

Micro-blogging practises in Canadian public libraries: a national snapshot

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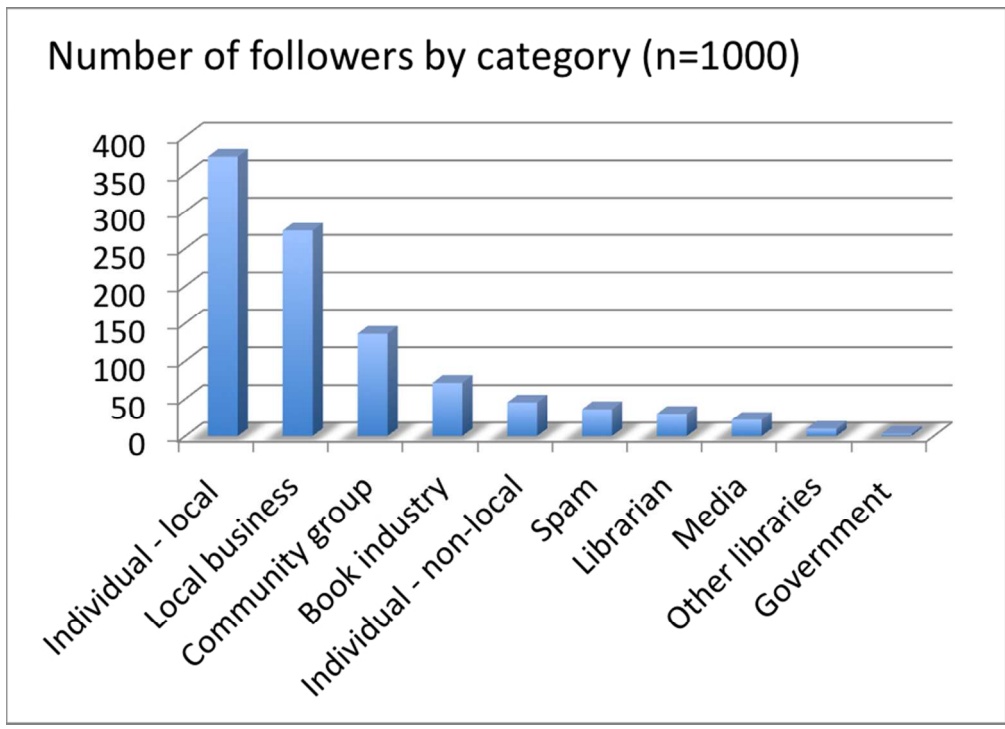


Figure 2 Follower Analysis

Review



Figure 1 - What do libraries tweet about?

Review

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7 **Abstract**
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9 This paper reports the first phase of a study examining Canada's public library sector's
10 micro-blogging practises. Results of a national survey of public library (n=71) Twitter
11 practices and an analysis of Twitter followers from one library are presented. Five themes
12 are proposed as a future research agenda: community size and population density;
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14 the community's daily digest; and the network effects of community building. As the first
15 national study, a contribution is made to advancing research on micro-blogging from the
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21 **Keywords:** public libraries; micro-blogging; social media; participation; survey; Twitter
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Introduction

As one species in a vast ecology of content and information networks, the public library engages with its clients and communities in the knowledge society through several new participation platforms. Among the latest of these innovative and disruptive "sociomaterial" (Leonardi, 2012) technologies, objects and spaces are the social catalogue, the web portal with embedded social media channels, and 'maker' spaces. Beyond continued access to traditional collections and services, these social technologies also enable and mediate new forms of online user participation, engagement, access and interactivity. They enact new forms of sociality and offer library users global access to the Internet of commercial and user-generated content.

