The impact of Social Networking Sites on Relationship Maintenance of Social Capital

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Completed Research

Dr Shane McLoughlin
LERO, Business School,
Maynooth University
shane.mcloughlin@mu.ie

Dr Giovanni Maccani
LERO, Business School,
Maynooth University
giovanni.maccani@mu.ie

Dr Abhinay Puvvala
LERO, Business School,
Maynooth University
abhinay.puvvala@mu.ie

Prof Brian Donnellan
LERO, Business School
Maynooth University
brian.donnellan@mu.ie

Abstract

Although Social Networking Sites (SNS) offer numerous affordances in displacing the barriers of time and space for empowering rural citizens to maintain and increase their social capital, the degree to which these affordances diminish the relative significance of face to face and mediated communication is unclear. This paper examines the impact of SNS on Relationship Maintenance (RM) of social capital (SC) using a novel mixed method design, applied to a representative survey sample of a rural Irish community, followed by a sub-sample for in-depth interview. Findings illustrate that despite widespread adoption of SNS, the role and importance of SNS for RM of SC still pale in comparison to Face to Face & other media. We discuss our findings in relation to affordance theories of Computer Mediated Communication, highlighting factors such as Instrumental Awareness, altruistic behaviors, and socio-cultural contextual factors impacting appropriation and use value of SNS.

Keywords

Social Capital, Relationship Maintenance, Social Networking Sites, Impact, Social Informatics, Affordance

Introduction

The past 15 years has seen a dramatic increase in diversity and usage of social networking sites (SNS) for both work and non-work contexts (Perrin 2015). Recently, Kapoor et al (2018) provided a thorough review of existing information systems (IS) research on Social Media in top IS journals. Whilst the review showcased the impressive diversity of both topics, approaches and contexts of such studies, it served to highlight the need for greater mainstream attention to broader questions of the degree of social impact of SNS on communities, particularly across age groups and different cultures (Kapoor et al. 2018). Whilst relationship maintenance (RM) and related social enhancement strategies are core rationales for SNS adoption and usage (Ifinedo 2016; Ku et al. 2013), the review reveals a gap in IS research examining the degree of social impact of various SNS on relationship maintenance of social capital (SC) and why? For example, Matook et al (2015) concluded that future research should examine how SNS affordances impact different characteristics of sociality (Matook et al. 2015). Given that RM has been envisaged as the 'nurturing and fostering of relations' (Matook et al. 2015), of benefit to supporting and enhancing social capital (Ellison et al. 2014; Grottke et al. 2018), this requires research attention. For social capital confers direct and indirect benefits to individuals & communities (Lin, 2003), contributing to social inclusion, and thus the welfare of societies (Mcloughlin 2018). In light of the above research gap, we follow a mixed method approach to addressing the following RQ: *What is relative significance of SNS on relationship maintenance of Social Capital and why?*

We chose a rural Irish community as a point of cultural and geographic comparison with existing work and explored a cross-demographic sample, whereby Ireland experiences high rural population levels, and more cross-demographic samples have been called for in the literature (Kapoor et al. 2018). Rural cohorts can particularly benefit from social capital because of prevalent disparities in various services and available resources compared to urban areas (Walsh and Harvey 2013) as well as a 'brain drain' of young talent to urban areas. In order to understand how the numerous affordances of SNS (O'Riordan et al. 2012) support relationship maintenance (RM) of social capital (SC) (such as across distance), Walther (2011) argued that studies should focus attention on their relative significance in relation to more traditional mediated and unmediated communication (Walther, 2011). Our research question reflects this concern.

The contributions to the IS literature are 3 fold. Firstly, we outline and illustrate the use of a novel mixed-method approach for examining the significance of SNS on relationship maintenance of Social Capital, in relation to other mediated and unmediated communication channels. In this regard, we have focused on the goal specificity of social capital (Van Der Gaag and Snijders 2005) by examining 'expert information' resources of benefit to rural citizens. Secondly, we contribute evidence on the social impact of SNS for an aspirational rural Irish community in terms of bottom-up and top-down efforts at rural renewal. This meant potentially more local and non-local social connections with which to examine our RQ, as well as evidence from an ideal type community in terms of policy and efforts at rural renewal. Finally, we relate our findings to affordance theories of computer mediated communication (CMC) tools, and provide additional insights as well as the significance of such theories in explaining SNS adoption and usage.

The paper is organised as follows: Section 2 presents relevant concepts models and theory for addressing the RQ. Section 3 describes the method including the case chosen for data collection and its justification. Next, we present results from the quantitative survey stage of the project and present findings from the qualitative interview stage. In section 5 we converge and discuss results and findings in the context of the RQ and conclude with an outline of the contributions of this study, future research and limitations.

