular risks associated with your participation.

**Will my data be confidential?** All data collected will be anonymised in the dissertation, except for publicly available information such as Twitter activity. Any inter-relatable data, resulting from volunteered Twitter 'handles' will be anonymised. Your data will be held on a

password-protected secure University personal laptop and on a password-protected secure PC owned by the researcher (subject to the same controls as University owned laptop), and used only in accordance with the Data Protection Act (1998). The interview and focus group data will be anonymised (but described by general role and function), by separating identifying data from data content in the audio recording process. Your data will be linked to your consent form using data storage systems. It will be stored 10 years after the date of the submission of the PhD. If you would like to access your data after your participation, change it, or withdraw it, please contact the investigator (cah4g12@soton.ac.uk) or the project supervisor (lac@ecs.soton.ac.uk) who will arrange this.

**What happens if I change my mind?** You may withdraw at any time and for any reason. You may access, change, or withdraw your data at any time and for any reason prior to its destruction. You may keep any benefits you receive.

**What happens if something goes wrong?** Should you have any concern or complaint, contact me if possible (cah4g12@soton.ac.uk), otherwise please contact the Office (A.Glen@soton.ac.uk) or any other authoritative body such as Head of Research Governance.

**Data collection plan / Questionnaire(s) in the form that it will be given to participants.**

#### REVIEW OF ONLINE/OFFLINE COMMUNITY SURVEY

**The final version of this Survey cannot be given here until it is reviewed in the Survey Consultation.**

A draft Survey is likely to be significantly revised. The survey when revised will be sent to the ERGO Committee as an amendment submission.

## CONSENT FORM TEMPLATE

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: <b>ERGO/23260</b>                     | Version: 0.2 | Date: 2016-10-03 |
| Study Title: SPENCE Model and Survey Evaluation and Deployment |              |                  |
| Investigator: Caroline Halcrow                                 |              |                  |

*Please initial the box(es) if you agree with the statement(s):*

I have read and understood the Participant Information (version 0.2 03-10-2016) and have had the opportunity to ask questions about the study.

☐

*I understand that information collected during my participation in this study is completely anonymous<sup>70</sup> and will be stored on password protected computers and that this information will only be used in accordance with the Data Protection Act (1998). The DPA (1998) requires data to be processed fairly and lawfully in accordance with the rights of participants and protected by appropriate security. In addition, the DPA (1998) makes provision for an appropriate authority, such as the Police, to access data held by the study for the purpose of...*

Name of participant (print name).....

Signature of participant.....

Date.....

## DPA PLAN

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: <b>ERGO/23260</b>                     | Version: 0.1 | Date: 2016-08-17 |
| Study Title: SPENCE Model and Survey Evaluation and Deployment |              |                  |
| Investigator: Caroline Halcrow                                 |              |                  |

The following is an exhaustive and complete list of all the data that will be collected.

PERSONAL DATA: names, e-mail addresses, telephone numbers (mobile and/or landline), skype names and signatures of Interview participants.

INTERVIEWS: audio-recorded discussions.

SURVEY CONSULTATION AND REVIEW: QAS99 forms in a Word document; 'iSurvey' survey data with user review comments

E-SURVEY: 'iSurvey' questionnaire results.

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<sup>70</sup> In the case of participants volunteering their Twitter 'handles' for the purpose of inter-relatable context, the results will be anonymised.

The data is relevant to the study purposes because the Model of online/offline community and its Survey need to be evaluated by application. The survey consultation and survey involve the application of the SPENCE model and the gathering of named expert survey review data or anonymous survey data on 2 online/offline communities for comparative analysis.

The interviews with online/offline community managers and community development policy-makers provide either case study data of the local area and evidence of the perspective of the particular manager/social entrepreneur or data on views on the significance of online/offline community as a new social reality.

The data is adequate because it is relevant and the data is not excessive because it is the volunteered opinion, structured responses and considered views of active study participants. The data will be processed fairly because all the data outputs provided by and contributed to by participants (e.g. interview discussions, consultation responses, and survey responses) to which analysis is applied will have been provided by consenting participants. Their consent is given to the processing of data for evaluation and deployment of the Model and case study comparative analysis and its inclusion (in anonymised form) in the methodology of the PhD.

The data's accuracy is ensured because of the provision of audio recordings, high quality digital transcripts, and secure, verifiable, time-stamped, digital verbatim records (e.g. emails). Data will be stored on the Investigator's two laptops: MAC owned by SU; and PC, owned by the Investigator. The data will be held in accordance with University policy on data retention. Data files will be protected by passwords; laptops will be protected by passwords; physical data will be kept in secure storage in the Investigator's flat. Data will be processed on the computers in the following ways: email addresses, consent forms, audio recordings and other project documents will be stored on the MAC that is password protected. The transcripts of the discussion will be stored and analysed on the Investigator's MAC using NVivo. Transcripts of some of the interviews may be made by a Transcription Company – Sterling Transcription - and temporarily stored on their system. The data will be kept for a minimum of 10 years following the completion of the PhD, likely to be autumn 2017. The data will be processed in accordance with the rights of the participants because they will have the right to access, correct, and/or withdraw their data at any time and for any reason. Participants will be able to exercise their rights by contacting the investigator (e-mail: [song.art@virgin.net](mailto:song.art@virgin.net)) or the project supervisor (e-mail: [les.carr@soton.ac.uk](mailto:les.carr@soton.ac.uk)).

The data will be anonymised by the transcripts of the audio recordings and the survey responses not having names. The data contained in the audio recordings of interviews and survey consultation discussions will not be anonymised. Physical and digital consent forms will be linked to their respective data in data storage systems. Hard copies of consent forms

will be kept in the PhD filing system and destroyed 10 years after the date of the submission of the PhD. The audio recording of some of the interviews may be made temporarily available to transcribers working outside of the European Economic Area (EEA) because that is the modus operandi of Sterling Transcription Services. A standard NDA is signed with them to protect IP. The protection controls that will be put in place for this data by Sterling Transcription comprise secure server, password protection, and delivery of transcript documents via intranet account rather than email: 'All audio files and transcribed documents sent via client login are SSL encrypted for maximum security' (Sterling Transcription, 2015). Sterling Transcription also adheres to the Privacy and Electronic Communications (EC Directive) Regulations 2003, the Data Protection Act 1998 and the Telecommunications (Data Protection and Privacy) Regulations 1999. The standard NDA used by Sterling Transcription is attached with the application.

|  |              |                  |
|--|--------------|------------------|
| Ethics reference number: <b>ERGO/23260</b>                     | Version: 0.1 | Date: 2016-08-17 |
| Study Title: SPENCE Model and Survey Evaluation and Deployment |              |                  |
| Investigator: Caroline Halcrow                                 |              |                  |

The online/offline community managers of the 2 London-based local online/offline communities have agreed in face-to-face discussion to advertise the e-Survey in their e-newsletters, on the websites they manage and using any other online/offline means that is appropriate. The survey content is relevant to the participation of members of online/offline communities, asking them questions about their membership experiences. As such it is assumed that advertising the survey within the communications that are a part of the online/offline community is appropriate.