Twitter is one such participation space structuring these public library-client interactions (Efron, 2011) whose benefits have been well documented and promoted by library practitioners (Cahill, 2009, 2011; Solomon, 2009; Tarulli, 2010). Micro-blogging research, however, from the societal, institutional and transactional perspectives is still emerging, also with implications for public libraries (Rogers, 2014). Extending well beyond "platform studies", Twitter's rapid adoption has given rise to "personal publics" as a "new publicness" (Schmidt, 2014, p.11). "Twitter's role in society and its relationship with society" is part of a larger agenda "to study society through the Internet" (Weller, Bruns et al., 2014, p. xxxvii); the public library's contribution to that agenda is the primary impetus for this study.

As a first phase of a larger project, this paper reports the results of a recent survey of Canada's public libraries' use of Twitter and introduces a preliminary classification scheme of one public library's Twitter followers. The goal of the larger project is to understand why and how Canadian public libraries locally, and as a government service sector, are engaging with their clients through micro-blogging and what effects these interactions may be having on the broader library-community information relationships and learning opportunities (André, Bernstein, et al., 2012; Gruzd, Wellman et al., 2011). This national snapshot of Canadian public libraries' micro-blogging organizing decisions, their management policies and practises and their insights into the benefits and challenges

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3 of this micro-blogging practise within the larger public library program in combination
4 with a preliminary follower analysis of a random sample of followers in one large
5 Canadian urban public library together lay a firm foundation for this future work.
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10 **Framing social media and public library participation**