Related Literature

Our related literature addresses core concepts; Social Capital (SC), Relationship Maintenance (RM) and Social networking Site (SNS) affordances, and related models/theories. Figure 1 illustrates how they are related, and the key literature of relevance to the study.
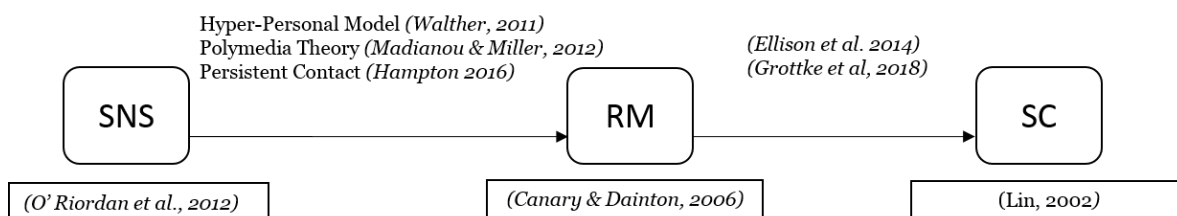

Hyper-Personal Model *(Walther, 2011)*
Polymedia Theory *(Madianou & Miller, 2012)*
Persistent Contact *(Hampton 2016)*

(Ellison et al. 2014)
(Grottke et al, 2018)

SNS → RM → SC

(O' Riordan et al., 2012) *(Canary & Dainton, 2006)* *(Lin, 2002)*

Figure 1 Concept relationship & key literature

Amongst the various theories of social capital, this study draws on Lin's (2003) definition of Social Capital (SC) as 'resources embedded in an individuals' social network accessed and used for actions'. His work focuses on how people have better informal access to other people's resources, and benefit by mobilising those resources for actions. In this regard, different types of social relationships such as strong and weak ties (Bonding & Bridging SC), enable informal access and mobilising resources of others. Such valuable resources includes someone's expert information/knowledge, of particular value to rural communities (McLoughlin, 2016). According to Lin (2003), having better SC means having greater extent of diversity of resources. For example, informally knowing 3 people with resources such as medical expertise, legal expertise and financial expertise respectively, can be more beneficial than knowing 3 people with financial expertise only. Furthermore, the relative strength of ties confers specific advantages when it comes to accessing and mobilising those resources (Lin 2003; McLoughlin 2016). For example, being emotionally close (strong ties) to lawyers more likely makes it easier to get free legal advice, though you may be more likely to be a lawyer yourself or afford one. Conversely, being emotionally distant (weak ties) to a lawyer can likely make it more difficult to get free legal advice, though you are less likely to be a lawyer yourself or

afford one (and thus could benefit from knowing one). This study specifically focuses on the goal specificity of SC in terms of accessing the 'expert information resources' of others, and is thus best informed by the Resource Generator measure by Van der Gaag & Snijders's (2005), as Lin's Position Generator is designed to elicit informal access to professions aligned to social status, not specific resources (Lin, 2003).

Relationship Maintenance (RM) is important for how individuals maintain this SC (Grottke et al, 2018). Whilst RM includes "nurturing and fostering existing relations" (Matook et al. 2015), it has been defined by Canary & Dainton (2006) as keeping a relationship in a specified state or condition, because people may engage in both pro-social (Kuem et al. 2017) and anti-social routines and strategies. For example, positivity, self-disclosure and relationship talk in the former respect, or avoidance, deception or coercion in the latter (McEwan and Guerrero 2012). Past research has focused on identifying how communicative routines and strategies are successful in maintaining different types of relationships (Canary and Dainton 2006).

With advancing development of CMC tools (such as SNS), focus has increasingly shifted to studying/designing their affordances (O' Riordan et al., 2012) to enable, support and enhance RM, of benefit to accessing and mobilising SC (Ellison et al. 2014). The term 'Affordance' was first used by psychologists to refer to actors' possibilities for action in relation to objects in an environment (Gibson, 1982). In IS research, it has been conceptualised as Functional Affordance (i.e. action possibilities allowed) and 'Perceived Affordance' (i.e. action possibilities perceived) (Seidel et al. 2013). People socially integrating technological affordances into their practices is termed technology Appropriation (Davenport et al. 1997). Thus, technologies may be used for social purposes not envisioned by designers, and may only be partially used etc. Thus, by understanding Appropriation, we can uncover Functional Affordances not relevant, and Perceived Affordances not previously envisioned; in order to prioritise future design.

Whilst an affordance lens has been drawn on in IS to uncover an 'inventory' of generic SNS affordances (O' Riordan et al., 2012), we overview three prominent CMC theories/models theorising significance of CMC affordances to RM. Firstly, Walther's (2011) Hyper-Personal Model describes how CMC's enhance creative control over self-presentation not otherwise possible face to face, thus supporting RM. Specifically, 'Asynchronicity' (time lag between communications) and 'Editability' (construct, edit and reconstruct a message before posting) allows for users to carefully self-select in presentation strategies. The model suggests CMC affordances support online relationships, matching and perhaps exceeding "desirability and intimacy that occur in parallel off-line interactions" (Walther, 2011) due to such factors as selective self-presentation. Secondly, Hampton (2016) theorises SNS afford 'Persistent Contact' with social ties requiring little time and effort or 'resources'. Whilst the "ambient nature" of SNS features (e.g. newsfeed) affords convenient continual awareness of social activity in one's social network (Hampton, 2016). Finally, Madianou and Miller (2012) developed an ego-based theory of 'Polymedia' in explaining how combined use of various CMC tools enable an 'integrated structure' and "environment of affordances', whereby users may switch between SNS and email for example not because of constraints of one CMC but instead to manage social and emotional relationships (p. 72). Thus, an array of CMC's affords opportunities in managing different relationships, controlling and expressing emotions within those relationships. From a market perspective, companies diversifying media by owning both Facebook, Instagram and Whatsapp can benefit.