## Appendix 5.5 - Twitter Study hashtag classification examples

The following categories were used in the classification of hashtags. The Interests categories were not applied, but those for *values* and *needs* were.

| <b>A Values</b> | <b>B Interests</b>      | <b>C Needs</b> |
|-----------------|-------------------------|----------------|
| Achievement     | Art & Entertainment     | Competence     |
| Hedonism        | Education               | Relatedness    |
| Universalism    | Family & Parenting      | Autonomy       |
| Benevolence     | Food & Drink            |                |
| Tradition       | Health & Fitness        |                |
| Conformity      | Home & Gardens          |                |
| Security        | Religion & Spirituality |                |
| Power           | Shopping                |                |
|                 | Sports                  |                |
|                 | Style & Fashion         |                |
|                 | Law Govt & Politics     |                |
|                 | News                    |                |
|                 | Society                 |                |
|                 | Technology & Computing  |                |
|                 | Pets                    |                |
|                 | Business & Industrial   |                |
|                 | Careers                 |                |
|                 | Science etc             |                |
|                 | Automotives & Vehicles  |                |
|                 | Travel                  |                |

The classification of hashtags involved two passes of analysis: the third column gives the first pass and the first column gives the second and final pass. The classification itself is given in the fourth column. The process is demonstrated by the following examples.

| <b>Final classification</b>                          | <b>Hashtag</b> | <b>First pass</b> | <b>Value, Interest or Need</b> |
|--|----------------|-------------------|--------------------------------|
| A - this expresses the value of 'stimulation' in the | #soldout       | B                 | Stimulation                    |

|   |                |   |  |
|---|----------------|---|--|
| expression of excitement at a product or service  |                |   |  |
| A   | #charity       | A | Value of Benovolence                                     |
| A   | #exciting      | A | Stimulation.   |
| A   | #lgbt          | A | Universalism   |
| A   | #library       | A | Universalism   |
| A   | #madeintheuk   | A | Tradition  |
| A   | #magnacarta    | A | Universalism   |
| A   | #mentalhealth  | A | Universalism   |
| A   | #missingperson | A | Benovolence  |
| A   | #npt           | A | Security - police context- 'neighbourhood policing team' |
| A   | #opomega       | A | Security. This is a Police operation code.               |
| A   | #parkspolice   | A | Security - police context                                |
| A   | #volunteering  | A | Universaiism   |
| A - this was assumed to be in-group but it is a public upholding of the value so it 'Universalism'. | #love          | A | Universalism   |
| A - 'stimulation' value represents seeking to share the excitement of feeling in the right place.   | #theplacetobe  | C | Stimulation  |
| A - 'Universalism' as it is about public welfare.   | #libraries     | A | Universalism   |

|  |                      |   |              |
|--|----------------------|---|--------------|
| A - advertising the service, involves the expression of concern for public welfare | #samaritans          | A | Universalism |
| A - concern for human and animal welfare   | #worldlionday        | A | Universalism |
| A - concern for welfare represented by the value of 'universalism'.                | #savethebees         | A | Universalism |
| A - expression of value of achievement   | #thisgirlcan         | A | Achievement  |
| A - it is a statement of values intent.  | #randomactofkindness | A | Universalism |



## Appendix 5.6 - Actualised proximity

Note: For example, if a Twitter handle has used 20 hashtags over the 6-month period of the experiment. Out of their 20 hashtags, 15 might have been shared by Twitter 'handles' that they have had an exchange with, i.e. have mentioned or been mentioned by.

|                      | barnetlibraries | bgscho      | boundsgreenon | bowesandbo   | bowesparkch | enfieldfest  | enfieldcouncil | enfieldlibrary | kabaretkaramel | killickstores | mpsbar      | myddletonmar | ni_sams    | nrthon       | donne      | pgtales    | rmilond     | talkies      | thebo        | wespar       | theste      | welove | myddleton | woodgreenn22 |
|----------------------|-----------------|-------------|---------------|--------------|-------------|--------------|----------------|----------------|----------------|---------------|-------------|--------------|------------|--------------|------------|------------|-------------|--------------|--------------|--------------|-------------|--------|-----------|--------------|
| Total HTs actualised | 28 out of 34    | 9 out of 15 | 80 out of 91  | 29 out of 30 |             | 48 out of 60 | 23 out of 35   | 54 out of 61   | 20 out of 30   | 27 out of 33  | 7 out of 39 | 28 out of 31 | 2 out of 4 | 16 out of 32 | 2 out of 2 | 6 out of 8 | 7 out of 18 | 43 out of 47 | 18 out of 18 | 24 out of 25 | 6 out of 10 |        | TOTAL     |              |
| Cohesion mean        | 0.45            | 0.41        | 0.52          | 0.64         |             | 0.43         | 0.41           | 0.51           | 0.33           | 0.37          | 0.32        | 0.55         | 0.30       | 0.35         | 0.31       | 0.47       |             | 0.35         | 0.55         |              | 0.61        | 0.59   | 0.23      | 0.43         |
|                      |                 |             |               |              |             |              |                |                |                |               |             |              |            |              |            |            |             |              |              |              |             |        |           |              |

## Appendix 6.1 - Review of Survey

The discussion of the Survey questions is selective, not exhaustive: the most salient findings are given below.

### *Q1.1 In offline [.....], which of the following features/amenities do you visit frequently?*

The Survey's demographic findings (Q2.1-2.5) give useful insight and context to this question. The list of offline amenities/features was derived from the 'Community Life Survey, Assets/Scorecard 14' (Cabinet Office, 2014a). The Survey question functions effectively as it reveals the diversity of use of *settlement* features

### *Q1.2 Which features of online [...] do you visit frequently?*

There is no equivalent listing of online amenities/features in the 'Community Life Survey' (Cabinet Office, 2014a). The responses to the questions validate the design of the question and indicate that it is effective at showing that online place 'features' can be enumerated in a *settlement* and aligned with physical amenities. The effectiveness of the question shows that participant engagement with online/offline *settlement* in a community can be measured. The results emphasise that there is an important informal performance of online/offline community. The survey design decision to focus on the non-formal aspects of community, in contrast with e.g. the 'Community Life Survey' (Cabinet Office, 2014a), are supported by the offline visit findings and the conversational nature of online exchange.

### *Q1.3 Which online communities, e.g. Facebook, Mumsnet, LinkedIn, Twitter etc. and offline communities e.g. neighbourhood watch, voluntary groups, hobby/common interest groups etc. do you belong to and participate in?*

The full range of responses validates the question. The open-ended question was successfully answered, showing participants understood the question about online/offline community. It offered respondents the gap to generate their own examples, which again demonstrated understanding of the concept of online/offline community. The 'Community Life Survey' does not address the online/offline community focus. It asks about the use of online social media independently from offline community questions on 'belonging'<sup>71</sup>.

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<sup>71</sup> 'Community Life Survey': Section 3 SBeNeigh - 'how strongly you feel you belong to [each] place'

*Q1.4 How many years have you been a member of the offline community of [.....]? And how many years since you joined the online community?*

The question is validated by the full range of responses in both CS1 and CS2. People were able to remember when they first started to use the online community provision.

*Q4.6 How much do you trust your online or offline neighbours – e.g. sharing personal information, exchanging favours with them?*

The question was effective in that its division between online and offline was accepted and responded to by participants. This question is in the facet of *net/latticework*, engaging with the *trust capability* metric operating in *settlement*. This shows how the *capability* metrics cross-sect the questions in the facets.

*Q5.6 [Considering all the different channels in the preceding question], what is your use of online/offline channels in a day?*

This question was successfully completed, showing that people were aware of the time they spent online and offline. This question is in the facet of *channels*, engaging with the *trust capability* operating in *settlement*. It shows how the *capability* metrics cross-sect the facets, drawing significance from questions in other facets. The question is a key, contextual question in the *settlement* facet.

*Q2.10 Which values do you hold dearly? Please place the values in order of priority.*

The findings of Q2.9 show that there is a perception that neighbours online do not hold the same values. In the specificity of Q2.10, the results show that particular and 'quadrant' units of values (Schwartz, 2012) are diverse within the Case Studies, but they are similar across the Case Studies. Q2.10 usefully develops the preceding question to get more specific data and to confirm or not the previous question and to give the opportunity of comparing across Case Studies.

*Q2.8-2.11*

It was important to ask questions with different *channel* focuses to differentiate between them. But it is also helpful in so doing to discern the particular features that pertain to the blend of online/offline.

*Q2.12 Which interests do you have? You can select any, all or none of the following interests.*

The specificity does not offer as it does with Q2.10 a development of Q2.11, as interests have less valency than values, e.g. in terms of their contribution to the concept of *trust*. But the categories of interests proved accessible and relevant.