11 A study of public libraries' social media practises draws on concepts and previous
12 studies from many related disciplines including public relations and marketing, e-
13 government, social networking, social media and public participation, public
14 administration and library and information science. Participation through discursive
15 sharing is a core information value and practise native to our networked society (Wittel,
16 2011). It underlies how individuals, networks and organisations increasingly interact in
17 today's global e-society. The primary agency of e-society participation and online
18 sharing, and arguably the focus of the majority of recent social science research, has been
19 the networked individual (Bruns, 2008; Masum and Tovey, 2011; Rainie and Wellman,
20 2012). Features of Web 2.0 that enable individual agency are those "network effects"
21 whereby "some things are more valuable when more people participate" and the
22 technology "platforms" structuring these capabilities (Blank and Reisdorf, 2012, p. 538).
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33 As tools and spaces for networking and organizing, social media have also been
34 predominantly associated with crisis events (e.g. the Haiti earthquake in 2010)
35 (Huberman, Romero et al., 2009; Hughes and Palen, 2009; Naaman, Becker et al., 2011)
36 and large-scale, geographically dispersed, social-political movements (e.g. the Arab
37 Spring in 2010/2011) (Lotan, Graeff, et al., 2011; Segerburg and Bennett, 2012).
38 Although Twitter's 'success' in advancing social and political action has been widely
39 claimed in the online commons, one of the important "analytical fallacies" justifying
40 more "nuanced theory and analysis" has been the tendency to "abstract new social media
41 out of more complex contexts" (Segerburg and Bennett, 2012, p. 199). In addition to
42 differences between rural and urban Internet life (Stern and Wellman, 2010), physical
43 proximity (e.g., local-global) and demographics (e.g., aging populations) also influence
44 how social media are used in networks and communities and with what outcomes
45 (Erickson, 2010; Gilbert, Karahlaivos et al., 2010; Goldberg, 2010; Yardi and boyd, 2010).
46 How Twitter functions to construct "an imagined community" (Gruzd, Wellman et al.,
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3 2011, p. 1294) or an "imagined audience" (Crawford, 2009; Litt, 2012, p. 330) holds
4 significance for organisations such as libraries. Who do libraries think they are talking to
5 and with what kinds of effects?
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9 While a coherent body of research on social media and public participation from
10 the individual citizen or user perspective is clearly emerging, the same cannot be said
11 about the networked organisation and more specifically about networked government
12 agencies such as the public library in interaction with its citizen-publics (Andersen,
13 Medaglia and Henriksen, 2012; Butsch, 2008; Chun and Reyes, 2012; Sandoval-Almazan
14 and Gil-Garcia, 2012). Challenges with overly complex social media policies,
15 bureaucratic control processes (Marlin-Bennett and Thornton, 2012), and legislative
16 protections of user privacy (Fyfe and Crookall, 2010; Klang and Nolin, 2011) dog many
17 government and NGO efforts to accelerate citizen participation based on principles of
18 openness, transparency, collaboration and participation (Bertot, Jaeger et al., 2012;
19 Kanter and Fine, 2010; Lathrop and Ruma, 2010; Mergel, 2013; Nam, 2012). Linders'
20 (2012) typology for citizen participation proposes three forms of participation shifting the
21 emphasis from "egovernment to we-government" (p.446). A special issue of *Government*
22 *Information Quarterly* (December 2012) on social media calls for further research on six
23 broad themes including appropriate regulatory, policy and evaluation frameworks; best
24 practises to determine trends and assess impacts; implementation strategies; changes in
25 citizen and organisation attitudes and behaviours; and meaningful decision-making while
26 reflecting citizens' "voices" (Chun and Reyes, 2012, p. 443; Medaglia, 2012).
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41 As an accessible public relations and marketing tool, Twitter has been more
42 effective for non-profit organisations as a means of engaging with clients, than have their
43 traditional websites (Kanter and Paine, 2012; Lovejoy, Waters, et al., 2012; Waters and
44 Jamal, 2010). Various Twitter typologies across different settings have been developed
45 based on large data sets (Dann, 2010; Lovejoy and Saxton, 2012). That Twitter offers an
46 effective platform for information sharing and conversation has also been widely
47 acknowledged (Elsweiler and Harvey, 2014; Smith and Rainie, 2014).
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53 The LIS domain has seen a recent burst of studies related to social media and
54 micro-blogging, though with more attention on academic and special libraries. A
55 comparative content analysis of selected American public and academic library Twitter
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3 feeds during a three-month period revealed few institutional differences and concluded
4 that broadcasting and sharing information were the primary activities associated with this
5 practise for both types of library organisations (Aharony, 2009, p. 347). Trends in
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7 academic library tweeting (Del Bosque, Leif et al., 2012) again confirm the informational
8 and instructional value of Twitter, in this case for students and faculty (Collins and Quan-
9 Haase, 2014). A study of 433 library Twitter accounts from various countries worldwide
10 (Stuart, 2010) suggests that although web 2.0 readily affords new opportunities to
11 construct "social libraries" (Stuart, 2010, p. 47), the library organisations being studied
12 exhibited a "lackluster presence of institutional accounts" (p.46) and little evidence of
13 online conversation that was explained by the widely recognized "institutional nature of
14 libraries" (p. 45). A study involving surveys and interviews of UK academic library and
15 information services identifies the value of Twitter as a "business tool" for information
16 services delivery (Loudon and Hall, 2010, p.236).
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26 Several Twitter or social media studies with particular contributions for public
27 libraries focus on micro-blogging as a knowledge organisation system (e.g., Shiri and
28 Dinesh, 2013); as a social media as conversation and social space (e.g., Smeaton and
29 David, 2014); as a knowledge management opportunity (e.g., Forcier, Rathi and Given,
30 2014); as a search interface (Elsweiler and Harvey, 2014); or as an interaction platform
31 (Chen, Chu et al., 2012); and on public library use of social media as an ongoing series of
32 information activities bridging information behaviours and practise (Cahill, 2011;
33 Kronquist-Berg, 2014).
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40 As the preceding review illustrates, micro-blogging and other social media are the
41 subjects of research across many disciplines and from various conceptual perspectives.
42 Participation mediated through technology objects is now the common design feature,
43 marketing strategy and outcome of the social and informational networks that dominate
44 the Internet (Knorr-Cetina, 1997; Latour, 1994). Rainie and Wellman (2012) assert that
45 the "networked individual" characterised also as a "new operating system" and enabled
46 through social media should be the primary agency and unit of analysis. Differentiation
47 between our online and offline behaviours have been made redundant by this new
48 "operating system". From an institutional standpoint, a growing ecology of participation
49 with fewer fixed organisational boundaries or rules has also been observed (Fish et al.
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3 2011). Traditional distinctions between organisations and their member publics are
4 increasingly flexible. As "formally structured enterprises" libraries increasingly interact
5 with and are changed by interactions with a heterogeneous field of established and
6 emerging "organizing publics" such as those that can be observed through, in this case,
7 public libraries' Twitter followers (Fish et al., 2011, pxx).
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12 These perspectives frame this paper, recognizing both the institutional identity
13 and the day-to-day practise of public libraries and their communities, individually and
14 collectively, as a field of interaction, relationship and participation and more broadly as
15 society's mediating cultural technology or "social transcript" (Osburn, 2009) for
16 knowledge and information sharing. The research questions this study addresses are
17 these: Why and how are Canadian public libraries adding micro-blogging to their suite of
18 sociomaterial technologies, platforms and spaces? What differences are social media
19 platforms making to public libraries' programs of interaction and engagement?
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27 The primary research contribution coming from this survey and follower analysis
28 is a set of baseline data to inform larger longitudinal studies and micro-practise studies of
29 social media participation along government-community boundaries in a variety of socio-
30 cultural, economic and demographic, national and international settings. The results of
31 this first public library survey provide a snapshot and foundation for future work and for
32 understanding more about the possible directions for the public library's long-term
33 evolution.
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40 41 **National survey methodology**