However, despite various theorising into CMC's affordances, there is inadequate empirical evidence positioning their significance of CMC such as SNS combined affordances on RM (Walther, 2011) of SC. In concluding a review of available theory in CMC, Walther (2011) highlights concerns regarding CMC research, including "*increasing neglect of off-line comparisons in CMC studies, potentially undermining broad theoretical understanding & leading to potentially inflated views of CMC's effects*" (Walther, 2011), whilst Matook (2015) calls for future research for offline comparisons into social phenomena.

Methodology

The methodology for this study was adapted from 'Mixed Method Sequential Explanatory Design (Creswell and Clark 2017) outlined in figure 2 below. This design allowed measuring the significance of SNS on RM of SC, then triangulate and explore findings through follow up interview. The first stage, i.e. survey instrument, captured demographic data and SNS usage. In terms of SNS usage, respondents indicated recent SNS usage from a list of the four most popular SNS in Ireland at the time of the study; 1. Facebook 2. Twitter 3. Instagram 4. Pinterest. The options provided for each were, a. daily b. weekly c. monthly usage.

In terms of measuring the relative significance of SNS on RM of SC, a modified version of Van der Gaag & Snijders's (2005) 'Resource Generator' item scale was included in the survey, which we refer to as the

'Information Resource Generator' (IRG). Van der Gaag & Snijders (2005) developed the Resource Generator to capture both 'general forms of Social Capital', and 'goal specific forms of Social Capital'.
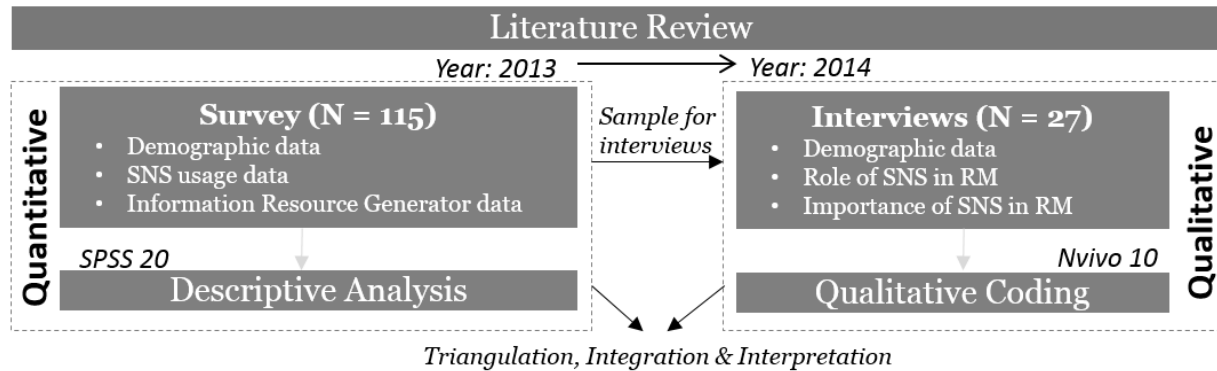

Figure 2 Research Design

Similar to the Resource Generator, IRG asked respondents to report on resources socially accessible to them (by reviewing a pre-defined list), and to indicate the strength of the relationship with those alters (we distinguished as '*Close Family/Friend*', '*Family/Friend*' or '*Acquaintance*' etc.). However, given our focus on expert information resources, we listed the top 16 information resources commonly reported in Irish studies of rural everyday life information needs (McLoughlin, 2016). Respondents indicated if '*they knew somebody socially with 'expertise'* for each of the 16 items, allowing a participant centred approach to eliciting 'expertise' (McClean and Shaw 2005). Thus, we sought to capture the extent of respondents Information Social Capital (ISC score) in terms of extent of accessing informational expertise of others.

In terms of the relevance to this current paper, we asked respondents to report on each of the ways they typically maintained their relationship (RM) (i.e. *Face to Face (FtF), Social Networking Site (SNS), Email, Instant Messaging (IM), Text Message, Telephone*) for each SC resources reported, and *if those SC resources resided locally or not*. Thus, for each resource accessible, they additionally ranked in order of perceived importance (1 being the most important) the '*ways they felt typically maintained*' each of those relationships. For example, a respondent who knew somebody with expertise in 'Legal' matters marked they were a 'close family/friend', that they resided 'locally', and ranked they maintained the relationship through 'Email' and 'Face to Face', ranking those '2' and '1' respectively. The survey was first piloted amongst students in the university school, before final distribution. The second stage consisted of an interview schedule designed to explore in-depth participant's purposive everyday life information seeking practices both online and/or offline, socially and/or otherwise. In terms of the relevance to this current paper, we probed their experience, perception and behaviours of SNS in the role and importance of SNS on RM. The focus of question probes included; SNS RM role, SNS features used, how frequently they used them, the perceived importance of SNS in RM of local and non-local relationships and the effect of SNS on their lives.