*Q2.15 Do you think the online/offline community in Bowes and Bounds Green (Herne Hill) is diverse, that is full of people who are different? Or is it non-diverse, that is full of people who are very similar in values/needs/interests/demographic status?*

The preferred make-up of individual or combined *VINs*, online or offline, is discussed in Q2.7-2.15. But this question usefully addresses the actual perceived nature of the communities. Posing questions that first ask people about their preferences and then ask them for their observations usefully informs the picture being formed. Detailed comparison is afforded by the cluster of sequential questions.

*Q3.1 How many online or offline neighbours do you communicate meaningfully with each week?*

*Q3.2 How many times a week do you communicate meaningfully with people online or offline?*

These questions give a perspective on the *exchange* activity in the Case Studies and it can be usefully perceived which is the more actively engaged online.

*Q3.5 Do you prefer to share information indirectly or directly?*

The usefulness of the question lies in the interpretation of a number of preceding questions. But the terms 'direct' and indirect' are too vague to be of real significance. However, it was responded to so that participants must have understood the intent to some degree. The examples provided in the question helped its intelligibility.

*Q4.2 How long, on average, does it take before new offline members of your social network convert to online friends and vice versa?*

The question asks about timings of friendships made either offline to online or online to offline after the relationship is first established but it also assumes there will be a conversion. There is no option for saying this not happen. I have drawn the conclusion that the respondents in their answers also assume the conversion is inevitable, but the conclusions need to take on board the caveat.

*Q4.5 Which do you value most in online/offline community, the 'social capital' of Trust, the Data/Information resources or the capability of exerting Influence as a community?*

The validity of the *capability* concept is proven here by the responses in both case studies. The difference between the case studies shows that with the appropriate sample sizes, useful correlations may be possible. The degree to which a community tends to be online or offline, discoverable in Q3.1-2, is a good basis for enquiring into the nature of online/offline community via correlations with other aspects, e.g., *capability*. The *capability of intelligence* is not included in the question as it did not emerge as a *capability* until after the Survey was formulated.

*Q5.5 Please rank the means of communication or channels you use to connect with your social networks in order of preference.*

With this question, the responses in Case Study 2 are contradictory with Q5.1-5.5. in the sense of online appearing normalised as a trend. In Case Study 2, there is no confirmation of online social with media being as preferred as face-to-face. The question usefully discovers this as it effectively tests for confirmation or anomalies.

*Q5.6 [Considering all the different channels in the preceding question], what is your use of online/offline channels in a day?*

The responses give substantial online channel use in both case studies which provides a useful overview perspective on the survey results. It contextualises all of the previous answers technically in survey terms. This question is a key linking resource for the Survey. It shows how, respondents are substantive online users, who, in the survey completion, are considering, in ideal, their online/offline behaviours. But their actual behaviours are slightly different. The qualitative responses in section 7 will shed more light on this question directed at behaviours, as the open-endedness gives a different quality of information.

### **Q7.1-7.5 Comments on Survey**

**Q7.1** Do you think online/offline community exists now as a social reality? Please give some reasons for your view.

- Yes think so. It works and events happen from it.
- Yes people say awful things online they would never say out loud to anyone's face
- I don't think some of the question were well thought out. For instance, I tweet and Facebook in my own name but also for a nearby community to Herne Hill - the 'Brixton Blog' which Herne Hill follows.

- I think it does but that it is hard to know what the overlap is said from one's own friends/contacts. I think that
- Crowdfunding schemes insofar as they relate to practical community activities are a good indicator.
- I think they are one and the same and feed of each other
- The online community is a social reality. Different forms of online communication suits different segments of the community and also different topics suit different tools
- The online community is often cited as an "organisation" in its own right.
- I think it does as we communicate in different ways: face to face email telephone Facebook etc and each reinforces the other
- Too long and does not apply to me
- Absolutely new technology cannot just be ignored plus it's good fun and a great quick way to round up your contacts to tell them something and or to interest them in a new event or a petition to sign etc.
- I meet people who have heard about my shop on line and then once someone is a customer they often post a tweet or a Facebook message about a purchase or follow me on Twitter.
- Yes in a way. Most meaningful contact happens face-to-face whether that connection starts

Q7.2 Did you think the 6 areas in the Survey were easy to understand and did they help structure the survey?

- Not really. did not get the first half. Questions at the beginning a bit too long and confusing. Twitter question no option to have 200-250 followers. Questions that you say you do not have to answer the computer makes you.
- A little tricky doing this thinking in this way at first but once got going with it ok
- I didn't find the structure that easy. And even now I'm struggling to understand what you will get out of it.
- People use whatever means they need to either connect with each other or impart information.
- I think that they do sometimes require quite a lot of concentration both to understand the questions and to answer them and that ranking more than 6 factors in strict order is a hard task.
- Yes
- Tough to understand the language and what you were getting at. Many answers were guesses as the questions didn't really fit the reality.

- They were ok sometimes a strain to understand the nuances of each question
- Yes all very interesting - it makes you realise how important it is to find a balance between the real world and the online one.
- Yes.
- I found it quite confusing actually. I think I would have preferred it by separately doing offline questions first and then moving onto online.

Q7.3 Were there any questions that should have been asked about your experience of participating in community but were missing?

- Not enough options sometimes its not black and white. It depends on situations.
- No mention of town hall meetings
- Yes. I follow a lot of what's on in Herne Hill but actually live in Tulse Hill and run the blog for Brixton. All these areas are interconnected. You should have asked some other questions about residency and social activity that interested non-residents of Herne Hill
- Are you using online / offline networks more or less since you started?
- No
- No
- So not participate.
- Maybe examples of how the locals have achieved something and or what their main issues are?
- You could have had a question about meetings. There are two community groups the local police and the council who I meet with and this helps a great deal in building and maintaining relationships.
- Can't think of any at the moment!

Q7.4 Were there any questions that should not have been asked? If yes, please give reasons.

- No didn't mind any of the questions.
- don't think you should use this to gain twitter handles
- ethnicity
- No
- Yes duplicity
- No. Some of the questions about personal priorities were challenging but that is good!
- No.

*Q7.5 Overall how effective do you think this Survey is in finding about how people feel and think about the community they participate in?*

- Very effective 4
- Reasonably effective 5
- Neutral 4
- Not very effective 1
- Not at all effective 0



## Appendix 6.2 - Case Study 1, Twitter Study findings

### 1. Capability findings and discussion

The sample's significance is in relation to its total tweets and total number of social brokers as it is not compared with another sample. With 21 *social brokers*, including 1 social entrepreneur and 22760 tweets collected over 6 months, the scores are internally contextualised rather than benchmarked.

### A TRUST

Table 6.2.18: Trust findings

|      | SPENCE Interpretation  | Twitter element   | Score | Discussion   |
|------|--|---|-------|--|
| 1.   | <b>Complex</b>   |   |       |  |
| 1.1  | Actualised proximity<br>( <i>proximity/exchange</i> )  | HT clusters in which users have conversed (mentions)    | 0.43  | The hashtag group includes a mention to one or more people in 43% of total of hashtags. 100% would be a 'perfect density' or cohesion in which all tweets with hashtags also had mentions. This score therefore indicates a reasonable degree of cohesion. |
| 1.2  | Strongly actualised proximity<br>( <i>proximity/exchange</i> divided by <i>net/latticework</i> ) | One-way conversations divided by two-way conversations. | 2.93  | With 120 mention/hashtags and 41 reciprocal mention/hashtags, there is a reasonable degree of mutuality. 34% of mention/hashtags have reciprocal mentions.   |
| 1.3. | Diverse cohesion   | HT cluster pattern - coarse/fine                        | 65.54 | Reviewing the data in the Table 5.2.20 shows that there is more fine hashtag cluster patterning than coarse patterning. The community  |