42 Social-biblio.ca¹ is a curated archive and Twitter feed developed and maintained by the
43 author and research team. As of October 1, 2013, 173 public library Twitter accounts
44 representing approximately 28% of all Canadian public library systems are being tracked.
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47 Libraries are added to the archive as they identify themselves or through regular
48 promotion of the site in a wide range of national and regional library authorities and
49 networks.
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53 An online survey of Canadian public libraries with Twitter accounts was
54 conducted between October 20 and December 1, 2013. The survey was made publicly
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58 ¹ This archive is maintained by the research team at <http://social-biblio.ca>
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3 available and hosted at <http://fluidsurveys.com>. Links to the survey were tweeted
4 individually to each library with a Twitter account identified through Social-biblio.ca
5 (n=173). Invitations to complete the survey were posted on three national and provincial
6 library association discussion lists and newsletters. Information was also posted on the
7 Social-biblio.ca site. Finally, requests to distribute links were tweeted to six Canadian
8 librarian bloggers with the largest number of followers. Two reminders to complete the
9 survey were re-tweeted and re-posted during the survey period. The survey consisted of
10 10 open and closed questions. No incentives were provided to complete the survey and
11 the survey was approved by the host university's ethics review board.
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19 Survey responses were downloaded into a spreadsheet for analysis. A qualitative
20 content analysis was conducted on the open questions; closed questions were tabulated in
21 frequency tables. The first cycle of inductive coding used descriptive, InVivo and
22 processing methods; a second coding cycle involved summarizing, clustering and
23 refining preliminary concepts into several core themes and categories (Miles, Huberman
24 & Saldana, 2014). Preliminary results of the study were introduced to a group of 60
25 public librarians from across Canada at a library symposium in April 2013, for discussion
26 and confirmation.
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35 **Survey results**

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37 Seventy-one surveys from public libraries were completed, representing approximately
38 12% of the public library authorities in Canada, and 41% of the libraries identified as
39 having Twitter accounts on Social-biblio.ca. A small number of surveys were completed
40 by educational institutions and these responses are not included in the data set on which
41 the following results are based. Although the survey was available in English language
42 only, 69 surveys were completed in English and 2 surveys were completed in French.
43 Results are provided for each survey question although in a modified sequence from the
44 original survey, ordered and clustered for a more logical presentation and ease of reading.
45 A profile of survey respondents by library governance structure and population of
46 community served is presented in *Table 1*.
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57 *Table 1 - Profile of public library respondents*
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<i>Population Served</i>	<i>Type of Library Governance (n=70)</i>			
	<i>Provincial</i>	<i>Municipal</i>	<i>Regional</i>	<i>Total</i>
< 5,000	1	5	0	6
5,000 - 24,999	0	8	2	10
25,000 - 49,999	0	6	0	6
50,000 - 99,999	1	7	2	10
> 100,000	3	26	9	38
Total	5	52	13	70