The case chosen is a small rural Irish community that's experienced significant renewal in the past 10 years. The village chosen sits amongst farming country with the nearest town approximately 16km, and approx. 2 hrs journey to a major Irish city. The village had comparatively richer community life and engagement to many typical rural Irish villages, having been the recipient of both top-down government renewal initiatives and bottom-up grassroots driven initiatives. In the latter respect, the village was home to the construction of an eco-community with a remit of ecological, economic and social sustainability which consisted of 25% of the sample. Thus, this study captured the role and importance of SNS in an aspirational or ideal-type village in terms of policies concerned with social inclusion and community engagement/participation. We deemed the village chosen to be an interesting case to address the research question because of the vibrant local (including social) life of the local community, as well as the high proportion of residents who had moved to the community in the past 5 years. This meant potentially more social connections mediated by CMC both locally and non-locally, with which we could measure and explore our research questions.

Primary data collection consisted of two consecutive phases. First, self-completed surveys were distributed to dwellings within a half mile radius of its center. Upon analysis, a heterogeneous sub-sample (in terms of demographics, length of residency, SNS usage and ISC score) were interviewed until data saturation and qualitatively coded, with pseudo-names assigned. The sample collected was examined against the closest census for the community (CSO 2011), and calculated at 25% of the total adult population for the village,

and broadly representative of census data for the community in terms of age (Sample N=115: 18-29, -3%; 30-39, -9%; 40-49, +1%, 50-54, +2%; 64+, +7%) and gender (Sample N=115: Male: -2%, Female +2%), though those aged between 30-39 were under-estimated (-9%), whilst those 64 years plus were slightly over-represented (+7%). It should be noted that we have rounded percentages and chosen not to display numerical population numbers in order to ensure anonymity of the community according to our university ethics policy. There were no direct comparisons with the census for education (Sample N =115 : primary, 8.7%, Secondary, 29.6%, Diploma/degree, 45.2%, Post Graduate, 13.9%, other, 2.6%) or income (Sample n = 106 : 0-20k – 64.15%, 20-40k, 24.52%, 40-60k – 6.66%, 60-100k, 4.71%) available. Finally, 63.5% of all respondents reported to be living in the village five or more years, with just 8.7% living less than a year.

Findings

Stage One: Survey Sample Results

Role of SNS

Overall, most participants go online (85%, n = 98). Of those, most reported using some form of SNS (83%, n = 81). Examining the four most popular SNS recorded in Ireland at the time of the survey (i.e. Facebook, Twitter, Pinterest and Instagram), showed only half of respondents listed more than one SNS. The most frequently cited SNS was Facebook, with 64% (n = 63) reporting Facebook usage. See Figure 3 below. Nineteen percent of internet users reported Twitter usage and 11% of internet users reported as using Pinterest. Finally, just two younger respondents reported as using Instagram (2% of internet users).
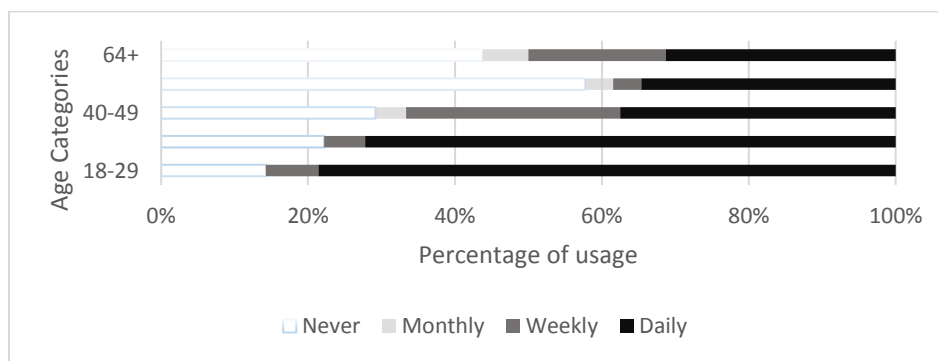

Figure 3 Internet users: Percentage breakdown of Facebook by age.

In terms of Information Social Capital (ISC) data captured, it was found that the mean average of responses across the sixteen information resources categories was 53% (M = 8.5/16, SD = 4.71). There was a modest tendency for respondents to know more acquaintances (37%; M = 3.1, SD = 3) relative to Family/Friends (31%; M = 2.6, SD = 2.4) or Close Family/Friends (33%; M = 2.8, SD = 3.2) overall across the sixteen information categories. Respondents tended to have more non-local ISC (*M* = 4.8, *SD* = .39) compared to local ISC (*M* = 3.7, SD = .31). Next, only internet users with ISC was examined (n = 94) to address the research questions. Employing frequency analysis, it was found that 80% listed some form of computer mediated communication (CMC) as playing a role in one or more relationships known. For respondents who mediated one or more relationships with CMC, CMC's mediated on average half of those respondents known ISC (M = 50%, Md = 43%, SD = .28). Email was the most cited tool by respondents (n= 62), mediating on average 43% of respondents known ISC (SD = .28). SNS played a role in almost half (n = 45) of internet users ISC. For those respondents, SNS mediated an average of 31% of their relationships listed (Md = .23, SD = .21). See Table 1 below. Overall, just 29% of respondents (n = 25) reported SNS as playing a role with at least one or more 'close ties' (Internet users with close ties; n =85), with SNS playing a role an average of 46% of their relationships (Md =50%). 20% of respondents (n = 18) reported SNS as playing a role with at least one or more 'acquaintances' (Internet users with acquaintance ties; n =89), with SNS playing a role an average of 45% of their relationships (Md = 37%). Thus, although more respondents reported SNS played a mediating role in close relationships, there was no indicated difference found in how many relationships were maintained via SNS when comparing close relationships with acquaintances.