|     |                             |  |          |  |
|-----|-----------------------------|--|----------|--|
|     |                             |  |          | does not have a high degree of homophily expressed in hashtags. It appears effectively diverse. So the median of 65.54 shows an effective and beneficial diversity.  |
| 1.4 | Trust attributes ratio      | Hashtag clusters classed into values:interests:needs | 45:94:99 | The balance is 1:2:2. The ratio shows that the values content is not equal to the interests or needs but is significantly present. Does this indicate an ideal <i>roundedness</i> of trust expression type or would the ratio 1:1:1 be more effective and beneficial? With a range of results across different area samples, it would be possible to benchmark the ideal of <i>roundedness</i> . |
|     | <b>Simple</b>               |  |          |  |
| 2.  | Trust expression            | Total tweets with HTs                                | 2067     | The total number of tweets for this sample is 7347. The number of tweets with at least 1 hashtag, is 2067. This means that over 25% of the total tweets contained a trust expression. If 100% of tweets contained hashtags, that would indicate a strong desire to share values, interests and needs. 25% indicates a moderate desire.   |
| 3.  | Trust expressions in groups | HT clusters  | 238      | The singleton hashtag total of 1725 (1963-238) shows that  |

|    |                         |                                    |      |  |
|----|-------------------------|------------------------------------|------|--|
|    |                         |                                    |      | many hashtags, aiming to connect, did not resonate with community participants. 12% of the hashtags did resonate in clusters of >2. But this appears to be not a significantly effective score, but would need to be benchmarked to validate this finding.   |
| 4. | <i>Settlement</i> trust | Relatedness-place hashtags         | 93   | 40% of the total hashtag clusters express place relatedness or <i>settlement</i> trust. This appears a high proportion and shows that people bond over place.  |
| 5. | Trust topics            | Unique HTs                         | 1872 | The breadth of topic of hashtag can only be measured in comparison with other samples. A community with a diverse range of values, interests gives a <i>roundedness</i> .  |
| 6. | <i>Exchange</i> trust   | Total tweets with hashtag/mentions | 1439 | There are 1439 expressions of direct trust in which the hashtag is a part of a direct communication. The mention/hashtag expression involves values, interests or needs being shared between the sender and recipient. This is a significant proportion of the total of tweets with hashtags - 1439/2067. This figure is high and shows that it is common for users to use |

|     |                     |                            |      |   |
|-----|---------------------|----------------------------|------|---|
|     |                     |                            |      | a reciprocal expression of trust.   |
| 7.  | Social interaction  | Total tweets with mentions | 4912 | <i>Exchange</i> forms part of the cohesion calculation. This total is the number of mentions in tweets. Out of 7347 tweets, 2067 tweets have at least one hashtag and 4912 tweets have at least one mention. Direct communications amounts to more than double the number of tweets with hashtags. This suggests there is more interest in directly communicating than in implicitly communicating by sharing hashtags. |
| 8.  | <b>O/OC Manager</b> |                            |      |   |
| 8.1 | Trust expression    | Hashtags                   | 30   |   |
| 8.2 | <i>Exchange</i>     | Mentions                   | 142  | The manager favours conversations – 60% of their tweets have at least one mention. Engagement through interaction supports the role of <i>social broker</i> influencer.   |

### ***Interpretation of metric 1.1***

43% of a *social broker's* hashtags, on average, are actualised by an *exchange* edge or *net/latticework* tie (reciprocal edges). This shows that the *psychological proximity* is supported by interaction or *net/latticework* tie. If this coefficient were significantly lower, this would indicate that *social brokers* who shared the same hashtags were not directly communicating with each other.

*Exegesis*: the number of edges of communication between the *social brokers* who used the same hashtags were counted for each hashtag. The hashtag share/edge count equation was summed for each hashtag by each *social broker*. Each *social broker's* total HT cluster size/exchange or edge count was calculated. This calculation was summed for all the social brokers = 8.92. This was 'meaned' by 21 to give the average = 0.43.

With HT clusters with reciprocal conversations, the hashtag is actualised 15% by a reciprocal *network* tie. This is not close to the perfect density of 100%.

### Metric 1.3

There is not a high degree of homophily. The coefficient of 0.0021 indicates a reasonable cohesion that has a fine pattern of diversity.

## B INFLUENCE

**Table 6.2.19: Influence findings**

|     | SPENCE interpretation            | Twitter element | Score        | Discussion  |
|-----|----------------------------------|-----------------|--------------|---|
| 1.  | <b>Complex</b>                   |                 |              |   |
| 1.1 | Influence threshold              | VINs as ratio   | 45:94:<br>99 | The balance is 1:2:2. The ratio shows that the <i>values</i> content is not equal to the <i>interests</i> or <i>needs</i> but is significantly present. This indicates a moderate <i>roundedness</i> . The ratio 1:1:1 would indicate tweets expressing <i>values</i> are expressed as frequently as <i>interests</i> and <i>needs</i> which would indicate meaningful discussion and debate in the community. Balance in the ratio indicates <i>roundedness</i> that suggests resilience in the <i>influence threshold</i> . |
| 1.2 | Significantly achieved influence |                 | 178          | 2% of total tweets were retweeted more than once  |

|     |  |                                      |      |  |
|-----|--|--------------------------------------|------|--|
|     |  |                                      |      | which shows how <i>information</i> is cast to answer a perceived social need – an implicit ‘seek event’.   |
| 1.3 | Repeated influence - articulate expression | Retweet with hashtags/URLs/ Mentions | 677  | 9% of total tweets are articulate expressions in retweets that show the influence effect of well-crafted tweets.   |
| 1.4 | <i>Exchange</i> cohesion                   | Mention totals in populations        | 7347 | The tweet totals of social brokers in the <i>settlement</i> show the extent of potential <i>influence</i> . The tweet volumes in comparable samples in other <i>settlements</i> are not available so it cannot be discovered how influential in tweet activity terms this CS1 sample is.                   |
|     | <b>Simple</b>                              |                                      |      |  |
| 2.  | Total influence expressions                | Total tweets                         | 7347 | The tweet total of <i>social brokers</i> in the <i>settlement</i> shows the extent of key information resources.   |
| 3.  | Influence knowledge transfer/diffusion     | Total tweets with URLs               | 5602 | 76% of total tweets have URLs which indicates an intent to broadcast or meaningfully diffuse information. This is a high figure that shows the <i>social brokers</i> valued their diffusion role. The benefits lie in the likely value of the information resources and the high rate of information flow. |

|    |  |                                 |      |  |
|----|--|---------------------------------|------|--|
| 4. | Personal influence knowledge transfer (meaningful diffusion) | Total tweets with mention & URL | 3436 | 47% of total tweets have a meaningful diffusion intent in the <i>settlement</i> i.e. the information is directed to named participants. This is a significant amount, indicating that <i>social brokers</i> often choose to directly disseminate information to each other. This is effective community behaviour as it keeps information circulating and it strengthens ties.   |
| 5. | Influence receptivity/achieved influence                     | Retweet                         | 2559 | The retweet is a simple diffusion of information (like using an URL). The degree to which a community has been influenced is indicated by the proportion of retweets in the total tweet activity, i.e. 35%. This also indirectly indicates tweet creativity. The degree to which people retweet as opposed to tweet shows their receptivity to influence over their desire to originate expressions of influence. If, for example, over 60% of the tweets volume is retweets, this would indicate that the community was more receptive to influence and less original than in this case study sample. In CS1, 35% appears to mildly favour creativity over receptivity. |