The majority of respondents serve populations greater than 100,000 people (54.3%). One library did not respond. Of libraries responding, 7.1% have a provincial jurisdiction, 74.3% are municipal and 18.6% are regional or county library systems. Survey results are organised and presented according to the specific survey questions posed.

Q1 - What is the job title and what are the primary responsibilities of the person(s) responsible for tweeting on behalf of the library?

In assigning role responsibility for managing the library's Twitter account, the majority of respondents identified these roles: library team (28.2%), an 'adult' department staff member (18.3%), marketing and communications staff (18.3%), a library manager (16.9%). Fewer than 20% of respondents identified these roles: library director (5.6%), library clerk (5.6%), or 'children's' department staff member (5.6%). One respondent replied 'don't know.'

Q2 - How often does your library usually tweet, mention, reply or re-tweet over a 7 day week?

The majority of libraries tweet daily in these frequency ranges: one to five times daily (58%); six to ten times daily (9%); more than 10 times daily (9%). A smaller set of libraries (22%) tweet between one and ten times weekly; one library tweets monthly.

Q5 - Does your library have an official policy regarding the use of Twitter?

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3	Audiobooks and ebooks	Community news	Branch hours and closures	Book lists
4	Author information and	Community	Collections	Book reviews
5	interviews	programs	Conference reports	Catalogue entries
6	Books and book news	Community services	Contests	Contest
7	Early literacy research	Regional, provincial	Events	FAQ
8	National culture and	announcements	Library culture - jokes,	Instagram
9	related news		photos, articles	Links
10	Celebrity news birthdays		Library statistics	Photos
11	Culture		Partnerships	Professional
12	Fun stuff		Photo caption campaign	articles
13	Historical facts		Programs	Questions
14	Just about everything		Questions we answer	Quotations
15	except politics		Questions we ask	Reminders
16	Local history		Readers' advisory	RT, MTs
17	Media articles		Reference questions	Vine
18	Movie releases and books		Reminders	YouTube
19	Music		Resources	
20	Popular culture		Technology problems and	
21	Odd facts		resolutions	
22	Popular culture		Theme days and months	
23	Recipes			
24	RTs from social web			
25	influencers, partners,			
26	clients			
27	Technology tips, trends,			
28	and news			
29	Trivia			
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33	Q6 -What led your library to begin using Twitter?			
34	Many respondents to this question (n=69) gave more than one reason why their library			
35	began using Twitter (n=94). <i>Table 3</i> clusters these responses around several themes			
36	listed in order of frequency mentioned. Reasons for establishing a Twitter profile were			
37	diverse although some type of internal or external social 'pressure' that the library be seen			
38	to be 'current' with participatory information technologies was clearly in evidence.			
39	Individual staff experiences with social media, a more generalized appreciation of social			
40	media as important technologies and following examples set by other libraries represent			
41	50% of the reasons cited.			
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50	<i>Table 3 - Reasons libraries join Twitter</i>			
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52	Reason		% of total	
53	Internal staff initiative or management directive		20.2	
54	Join social media or extend existing presence		17.0	
55	Reach out to community and new clients		16.0	
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3	Follow lead of other libraries	12.8
4	Spread the word and extend conversations	12.8
5	Get more involved in community	6.4
6	Stay current in information technology	5.3
7	Use as professional information source	5.3
8	Don't know	4.2
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14 Q4 - Is there a particular type of tweet that your followers seem to respond to more than
 15 to others? Of the total respondents (n=70) 66% said yes, 21% said no, 13% said indicated
 16 they did not know.
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 21 Q7 - Does your library see benefits from using Twitter?
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23 Q8 - Does your library have challenges with your Twitter use?
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25 As summarized in *Table 4*, 83% of respondents perceived benefits in Twitter usage and
 26 56% of respondents perceived challenges in their library's Twitter usage.
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 30 *Table 4 - Perception of challenges and benefits in library Twitter use*