	Frequency	% of Internet users*	Mean of ISC	Md	SD
SNS	n = 45	48%	31%	23%	0.21
Email	n= 62	66%	43%	37%	0.28
IM	n= 27	29%	26%	20%	0.2
CMC (SNS, Email & IM)	n =75	80%	50%	43%	0.28
					*Internet users with ISC is n =94

Table 1.   CMC's in respondents Information Social Capital.

Importance of SNS

Overall, 51% of internet users (n=48) ranked CMC'S as the most importance means of maintaining their relationship (i.e. Rank 1) with at least one or more known relationships. For these respondents, CMC was ranked the most important means to maintain relationships known for an average of 27% of those relationships (Md = 21%, SD = .16). Thus, CMC tools can be seen as an important tool for access to ISC for some. CMC use compared favourably to telephone use, whereby 54% of internet users (n= 51) with ISC ranked the telephone as the most important means they felt maintained their relationship (on average 24% of their known alters (Md = 20%, SD = .15)). Examining the overall sample of Internet users, 'email' relative to other CMC's tended to rank higher when examining the number of respondents who ranked CMC's as one of the ways they felt typically maintained their relationship with one or more alters known. Twenty-two respondents referred to SNS being the most important means of maintaining their relationship with one or more known alters. For these respondents, SNS was the most important mode of communication with on average of 19% of their ISC (SD = .12). This compares with Email, whereby thirty-two respondents referred to Email being the most important means of RM, on average 23% of their ISC (SD = .15). These findings are intriguing in the sense that much attention has been paid recently to the affordance of social media in RM research, with the current study highlighting the continued relative importance of email over SNS. To put this in to context, it was found that 96% of internet users with ISC ranked Face to Face communication (FtF) as the most important means they felt typically maintained their relationship with most of their known alters. For these, FtF was considered the most important medium for an average of 73% of respondents ISC (n = 94, M = 73%, Md = 75%, SD = .23). Finally, the below table 3. Looks at internet users, in terms of mean percentage of ISC for each ranking. We used the top three rankings only for brevity, with no marked changes in SNS thereafter. It shows that SNS barely increased relative to other forms of mediated communication.

	n = 94	FtF	SNS	Email	IM	Text	Telephone	Total
Mean % Rank 1	n =94	69%	4%	8%	1%	4%	13%	100%
Mean % rank 2	n = 93	17%	5%	18%	2%	16%	41%	100%
Mean % rank 3	n = 67	15%	7%	13%	4%	38%	23%	100%

Table 2. Mean Percent ranking of Relationship Maintenance of ISC

Stage 2: Qualitative Interview findings

Role of SNS

Almost all interviewees reported as using the internet (82%, n = 22) Examining only internet users, most used some form of SNS (91%, n = 20) and almost half of these (46%, n = 10) reported SNS to not affect RM; most (n = 6) of these because they did not use them or consider themselves heavily using them. For others (n = 10), SNS was cited as positive in terms of RM with Family, Friends & Acquaintances (FFA). In this regard, respondents using SNS (particularly Facebook) frequently referred to SNS as a tool for 'keeping in touch', staying 'connected', most often referring to 'monitoring', with some specifically referring to 'learning about others'. SNS, in respect of monitoring one's social circle led to in some cases for the potential of increased friendship, whilst learning or 'discovering' enabled the potential for friendship; "I know a bit

more about some people than I use to. E.g. there is a person from school... I have found out that we have a hell of a lot in common. I could probably have a conversation with her now" (Rebecca).

Monitoring or learning also had negative responses whereby it led to decreased friendship or trust. For example, according to Eimear; "sometimes...people don't want to know that and you would...purposefully not contact some people". Or Ross, who referred to potentially damaging friendships; "sometimes you see things about people you might not like for instance if people post fascist types statements" (Ross). In terms of negative views on SNS (n = 10) overall, a range of additional views were expressed. Some referring to 'information of no consequence' or the perceived 'superficial' nature of SNS. For example, according to Conor; "People will tend to up 'oh I did this' or 'I did that', they will put up all the right things that they do but they won't put up 'the car broke down' or 'I was caught speeding" (Conor). However, when examined against heavy and medium SNS users, evidence didn't find negative views related to how heavy or light users were (Note: Heavy, Medium or Light were inductively assigned based on overall coding of cases)

Activities respondents engaged in varied. Whereas some made active use of many features (n = 15) such as; posting, sharing content, commenting or chatting, others took a more passive role (n =14). The most cited use (n = 10) related to passive activities of viewing the 'newsfeed' or 'monitoring one's friends lives'. In terms of the most popular SNS platform referred to, i.e. 'Facebook', (n = 18), many respondents (n = 10) reported that they used it mainly for work (n=3) such as for marketing, or were medium or light users (n = 7). Others (n=7) recalled they may occasionally use Facebook for specific purposes like connecting with their son or viewing/uploading photos or did not consider themselves heavy users. Only a small number of respondents (n = 3) specifically referred to Facebook playing an overall large role in their connection with FFA's, such as, Christina who cited Facebook as playing a "'massive" role. Rather, most respondents (n = 13) referred to Facebook in terms of monitoring. For example, "It's there mainly so when I think 'oh what's such and such doing for a while' I can go and look" (Claire). A small number of respondents specifically cited the role of Facebook in giving them a voice or outlet to express themselves, to feel support or get a psychological boost, even in terms of their work: "If you're pissed off you can put it up on Facebook and somebody will ...give you bit of support... sometimes the most unlikely of people you know." (Christina). Overall, most people referred to the value of Facebook being in terms of monitoring or 'ambient awareness' of one's social circle. A consistent finding to that of Hampton (2016) discussed later in this paper.