|     |  |                            |      |   |
|-----|--|----------------------------|------|---|
| 6.  | Social interaction                         | Total tweets with mentions | 4912 | 67% of the total of tweets are personal and so potentially collaborative.   |
| 7.  | <b>O/OC Manager</b>                        |                            |      | The online/offline community manager uses two of the twitter accounts out of the total sample of 21. The two Twitter 'handles' comprise: the official 'handle' - @bowesandbounds; and the personal 'handle' - @rmlondon. The activity of the official 'handle' is counted here. |
| 7.1 | Total influence                            | Tweets                     | 237  | The volume amounts to 3% of the total. The manager is a 20 <sup>th</sup> of the group, so 5% would be the expected portion of the total volumes. So, the Manager contributes less than the broker average of tweets.  |
| 7.2 | Influence knowledge transfer               | URLs                       | 199  | The volume of <i>diffusion</i> is 3% of the total, which is less than the average of 5%. 100% of the tweets have URLs which shows that the manager regards their role as importantly diffusive.   |
| 7.3 | Personal influence knowledge transfer      | URLs/Mentions              | 142  | The volume is 2% of the total. This is further away from the average of 5% that suggests that the manager does not overly favours meaningful diffusion as a style.  |
| 7.4 | Influence receptivity (achieved influence) | RTs                        | 115  | The volume of their retweets is 0.5% of the total. The average RT volume per a broker is 6%   |



|     |                             |   |            |   |
|-----|-----------------------------|---|------------|---|
|     |                             |   |            | (35% divided by 21). The manager originates more than they receive and diffuse. Their RT total is 2% of their total tweets This indicates a reserved use of RTs which might reflect their perception of their role.   |
| 7.5 | Influence threshold         | VINs as ratio                                     | 1:3:6      | The manager's <i>roundedness</i> score showed a significant <i>need - relatedness</i> bias, twice as frequent as <i>interests</i> and 6 times as frequent as <i>values</i> . The <i>social broker</i> community had a more rounded score of 1:2:2 in which the frequency scores for each category were closer.  |
| 7.6 | Articulate expression       | URLs/Mentions/Hashtags                            | 25         | The volume 25 is 3% of the sample's articulate expression total of 2457. 3% is higher than the 2% of total tweets portion, suggesting that the manager's tweets are more articulate than the average.<br><br>11% of the manager's tweets are articulate, which is the same as for the <i>social brokers</i> in general. This suggests the manager is an experienced twitter user as the <i>social brokers</i> . |
| 7.7 | Achieved influence/exchange | Mentions of O/OC manager<br>RTs of manager tweets | 383<br>124 | 4912 is the total of mentions in the sample, so the manager is mentioned in 8% of the total. This is a significant amount   |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  | <p>that indicates his centrality to conversations.</p> <p>Of the total of RTs, 5% are those of the manager. This indicates that they have a significant influence, compared to other <i>social brokers</i>, e.g. 1% of RTs were those of @myddletonmarket; and 1% for @boundsgreenon</p> |
|--|--|--|--|--|

## C INFORMATION

**Table 6.2.20: Information findings**

|     | <b>SPENCE interpretation</b>            | <b>Twitter element</b>         | <b>Score</b> | <b>Discussion</b>  |
|-----|---|--------------------------------|--------------|--|
| 1.  | <i>Complex</i>                          |                                |              |  |
| 1.1 | Information-seeking event               | Retweet duplicate instances >2 | 178          | 2% of total tweets were retweeted more than once which shows how information is cast to answer a perceived social need - an implicit seek event. |
|     | <i>Simple</i>                           |                                |              |  |
| 2.  | Total information                       | Total tweets of social brokers | 7347         | The tweet total of social brokers in the <i>settlement</i> shows the extent of key information resources.  |
| 3.  | Social interaction                      | Total tweets with mentions     | 4912         | 67% of the total of tweets are personal and so potentially collaborative.  |
| 4.  | Broadcast knowledge transfer /diffusion | Total tweets with URLs         | 5602         | 76% of total tweets have URLs which indicates an intent to diffuse information. This is a high figure that shows the social brokers valued their |

|           |                                |                                 |      |   |
|-----------|--------------------------------|---------------------------------|------|---|
|           |                                |                                 |      | diffusion role. The benefits lie in the likely value of the information resources and the high rate of information flow.                    |
| 5.        | Personal knowledge transfer    | Total tweets with mentions/URLs | 3436 | 46% of total tweets have mentions, indicating an intention to transfer meaningful information directly and personally to a known recipient. |
| 6.        | Received knowledge transfer    | RTs                             | 2559 | 35% of total tweets are retweets which indicate a receipt and appreciation of knowledge that suggests <i>influence</i> has been effected.   |
| 7.        | Repeated articulate expression | RT hashtags/URLs/mentions       | 677  | 9% of total tweets are articulate expressions in retweets that show the <i>influence</i> effect of well-crafted tweets.                     |
| <b>8.</b> | <b>O/OC Manager</b>            |                                 |      |   |
| 8.1       | Total information              | Tweets                          | 237  | 3% of total tweets are by the social entrepreneur aiming to influence and impart <i>information</i> .                                       |
| 8.2       | Broadcast knowledge transfer   | URLs                            | 199  | 84% are informational.  |
| 8.3       | Personal knowledge transfer    | URLs/Mentions                   | 142  | 60% are informational and directed at specific people.  |
| 8.4       | Received knowledge transfer    | RTs                             | 115  | Out of the total of retweets, the social entrepreneur does 5%.  |

### Notes on table

*Information-seeking event:* The event frequencies (in bold) are:

|          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> |
| 125      | 31       | 7        | 2        |          |          |          | 1        |

I propose that significant retweeting indicates the answering of an implicit information need. In CS1, there are 10 retweeting 'events' of note. The popular retweet is a seek event as the content is perceived as interesting or information rich, answering an information need. So the frequency of retweets can define context. In CS1, the overall frequencies indicate that no major 'seek events' occurred. A manual review of content showed that local advert type content was retweeted. This suggests the motivation of retweets was more to influence than to inform.

The other interpretative categories above will not be discussed in detail as they are dynamically interchangeable with the *influence capability*, dependent on context.

The other noteworthy category is *repeated articulate expression*. The suggested interpretation is tentative. The idea is that the repetition of a tweet with all rhetorical features is significant in informational terms as it constitutes a 'resolving expression' that is retweeted because it effectively answers an information need.

## D INTELLIGENCE

**Table 6.2.21: Intelligence findings**

|    | <b>SPENCE interpretation</b> | <b>Twitter element</b>    | <b>Score</b> | <b>Discussion</b>  |
|----|------------------------------|---------------------------|--------------|--|
|    | Simple                       |                           |              |  |
| 1. | Collaboration                | HT clusters with mentions | 0.43         | The collaboration indicator (implying intellectual leverage) from <i>social brokers</i> is, in part, implied by the degree to which people sharing values, interests and needs, converse online with each other. 43% of tweets with hashtags involve mentions, giving two forms of potential collaboration: the undirected and directed. |

|    |  |   |          |  |
|----|--|---|----------|--|
| 2. | Social interaction                     | Total tweets with mentions                  | 4912     | 67% of the total of tweets are personal and so potentially collaborative.  |
| 3. | Expertise and know-how                 | Unique HTs                                  | 1872     | 26% of hashtags used in this study are unique. This bears on the nature of shared VINs but with the <i>intelligence capability</i> , more importantly on topic range, where the unique hashtag suggests rarity of topic, which widens the range and gives topic diversity, |
| 4. | Total knowledge expression expressions | Total tweets                                | 7347     | The tweet is a unit of knowledge. In the area of CS1, over a 6 -month period, 7347 knowledge units were communicated. This bears directly on the <i>intelligence capability</i> .  |
| 5. | Influence threshold                    | Hashtag clusters classified into VINs ratio | 45:94:99 | With collaboration, trust is necessary and the ratio indicates the degree to which there is a <i>roundedness</i> of VINs, which supports trust.  |
| 6. | Received knowledge transfer            | Retweets                                    | 2559     | 35% of total tweets are retweets which indicate a receipt and appreciation of knowledge that suggests the process of collaboration, supporting intelligence.   |
| 7. | Articulate expression                  | Hashtags/URLs/mentions                      | 985      | A communicator who uses mentions, hashtags and   |