31 Respondents n=71	Yes	No	Don't know
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34 Perceived benefits to Twitter use	83%	13%	4%
35 Perceived challenges to Twitter use	56%	33%	11%
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39 Thematic content analyses of the comments regarding perceived benefits and
 40 challenges are reported in *Table 5* and *Table 6*. Each library response to Q7 and Q8 was
 41 broken down into separate textual phrases or statements in order to differentiate each
 42 single instance of a challenge or benefit statement. For example, when asked to elaborate
 43 on a library's challenges with Twitter use, one respondent provided this textual response:
 44 "keeping up with changes to Twitter's interface, policies, etc.; dealing with negative
 45 feedback; workflows (incl. monitoring Twittiverse, account)". These statements were
 46 then recoded into three separate challenge statements. Therefore, although there were
 47 n=59 responses to Q7 and n=53 responses to Q8, the total number of benefits and
 48 challenges articulated were n=123 and n=74 respectively. These responses were then
 49 coded thematically according to the specific words and phrases used without imposing
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further meaning or interpretation. Themes are reported with examples in order of greatest frequency. Although the emerging categories for both benefits and challenges are closely related to each other, as much as possible, responses were coded based on key words and the emphasis given by the respondents.

In identifying themes of perceived benefits of their library's use of Twitter as presented in *Table 5*, respondents used relational words such as "engagement", "interaction", and "connection" in 37.4% of responses. Relative changes in the library's perceptions of overall engagement or connection were suggested by terms related to measurement such as "more" or "greater". In 25.2% of responses, benefits identified under 'communication and promotion' reference the library's Twitter "voice" and the library's ability to "get the word out." 19.4% of respondents indicated that their library's active Twitter presence also had the effect of expanding the library's overall audience and participation in programs and services. Words such as "more" "increase" and "grow" in reference to audience, followers, and users cluster around "expand service and audience" theme. The informational value of Twitter was clearly identified although referenced in only 11.4% of responses. Using Twitter to resolve client questions or concerns and to actively demonstrate that the library was "with it", being perceived as both "modern" and "responsive", represented 5.7% of the total benefits noted.

Table 5 - Perceived benefits of library Twitter use

<i>Perceived benefit by theme (n=123)</i>	<i>Sample responses</i>	<i># of total responses</i>	<i>% of total responses</i>
Relationship & connection	<ul style="list-style-type: none"> - Connecting with local customers and libraries across the world - Connect with politicians - Network with local organisations - Linkage to other communities - Twibates great way to engage with customers - Building great relationships with online users 	46	37.4
Communication & promotion	<ul style="list-style-type: none"> - Able to monitor conversations about library and respond with official voice - Quick and easy access to users - Messages can spread very quickly - Effective tool to promote programs and services - Allowed us to develop a voice in the community - Getting the word out about the library 	31	25.2
Expanding service and audience	<ul style="list-style-type: none"> - Increase conversations with online community - RT like word of mouth 	24	19.5

	- Wider audience for YouTube channel		
	- More results		
	- Increased service and access		
	- Reach new people		
Information & action	- Market research	14	11.4
	- More widely disseminated information		
	- For information staff		
	- Let people opt-in to get more information conveniently		
	- Provide customer with product information		
	- Better informed		
Problem solving	- Able to respond to complaints	4	3.3
	- Resolve issues		
	- Opportunity to address problems		
Being "with it"	- It can definitely change minds and makes the library seem like a modern, responsive organisation.	3	2.4
Don't know		1	0.8