Importance of SNS

When asked about the relative importance of SNS in their lives, most internet users elicited (63%, n = 14) that they are not. Some reporting a physical relationship superseded the need or want. For example, "an awful lot of the other people that I'm connected to on LinkedIn all live within you know like a mile of me, I could never quite see why they wanted to link with me in the first place" (Kathleen). Others referred to issues relating to privacy, such as "the exposure, I mean pretty much all of your data and everything else is sitting out there for somebody to abuse and misuse and check" (Brendan) or the commercialized nature of SNS; "a lot of people think they are helping us to stay in touch...they are acquiring data about me and the person I'm communicating... I do realize that is what is for; data collection" (Conor). Time also emerged as a factor whether in terms of not having time to appropriate SNS or concern with spending too much time. The 'trivial', 'superficial' or entertainment nature of SNS also emerged; "it's all very superficial, the people that I'm most interested in following are people I've had a real-life relationship with first" (Claire). Finally, some respondents felt SNS to be a useful, convenient or 'interesting tool', but not 'necessarily important', because of other substitutes as means of persistent contact. Although not considered important in relation to other media, such sentiment echoed respondents wider views on the affordance of CMC's in increasing networks of sociability whereby most internet users (64%) reported it played a role in increasing the number of people, though for most it related more to; reconnecting with past FFA (latent ties), connecting with those met offline, or increasing frequency of contact with pre-existing ties. Although, many cited increasing weak ties in terms of acquaintances, this wasn't pronounced, and many (36%) reported internet technology had not increased their social circle. Reasons included; not wishing to spend time online communicating; a need to focus on one's pre-existing social circle; or an aversion to online friendship formation. For those who considered SNS important (n = 6), the reasons ranged from respondents describing cost savings, the maintenance of weaker ties and/or the affordance of SNS for connection when it's not possible to call.

Finally, all respondents (n = 27) were asked for a recent example of asking FFA's help with an information problem. Whilst many (33%) reported they could not recall, most (67%) referred to FFA's helping via face to face or phone call, with just one respondent referring to email. Asked to talk about perceived barriers to

mobilizing expert informational resources, most referred to one or more barriers mediating propensity to ask, though many (35%) reported no perceived barriers. Altruistic or RM motivations (Imposing, intruding, taking advantage), Strength of relationship (closer ties less of a barrier), Trust in terms of Credibility (confidence or trust in others) and Confidentiality (Sensitive information, needed discretion), Independence (Self-Sufficient) and Access (Distance, availability or time) were reported.

Discussion

Although most internet users referred to using at least one or more SNS platforms, SNS played a supportive role for approximately half the survey sample in terms of RM of SC. This compared with email; playing a much greater role. Such results illustrate that despite the unique and varied affordances of SNS, email continues to play a more favorable role when examining this cross-demographic rural community. Considering SNS offers a myriad of tools integrated within a single platform, this may seem a surprising finding. So is this an outlier to other rural or urban communities? Given many of the residents had moved to the community from urban areas, and distance and very limited public transport were barriers to RM, this could suggest otherwise. However, observing that frequency of SNS usage declines with age and much of the sample lies within this range could also factor. What is clear though from findings is that many participants can either have negative feelings towards SNS, and/or that SNS can lead to in some cases to relationship decay via monitoring/learning about others.

In terms of the perceived importance of SNS in RM of SC, both stages of the study showed consistent patterns. Just 23% (n = 22) of internet users with Information Social Capital (ISC) ranked SNS as the most important means of RM with one or more alters (averaging 19% of their ISC), and SNS compared very poorly overall when averaged against other forms (i.e. Rank 1 = 4%, Rank 2 = 5%, Rank 3 = 7%). Just 27% of interviewees (internet users) believed SNS important relative to other modes of communication. FtF contact in particular was almost universally felt as the most important means to which respondents maintained most relationships. In this respect, SNS are not prioritized for most even though their affordances are numerous. Considering most respondent's ISC resided non-locally and the particularly isolated geographic location, this was an interesting finding, highlighting no significant change to some prior work (etc. Mok et al. 2010) given increased high speed internet and more advanced SNS, whereby SNS affordances do not yet promote the intimacy/trust necessary for ensuring RM for most studied, other than for weaker ties. SNS does play a modest role in increasing participant's social circle, but related more to reconnecting with latent ties and/or maintaining weak ties. Importantly, through the course of the interviews many interviewee's emphasized the nature of living in a rural community was to place more value on the 'real world' not on a medium of technology. This was reflected through both stages of the findings, and it will be interesting to replicate this study in differing regions and cultures to compare difference.