|     |                            |                                       |       |  |
|-----|----------------------------|---------------------------------------|-------|--|
|     |                            |                                       |       | URLs has an articulate twitter style that denotes intelligence. 13% of the tweets of the social broker sample are 'articulate' and intelligent. The more intelligent communicators in a community the more beneficial for the community.   |
| 8.  | Intelligence trust         | Total tweets with HTs                 | 2067  | Over 25% of the total tweets contained a trust expression. If 100% of tweets contained hashtags, that would indicate a strong desire to share values, interests and needs which promote collaboration and knowledge in a community. 25% indicates a moderate intelligence trust. |
| 9.  | <b>O/OC Manager</b>        |                                       |       |  |
| 9.1 | Total knowledge expression | Tweets                                | 237   | The volume amounts to 3% of the total. The manager is a 20 <sup>th</sup> of the group, so 5% would be the expected portion of the total volumes. So the manager contributes less than the broker average of tweets. This bears on the intelligence he provides.                  |
| 9.2 | Influence threshold        | Hashtag clusters classified into VINs | 1:3:6 | The ratio of all hashtags is 1:2:2. The manager has more needs hashtags than   |

|     |                             |                        |     |  |
|-----|-----------------------------|------------------------|-----|--|
|     |                             |                        |     | interests which confirms his role has a congregator, communicating hashtags that support the need of <i>relatedness</i> in the community.                        |
| 9.3 | Articulate expression       | URLs/Mentions/Hashtags | 25  |  |
| 9.4 | Received knowledge transfer | RTs                    | 115 |  |
| 9.5 | Trust expression            | Hashtags               | 30  |  |
| 9.6 | Social interaction          | Tweets with mentions   | 142 | The manager favours conversations - 60% of their tweets have at least one mention. Engagement through interaction supports the role of social broker influencer. |

## 2. Roundedness of VINs

For an account of *roundedness*, see Chapter 3, 3.3.2.2.

### ***Hashtag classification***

The following categories and sub-categories were applied to the hashtags.

**Table 6.2.22: Hashtag classification categories and sub-categories**

| <b>A Values</b> | <b>B Interests</b>      | <b>C Needs</b> |
|-----------------|-------------------------|----------------|
| Achievement     | Art & Entertainment     | Competence     |
| Hedonism        | Education               | Relatedness    |
| Universalism    | Family & Parenting      | Autonomy       |
| Benovolence     | Food & Drink            |                |
| Tradition       | Health & Fitness        |                |
| Conformity      | Home & Gardens          |                |
| Security        | Religion & Spirituality |                |
| Power           | Shopping                |                |
|                 | Sports                  |                |
|                 | Style & Fashion         |                |
|                 | Law Govt & Politics     |                |
|                 | News                    |                |
|                 | Society                 |                |
|                 | Technology & Computing  |                |
|                 | Pets                    |                |
|                 | Business & Industrial   |                |
|                 | Careers                 |                |
|                 | Science etc             |                |
|                 | Automotives & Vehicles  |                |
|                 | Travel                  |                |

### **Case Study 1 - Bowes and Bounds Green Totals**

A Values: 45

B Interests: 94

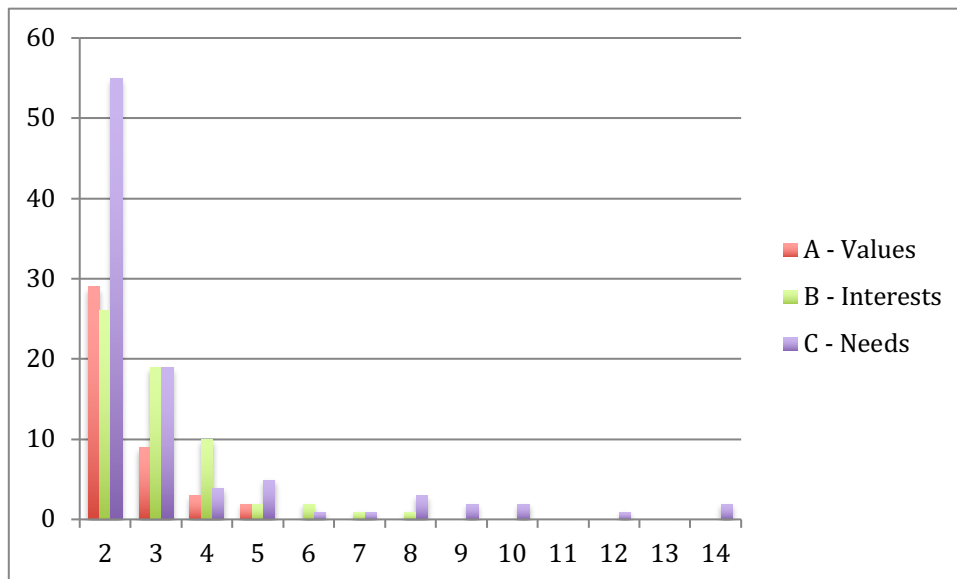
C Needs: 99

There are almost the same number of need and interest hashtag clusters. The number of Value hashtag clusters is approximately half the size in a ratio of 1:2:2.



## Hashtag diversity

**Table 6.2.23: Hashtag cluster diversity**



| Cluster size | A - Values | B - Interests | C - Needs |
|--------------|------------|---------------|-----------|
| 2            | 29         | 26            | 55        |
| 3            | 9          | 19            | 19        |
| 4            | 3          | 10            | 4         |
| 5            | 2          | 2             | 5         |
| 6            | 0          | 2             | 1         |
| 7            | 0          | 1             | 1         |
| 8            | 0          | 1             | 3         |
| 9            |            |               | 2         |
| 10           |            |               | 2         |
| 11           |            |               | 0         |
| 12           |            |               | 1         |
| 13           |            |               | 0         |
| 14           |            |               | 2         |

The diversity of hashtags is shown to be high. There are not equal numbers of hashtag classes. There is an overall proportionate variation: 45, 97, 96. 1:2:2. 20: 40: 40.

It was found that the bigger the cluster size, the more the need class is present.

### ***Most popular hashtags***

**Table 6.2.24: Range of most frequent hashtags**

| Cluster size | Classification | Hashtag           |
|--------------|----------------|-------------------|
| 4            | C              | #cashmob          |
| 4            | C              | #edmonton         |
| 4            | C              | #event            |
| 4            | B              | #exhibition       |
| 4            | A              | #fun              |
| 4            | A              | #fundraiser       |
| 4            | B              | #furniture        |
| 4            | B              | #illustration     |
| 4            | C              | #palmersgreen     |
| 4            | B              | #property         |
| 4            | B              | #retro            |
| 4            | B              | #rwc2015          |
| 4            | B              | #sale             |
| 4            | B              | #salsa            |
| 4            | A              | #samaritans       |
| 4            | B              | #win              |
| 4            | B              | #yoga             |
| 5            | C              | #cashmobn22       |
| 5            | A              | #community        |
| 5            | C              | #crouchend        |
| 5            | A              | #family           |
| 5            | C              | #familyfriendly   |
| 5            | B              | #ge2015           |
| 5            | C              | #itsamiracle      |
| 5            | C              | #keepingitlocal   |
| 5            | B              | #whatson          |
| 6            | B              | #free             |
| 6            | C              | #southgate        |
| 6            | B              | #vintage          |
| 7            | B              | #lovelondonawards |
| 7            | C              | #shoplocal        |
| 8            | B              | #art              |

|    |   |                |
|----|---|----------------|
| 8  | C | #ff            |
| 8  | C | #haringey      |
| 8  | C | #northlondon   |
| 9  | C | #halloween     |
| 9  | C | #muswellhill   |
| 10 | C | #enfield       |
| 10 | C | #woodgreen     |
| 12 | C | #n22           |
| 14 | C | #london        |
| 14 | C | #myddletonroad |

### 3.Cohesions

- a) *General cohesion* is the reciprocal links between the nodes (whether net or lattice) divided by the population's possible reciprocal links.
- b) *Diverse cohesion* is the degree to which the general cohesion has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked (e.g. *trust cohesion*).
- c) *Specific (decile fabric cohesion) cohesion* is the reciprocal links between network and lattice nodes divided by the population's possible reciprocal links.