Table 6 reports thematic analysis of perceived challenges as identified by respondents. The four most frequently noted challenges representing 90% of the concerns, broadly address management issues but from distinct perspectives according as follows: organisation and management (31.1%); time constraints (17.6%); effectiveness and efficiency (16.2%); and audience management (12.2%). Under 'organisation and management', a variety of issues were identified including the 24/7 Twitter clock and scheduling staff resources, workflow and priority-setting, monitoring the feed for "appropriate" content, identifying fresh and still relevant content for library followers, whereas under 'time constraints', the word "time" was often noted without further elaboration. 'Effectiveness and efficiency' challenges were clustered according to the use of terms such as "more" "cost-benefit" "greater" or "responsive". A number of respondents also expressed their institutional concern with Twitter as a source of controversy, complaint or "inappropriate" use. 'Audience management' refers to the respondents challenges regarding attracting followers and specifically "local" followers who may already be library users or have the potential to become library users.

Table 6 - Perceived challenges of library Twitter use

<i>Perceived challenge by theme (n=74)</i>	<i>Sample responses</i>	<i># of total responses</i>	<i>% of total responses</i>
Organisation and management	<ul style="list-style-type: none"> - Scheduling can be a concern, and with our working group of 15 it can be tricky for non-Twitter staff to figure out who to contact if they want something posted to the feed. - Occasional issues with double-posting, with more than one person involved. - A few occasions where there has been a need to retract a post because it was sent out too soon (for time-sensitive announcements, etc). - It's available 24/7 but we're not, so patron mentions/criticisms/questions don't get answered right away. We get around it as best we can by monitoring all day with Hootsuite and having a staff member dedicated who starts work a bit early. - Finding time to tweet when other duties arise (publication deadlines, hosting large events, etc.); - Few people do it so if someone leaves, maybe no one can replace it, - Trying to keep up with new tweets, responding to questions, etc. does not get done in the responsive manner Twitter-users are used to. 	23	31.1
Time constraints	<ul style="list-style-type: none"> - Find the time to grow our account - Training, time - Staff time constraints - Finding the time to interact on Twitter regularly - Just time! 	13	17.6
Effectiveness and efficiency	<ul style="list-style-type: none"> - Our main concern : continue to feed the network more efficiently and creatively as human/financial resources are limited. - Response time to customers - Not sure of cost benefit - Responding to questions in timely fashion - Ensure better engagement with users - Developing and maintaining a consistent voice 	12	16.2
Controversy	<ul style="list-style-type: none"> - Make sure nothing embarrasses the library - Challenging interactions (not complaints) - Controversial issues and challenges on Twitter - Potential embarrassment of library - Ensure contributors follow guidelines and tweet appropriately. 	10	13.5
Audience management	<ul style="list-style-type: none"> - Increased followers not from community - Are we reaching the right people? - Engaging rural communities with less Twitter presence - Little interest from the public - Residents not using social media 	9	12.2
Content	<ul style="list-style-type: none"> - People using it to make complaints, getting hacked, tweeting boring, stupid things and turning people off. 	6	8.1

- To consistently create original content

No challenges	- No major concerns. We have a clear set of guidelines to determine what we can and can't do. Our editorial calendar helps us determine content to share.	1	1.4
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Follower analysis

To explore the types of individuals, organisations and communities constituting a public library's Twitter audience as followers, an analysis was conducted of 1,000 randomly selected followers, representing 9.2 % of the total number of followers (n=10,850) of one large Canadian urban public library. This analysis provides a test sample for study, complements results from the institutional survey and provides a library followers' classification scheme for reference for practitioners and researchers. This follower dataset was created in January 2013 and was coded between January and March 2013. Two research assistants manually each coded 500 library followers' Twitter accounts and established a follower classification scheme through several rounds of iterative coding.