Thus, the case has not strengthened the broader significance of the Hyper-Personal Model (Walther, 2011) or Polymedia theory (Madianou and Miller 2012), as SNS paled overall in comparison to FtF. To understand results, qualitative analysis revealed most respondents referred to SNS as playing a supportive though not significant role in RM, because of reported; 'Privacy' concerns, the 'glib', 'trivial' or 'superficial' nature of SNS, 'time concerns' and/or alternative forms of mediated, and in particular unmediated FtF communication. Walther's (2011) Hyper-Personal Model proposes CMC's enhance creative control over self-presentation not otherwise possible face to face thus enhancing RM. However, some respondents took a pragmatic opinion of other people's self-presentation, such as their 'veracity' or selectiveness. Some referred to being 'wary' of other people's visibility, self-disclosure, or glib nature of communications, resulting in some seeing SNS being less meaningful. We term this Instrumental Awareness, which we define as *users awareness orientated to perception or knowledge of the instrumentally motivated practices of others*. Thus, affordance factors do not necessarily capture the overall significance of CMC's in the nature and degree of user appropriation for RM, whereby emphasis on affordances can miss contextual factors such as time, Instrumental Awareness and privacy/commercial concerns. As such, appropriation of SNS can in fact lead to decay of SC, as self-disclosure and selective presentation can be critically received by others. Many participants in this study, took a pragmatic or less opportunistic view, and it is noteworthy the study was completed long before recent SNS data Scandals and ethics concerns, as well as the widespread proliferation of newer SNS tools such as Snapchat, Instagram and Whatsapp.

The theory of 'Polymedia' showed some relevance to findings (Madianou & Miller, 2012), though we add further insight whereby 'social and emotional' management of relationships are not necessarily always ego based. Participants more frequently reported choosing CMC in consideration of their social ties not

themselves, in what may well be altruistic behaviors. Given the particular village studied with vibrant community life and an embedded eco-community, this altruistic sensibility may reflect the particular setting, or could alternatively reflect a form of RM strategy. Findings do add significance to theorizing by Hampton (Hampton, 2016) on affordance of SNS in Persistent Contact & Pervasive Awareness. Participants referred to SNS as a convenient, low-cost and non-invasive way of staying connected. This study adds that as in offline social life, monitoring or ambient awareness could both enable RM and lead to its decay through learning. Findings often mirrored the kinds of day to day interaction described by respondents as living in a rural community, "light and easy em and non-invasive. You know you pass people and if you want to chat then you chat and if you don't, you're not in the mood you kind of see you later kind of thing, you know, you're never really alone around this village." (Christina)

Conclusion, Limitations and future work

In conclusion, this study illustrated a method to examine social impact of IS artifacts such as SNS on RM of SC, accounting for offline comparisons. We believe the method could be applied to examine the impact of evolving CMC artifact design on RM of various forms of Social Capital in both organizational and everyday life settings. Using the case of a particular rural community, we positioned the supportive role though modest relative meaning of SNS in RM of SC. Thus, this paper contributes to our understanding of the impact of SNS in the rural setting we studied. Comparing findings to CMC affordance theories, we elicited altruistic behavior in addition to ego-based behavior as emphasized by Polymedia theory. Whilst Walther's (2011) Hyper-Personal Model proposes CMC's can enhance creative control over self-presentation, we found Instrumental Awareness may lead to RM decay. Importantly, this study shows that although authors such as Walther (2011) propose CMC platforms like SNS can enhance RM relative to FtF contact, evidence did not reflect overall significance. Findings confirmed theorizing by Hampton (2016) on the affordance of SNS in 'persistent Contact & Pervasive Awareness'. Overall, IS researchers and practitioners should be particularly sensitive in future work to; 1. how affordances of SNS such as self-disclosure, selective presentation and the 'social & emotional management of relationships' can negatively shape SNS appropriation, & 2. to the wider-assemblage of socio-cultural factors interacting with users affordances and appropriation. The study highlights importance of future research addressing 'commercial content' and 'privacy' on degree of appropriation; if the goal is to ensure sustained use-value. Finally, this study contributes evidence on the impact of SNS on RM of SC for an 'ideal type' rural community in terms of rural renewal strategies, illustrating the relative significance of SNS and CMC more broadly to mitigate the distance of 'rural', and maintain and grow SC in rural areas typically experiencing a flight of SC and the reduction of rural public transport links. Whilst policies promoting the digitalization of services, high-speed internet access and digital literacies are vital for rural areas, evidence presented shows CMC's are not a substitute for need for FtF contact and investment in rural transport infrastructure. We also suggest rural renewal strategies should explore alternative SNS tools to popular commercial offerings when promoting local community. Whilst the strength of ties is an important factor in mobilizing SC resources (Lin, 2003, McLoughlin, 2016), this study shows popular SNS had a limited role in RM of 'bonding social capital' or 'Close Ties' (ibid) both locally and beyond. It furthermore shows the need for renewal schemes/activities to ensure multiple strategies in communicating with citizens beyond popular SNS. So how can IS researchers respond, when FtF remains the gold standard for most? Mixed reality technologies, such as hololens and holograph technologies could further displace distance as a barrier for RM of SC and reduce inequality. Designing affordances and studying these disruptive technologies should figure amongst future IS research.

There are several limitations to the current study to be outlined and cautioned. Firstly, generalizability of findings are contingent on further cases to compare using our method. Future work should seek to replicate this study over time, and in other rural and urban settings. Whilst we believe the strength of evidence from descriptive analysis of survey findings negated the value of additional statistical tests, a limitation is that statistical tests did not validate inferences from the data. Finally, within the survey, participants were allowed to interpret 'expertise' in relation to information resources presented, and the 'importance' which they felt various media could support RM. A limitation to this study is that participants may have interpreted 'expertise' and 'importance' differently. Future surveys applying our method could provide definitions to participants to ensure better reliability of samples.