**Table 6.2.25: Net/latticework data for cohesions**

|  |      |
|--|------|
| <b>Social brokers</b>  | 21   |
| <b>Total exchange edges</b>  | 120  |
| <b>Total possible exchange links</b>   | 400  |
| <b>Total reciprocal links</b>  | 43   |
| <b>Total possible reciprocal links</b>   | 400  |
| <b>Exchange links divided by reciprocal links</b>                                | 2.93 |
| <b>Total net to lattice exchange edges</b>                                       | 21   |
| <b>Total net to lattice reciprocal links</b>                                     | 9    |
| <b>Lattice nodes</b>   | 5    |
| <b>Net nodes</b>   | 16   |
| <b>Total possible reciprocal links or exchange edges between net and lattice</b> | 80   |

**Table 6.2.26: Social broker connectivity by exchange and net/latticework**

|                 | ▼ barnetlibraries | ▼ bgschoolpta | ▼ boundsgreenon | ▼ bowesandbounds | ▼ bowesparkchoir | ▼ enfield_fest | ▼ enfieldcouncil | ▼ enfieldlibrary | ▼ kabaretkaramel | ▼ killickstores | ▼ mpsbarnet | ▼ myddletonmarket | ▼ nl_sams | ▼ nrthlondonnews | ▼ pgtales | ▼ rmlondon | ▼ talkiesn13 | ▼ thebowesparker | ▼ thestepn22 | ▼ welovemyddleton | ▼ woodgreenn22 |
|-----------------|-------------------|---------------|-----------------|------------------|------------------|----------------|------------------|------------------|------------------|-----------------|-------------|-------------------|-----------|------------------|-----------|------------|--------------|------------------|--------------|-------------------|----------------|
| barnetlibraries | *                 | 0             | 0               | 0                | 0                | 0              | 0                | 1                | 0                | 0               | 1           | 0                 | 0         | 0                | 0         | 0          | 0            | 0                | 0            | 0                 | 0              |
| bgschoolpta     | 0                 | *             | 0               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 1                 | 0         | 0                | 0         | 0          | 0            | 1                | 0            | 1                 | 0              |
| boundsgreenon   | 0                 | 1             | *               | 1                | 1                | 1              | 1                | 1                | 1                | 1               | 0           | 1                 | 0         | 0                | 0         | 1          | 0            | 1                | 1            | 1                 | 0              |
| bowesandbounds  | 0                 | 1             | 1               | *                | 0                | 0              | 0                | 1                | 1                | 1               | 0           | 1                 | 1         | 0                | 0         | 1          | 1            | 1                | 1            | 1                 | 1              |
| bowesparkchoir  | 0                 | 0             | 0               | 1                | *                | 0              | 0                | 0                | 0                | 1               | 0           | 0                 | 0         | 0                | 0         | 0          | 0            | 1                | 1            | 0                 | 0              |
| enfield_fest    | 0                 | 0             | 1               | 1                | 0                | *              | 1                | 1                | 0                | 0               | 0           | 0                 | 0         | 0                | 0         | 0          | 0            | 0                | 0            | 0                 | 0              |
| enfieldcouncil  | 0                 | 0             | 1               | 1                | 0                | 1              | *                | 1                | 0                | 0               | 0           | 0                 | 0         | 1                | 0         | 0          | 1            | 0                | 0            | 0                 | 0              |
| enfieldlibrary  | 1                 | 0             | 1               | 1                | 0                | 1              | 1                | *                | 0                | 0               | 0           | 0                 | 0         | 0                | 0         | 0          | 1            | 0                | 0            | 0                 | 0              |
| kabaretkaramel  | 0                 | 0             | 1               | 1                | 0                | 0              | 0                | 0                | *                | 0               | 0           | 0                 | 0         | 0                | 0         | 0          | 0            | 1                | 0            | 0                 | 0              |
| killickstores   | 0                 | 0             | 0               | 1                | 0                | 0              | 0                | 0                | 0                | *               | 0           | 1                 | 0         | 0                | 0         | 0          | 0            | 1                | 1            | 1                 | 0              |
| mpsbarnt        | 1                 | 0             | 1               | 0                | 0                | 0              | 0                | 0                | 0                | 0               | *           | 0                 | 0         | 1                | 0         | 0          | 0            | 0                | 0            | 0                 | 0              |
| myddletonmarket | 0                 | 1             | 1               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | *                 | 0         | 0                | 0         | 0          | 0            | 1                | 1            | 1                 | 0              |
| nl_sams         | 0                 | 0             | 0               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 0                 | *         | 0                | 0         | 0          | 0            | 0                | 1            | 1                 | 0              |
| nrthlondonnews  | 0                 | 0             | 0               | 1                | 0                | 1              | 1                | 0                | 1                | 0               | 0           | 0                 | 1         | *                | 0         | 1          | 1            | 0                | 1            | 0                 | 0              |
| pgtales         | 0                 | 0             | 0               | 0                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 0                 | 0         | 0                | *         | 0          | 1            | 0                | 0            | 0                 | 0              |
| rmlondon        | 0                 | 0             | 1               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 0                 | 0         | 0                | 0         | *          | 1            | 1                | 1            | 0                 | 0              |
| talkiesn13      | 0                 | 0             | 1               | 1                | 0                | 1              | 0                | 0                | 0                | 0               | 0           | 0                 | 0         | 0                | 1         | 1          | *            | 1                | 0            | 1                 | 0              |
| thebowesparker  | 0                 | 1             | 1               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 1                 | 0         | 0                | 0         | 1          | 0            | *                | 1            | 1                 | 0              |
| theste22        | 0                 | 0             | 1               | 1                | 0                | 0              | 0                | 0                | 0                | 1               | 0           | 1                 | 1         | 0                | 0         | 1          | 1            | 1                | *            | 1                 | 0              |
| welovemyddleton | 0                 | 1             | 1               | 1                | 0                | 0              | 0                | 0                | 0                | 0               | 0           | 1                 | 0         | 0                | 0         | 1          | 0            | 1                | 1            | *                 | 0              |
| woodgreenn22    | 0                 | 0             | 0               | 1                | 0                | 0              | 0                | 0                | 1                | 0               | 0           | 1                 | 0         | 0                | 0         | 0          | 0            | 0                | 1            | 0                 | *              |

### ***Diverse cohesion***

This is expressed as degree of diversity of cluster by size. The hashtag cluster represents trust groups. The degree to which the community densely groups around a limited number of hashtags (of whatever classification) or in a ramified way around a wide range of hashtags, indicates its diverse cohesion capacity.

The coefficient is = 65.54 (11.14/0.17). It indicates fine/coarse patterning or diverse/non-diverse community make-up by hashtag clustering. The lower the quotient is the less diverse.

**Table 6.2.27: Diverse cohesion coefficients**

| Cluster size A | Totals B | Coefficient (Total B divided by cluster size A) |               | 55<br>15.66<br>4.25<br>1.8<br>0.5<br>0.29<br><b>0.5 - median</b> | Total fineness =<br>78<br>Divided by 7 giving<br>Average frequency of low<br>sized cluster <8 = <b>11.14</b> |
|----------------|----------|---|---------------|--|--|
| 2              | 110      | 55  | Max fine      |  |  |
| 3              | 47       | 15.66   | Fine          |  |  |
| 4              | 17       | 4.25  | Fine          |  |  |
| 5              | 9        | 1.8   | Fine          |  |  |
| 6              | 3        | 0.5   | Fine          |  |  |
| 7              | 2        | 0.29  | Fine          |  |  |
| <b>8</b>       | <b>4</b> | <b>0.5</b>                                      | <b>Median</b> |  |  |

|          |          |            |               |  |  |
|----------|----------|------------|---------------|--|--|
| <b>8</b> | <b>4</b> | <b>0.5</b> | <b>Median</b> |  |  |
| 9        | 2        | 0.22       | Coarse        |  |  |
| 10       | 2        | 0.2        | Coarse        |  |  |
| 11       | 0        | 0          | Coarse        |  |  |
| 12       | 1        | 0.1        | Coarse        |  |  |
| 13       | 0        | 0          | Coarse        |  |  |
| 14       | 2        | 0.14       | Max coarse    |  |  |
|          |          |            |               | <b>0.5</b><br>0.22<br>0.2<br>0<br>0.1<br>0<br>0.14 | Total coarseness = 1.16<br>Divided by 7 Average<br>frequency of high sized<br>cluster >8 = <b>0.17</b> |

# Glossary of Terms

|                             |  |
|-----------------------------|--|
| <b>Actualised proximity</b> | (SPENCE definition) Implied ties of people who are psychologically proximate, through socially exchanging values/interests/needs (VINs). The psychological proximity number of implied ties is divided by exchange ties to arrive at the measure of actualised connection. In the Twitter Study, the hashtag with mentions shows the actualisation |
| <b>Augmented cognition</b>  | The boosting of mental power (Brynjolfsson & McAfee, 2014); cognitive technology extends the scope and power of cognition as sensory and motor technology extends the scope and power of the bodily senses and movement (Dror & Harnad, 2008).   |
| <b>Capabilities</b>         | (SPENCE definition) They are measures of online/offline community effectiveness, derived from the social effects scoped by the SPENCE facets. There are four capabilities: Trust, Influence, Information and Intelligence. Their infrastructures inhere in the decile cohesions.   |
| <b>Channels</b>             | (SPENCE definition) The interwoven infrastructure of distinct human-to-human communication channels in online, offline or online/offline forms. The basic channels operate in parallel or combined ways. They are face to face; telephony (audio/video); postal mail; and digitally mediated communications.                                       |
| <b>Cognitive science</b>    | ‘Most of cognitive science is devoted to explaining how we are able to do what we can do by trying to discover the implicit (unconscious) mechanisms underlying our cognitive competence and making them explicit’ (Carr & Harnad, 2011, p.1).   |
| <b>Cognition technology</b> | Cognitive technology is concerned with the human-machine interface and supports human cognition (Carr & Harnad, 2011, p.1). It is distinct from a machine-focused entity in artificial intelligence which is a business focused understanding of the term.   |
| <b>Community asset</b>      | An active community participant with ‘skills, talents, and experience’ (McKnight & Kretzmann, 1996, p.9).  |
| <b>Decile fabric</b>        | (SPENCE definition) An online/offline community update of the term ‘social capital’, referring to the 10% of inhabitants who are civically active as   |



community assets across the *net/latticework* and who cascade their 'skills, talents and experience' to the whole community.

|                           |   |
|---------------------------|---|
| <b>Diverse cohesion</b>   | (SPENCE definition) The degree to which the <i>general cohesion</i> has variation expressed as brokerage to other social circles; or a fine/coarse pattern of attribute clusters that are not linked.   |
| <b>Entrepreneur</b>       | (SPENCE definition) The entrepreneur is involved in the design, creation, management and maintenance of an online/offline community. They are an agent or organisation. They are engaged in the initiation, management and maintenance of online/offline community. They can be a single agent or a leadership group. They are likely to have qualities of ambition, drive, creativity, and effectiveness (Leadbeater, 1997). |
| <b>Exchange</b>           | (SPENCE definition) It happens between humans or between human and machine and comprises the processes of communication, diffusion and information-seeking.   |
| <b>General cohesion</b>   | (SPENCE definition) <i>General cohesion</i> is the reciprocal links between nodes (whether net or lattice) divided by the population's possible reciprocal links.   |
| <b>Habitus</b>            | 'Systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them' (Bourdieu, 1990, p.53).                |
| <b>Hyperlocal</b>         | Small community-orientated websites focused on the generation of locally sourced independent online news.   |
| <b>Imagined community</b> | Anderson's thesis of <i>imagined community</i> : '...yet in the minds of each lives the image of their communion' (Anderson, 2006, p.6).  |
| <b>Intranet</b>           | The intranet is a geographically situated online hub providing corporate communications, information and knowledge resources, e.g. about core functions and other teams and individuals, and tools and applications. A main role is to cohere a formal organisation socially and strategically.   |

|                           |   |
|---------------------------|---|
| <b>Latticework</b>        | 'A regular geometrical arrangement of points or objects over an area or in space <i>specifically</i> , the arrangement of atoms in a crystal'. <sup>72</sup> In SPENCE, the metaphor of the crystal pattern of regular topography applies to the asset-based relations between formal organisations.  |
| <b>Net/latticework</b>    | (SPENCE definition) It is the blended intersection of two types of social graph in the decile fabric in particular and in the whole of online/offline community in general. As a consequence of the processes of exchange, interconnections between social brokers are generated in topological patterns in which capabilities are invested. The capabilities inhere and operate in the decile fabric and the whole of online/offline community |
| <b>Personal community</b> | 'A composite of a densely knit core-cluster and some more sparsely knit ties reaching to connect with other groups and their resources' (Wellman, Carrington & Hall, 1997, p.135); a subset of the 'personal network' and only concerns the ties that are meaningful to egos (Chua, Madej & Wellman, 2011).   |
| <b>Proximity</b>          | (SPENCE definition) Proximity is the <i>geo-physical/virtual</i> or <i>psychological proximity</i> attraction between people (from the Latin <i>propinquitas</i> , 'nearness').   |
| <b>Proximity trust</b>    | (SPENCE definition) Implied ties of people who are psychologically proximate, through socially exchanging values/interests/needs (VINs).  |
| <b>Roundedness</b>        | (SPENCE definition) A wide variety of values, accommodating opposing values, and different interests, moved by the need for relatedness.  |
| <b>Situated cognition</b> | (SPENCE definition) The collectively embodied, co-constituted and online/offline grounding of social cognition produced by exchange.  |
| <b>Settlement</b>         | (SPENCE definition) A continuously or temporarily inhabited, bounded place, which is external (virtual/physical) and internal (cognitive), enabling the performance of community.   |
| <b>Settlement trust</b>   | (SPENCE definition) '...trust is a measure of confidence that an entity or entities will behave in an expected manner' (Sherchan, 2013, p.2). So there are expectations of a <i>settlement</i> and the meaning inscribed in it. If the meaning is consistent with expectations and is attractive to people, they will demonstrate <i>settlement trust</i> . In Twitter, it is proposed that the expression                                      |

of *settlement trust* is shown in tweets that use place name hashtags.

|                           |  |
|---------------------------|--|
| <b>Social broker</b>      | A type of expert and active community participant who is a community asset.  |
| <b>Social capital</b>     | Putnam's seminal definition: 'Features of social organisation such as networks, norms and trust that facilitate co-ordination and co-operation for mutual benefit' (Putnam1993, p. 35):  |
| <b>Specific cohesion</b>  | (SPENCE definition) The reciprocal links between net and lattice nodes divided by the population's possible reciprocal links.  |
| <b>SPENCE</b>             | (SPENCE definition) A model of online/offline community that involves six facets: Settlement, Proximity, Exchange, Net/latticework, Channels, Entrepreneur.  |
| <b>Twofold instrument</b> | (SPENCE definition) The main experiment's investigation method combining Survey with Twitter Study, with an alignment of capability to facet.  |
| <b>Universalism</b>       | A moral value that contributes to community participation, in ensuring <i>out-group</i> pastoral interest and care or in Schwartz's words: 'the welfare of others beyond the in-group' (2007, p.5). Schwartz defines four key value items that are involved in universalism: equality, social justice, broadmindedness, and a desire for global peace. |
| <b>Virtual community</b>  | Rheingold defines it as: '...social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace' (Rheingold, 1993, p.6).   |
| <b>Virtual settlement</b> | In the definition of Jones (2006, p.7) it constitutes: a minimum level of interactivity; a variety of communicators; a minimum level of sustained membership; and a virtual common-public-space'.  |

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