References

Canary, D. J., and Dainton, M. 2006. "Maintaining Relationships," in *The Cambridge Handbook of Personal Relationships*, pp. 727–743.

Creswell, J. W., and Clark, v. 2017. *Mixed Method Sequential Explanatory Design*, SAGE Publications Ltd.

CSO. 2011. "Irish Census 2011." (https://www.cso.ie/en/databases/).

Davenport, E., Higgins, M., and Sommerville, I. 1997. "The Appropriation of Home Information Systems in Scottish Households," in *Proceedings of an International Conference on Information Seeking in Context*, Taylor Graham Publishing.

Ellison, N. B., Vitak, J., Gray, R., and Lampe, C. 2014. "Cultivating Social Resources on Social Network Sites: Facebook Relationship Maintenance Behaviors and Their Role in Social Capital Processes," *Journal of Computer-Mediated Communication* (19:4), pp. 855–870.

Van Der Gaag, M., and Snijders, T. A. B. 2005. "The Resource Generator: Social Capital Quantification with Concrete Items," *Social Networks,* (27:1), pp. 1-29.

Gibson, E. J. 1982. "The Concept of Affordances in Development: The Renascence of Functionalism," in *The Concept of Development* (Vol. 15), pp. 55–81.

Grottke, M., Hacker, J., and Durst, C. 2018. "Which Factors Determine Our Online Social Capital? An Analysis Based on Structural Equation Modelling," *Australasian Journal of Information Systems* (22).

Hampton, K. N. 2016. "Persistent and Pervasive Community: New Communication Technologies and the Future of Community," *American Behavioral Scientist* (60:1), Sage, pp. 101–124.

Ifinedo, P. 2016. "Applying Uses and Gratifications Theory and Social Influence Processes to Understand Students' Pervasive Adoption of Social Networking Sites: Perspectives from the Americas.," *International Journal of Information Management* (36:2), Elsevier Ltd, pp. 192–206.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., and Nerur, S. 2018. "Advances in Social Media Research: Past, Present and Future," *Information Systems Frontiers* (20:3), pp. 531–558.

Ku, Y. C., Chu, T. H., and Tseng, C. H. 2013. "Gratifications for Using CMC Technologies: A Comparison among SNS, IM, and e-Mail," *Computers in Human Behavior,* (29:1), pp. 226-234.

Kuem, J., Ray, S., Siponen, M., and Kim, S. S. 2017."What Leads to Prosocial Behaviors on Social Networking Services: A Tripartite Model," *Journal of Management Information Systems,* (34:1),

Lin, N. 2003. "Social Capital: A Theory of Social Structure & Action," *Structural Analysis in the Social Sciences*.

Madianou, M., and Miller, D. 2012. "Polymedia: Towards a New Theory of Digital Media in Interpersonal Communication," *International Journal of Cultural Studies* (16:2), pp. 169–187.

Matook, S., Cummings, J., and Bala, H. 2015. "Are You Feeling Lonely? The Impact of Relationship Characteristics and Online Social Network Features on Loneliness," *Journal of Management Information Systems* (31:4), Routledge, pp. 278–310.

McClean, S., and Shaw, A. 2005. "From Schism to Continuum? The Problematic Relationship between Expert and Lay Knowledge" *Qualitative Health Research,* (15:6), pp. 729-749.

McEwan, B., and Guerrero, L. K. 2012."Maintenance Behavior & Relationship Quality as Predictors of Perceived Availability of Resources in Newly Formed College Friendship Networks," *Communication Studies (63:4), pp. 421-440.*

Mcloughlin, S. 2018. "Connecting the Dots: Young People, Social Inclusion & Digitalisation - Rapporteur Report," *Youth Partnership between the European Commission & Council of Europe*. Tallinn, Estonia.

McLoughlin, S. 2016. *The Role of Internet Technology on Social Aspects to Everyday Life Information Seeking, in a Rural Irish Community*, University College Dublin.

Mok, D., Carrasco, J.-A., and Wellman, B. 2010. "Does Distance Still Matter in the Age of the Internet? Diana Mok, Juan-Antonio Carrasco and Barry Wellman," *Urban Studies* (47:13), pp. 2747–2783.

O'Riordan, S., Feller, J., and Nagle, T. 2012. "Exploring The Affordances Of Social Network Sites: An Analysis Of Three Networks," in 20th *European Conference on Information Systems (ECIS)*.

Perrin, A. 2015. "Social Media Usage: 2005-2015," *Pew Research Center* (October), pp. 2005–2015.

Seidel, S., Recker, J., and Vom Brocke, J. 2013. "Sensemaking and Sustainable Practicing: Functional Affordances of Information Systems in Green Transformation," *MIS Quarterly* (37:4).

Walsh, K., and Harvey, B. 2013."Employment & Social Inclusion in Rural Areas: A Fresh Start." *Pobal*, Dublin.

Walther, J. 2011."Theories of Computer-Mediated Communication and Interpersonal Relations," *The Handbook of Interpersonal Communication*, pp. 443–479.