Each library follower account was checked first to establish that it was still active. Blocked accounts were removed from the sample and additional follower accounts added. The research team then discussed and agreed upon several broad guidelines for preliminary categorization. Individual, community groups, local businesses, government agencies and an 'other' group were the first categories established. Where profile information was provided for individual, business, and community group accounts, two broad location categories were also identified - local and non-local. Local designations included any identification with the specific municipality and its neighbouring metropolitan region. Where no indication of place was provided tweets were examined and where provided, accompanying websites were checked, and/or searches were performed using each @LibraryFollower ID. If no location could still be determined, the location default was set as 'local'.

Following the first round, the team discussed the results. Decisions were made to add categories including "librarian" "library" "media" and "book industry" in a second round of coding. Each coder then coded a sample of 20 accounts from the other dataset to compare reliability and discuss differences with the research team. Accounts falling into

the "book industry" category included any book or book related individual, corporate or community accounts such as @49thshelf or @RandomHouseCA that was not strictly a media based account. "Media" accounts included both established and alternative news sources regardless of location. "Spam" accounts included automated bots and marketing accounts with no discernable relationship to the library. Results of this analysis are presented in *Table 7* and illustrated graphically in *Figure 2*.

Table 7 - Public library follower analysis

Category	# of followers n=1,000	% of total followers
Individual - local	373	37.3
Local business	274	27.4
Community group	136	13.6
Book industry	71	7.1
Individual - non-local	45	4.5
Spam	36	3.6
Librarian	30	3
Media	22	2.2
Other libraries	10	1
Government	3	0.3

[Insert Figure 2 here]

Slightly more than three-quarters of the accounts (78.3%) were identified as local individuals, businesses or community agencies. The "book industry" followers represented a significant distinct cluster of accounts, and were the next most frequent type of follower identified. The remaining accounts with the exception of non-local individuals could be broadly described as library-related supporters or sponsors including the media, other libraries, librarians, and government agencies.

Discussion

The results of this national survey and follower analysis of public library Twitter use provide only a snapshot limited to one particular period of time. While no cause and effect relationships can be ascribed to their micro-blogging practises based on these results, several issues and dimensions of use warrant further exploration. The following analysis identifies five significant themes that would benefit from in-depth study or comparison nationally and internationally with other public libraries and their communities.

Community size and population density

The size of a library's community coupled with its population density (i.e., rural or urban) may influence both the growth in number of followers and the perception of effectiveness in the micro-blogging practises of a given small or rural library, although more libraries in larger municipalities responded to the survey. Several respondents noted this small and rural library phenomenon explaining that "it's a challenge engaging our primarily rural communities/ patrons, as many of them are not present on Twitter." As a communication tool in a rural library system with multiple geographically dispersed branches, however, Twitter can function as an effective communications tool for library staff. One respondent explained how the motivation for their library to begin using Twitter was to "provide branch updates in rural libraries." Many other factors such as quality of Internet access, or types of occupations among rural residents and organisational presence could also explain a lower participation level in rural and small communities.

Developing and managing the library's Twitter voice

Management issues are by far the most pressing challenges cited by survey respondents. Although more than half of respondents have social media policies in their libraries, it is not clear how these policies may or may not be useful in alleviating concerns related to controversial tweets or timely response to inquiries, for example. Although many public library services such as the online catalogue and access to e-resources are typically available 24/7, services that require human mediation such as virtual reference or in this

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3 case, micro-blogging cannot be as easily automated. Many respondents characterise the
4 library's Twitter feed as an ongoing conversation that supports engagement and
5 connection with library patrons. However, respondents also indicate that staff cannot
6 always be immediately available to respond to a follower tweet that may answer a
7 question, address a concern, or simply convey presence and attention. In this way, the
8 micro-blogging channel lacks equivalent physical cues as those available in face-to-face
9 interactions in library buildings and service points or through voice via telephone or
10 Internet. The converse is also true. Whereas physical and virtual reference libraries have
11 historically been designed to create user expectations of staff presence by, for example,
12 desk placement, the library's Twitter platform, arguably, does not have the same
13 instrumental design for recognizing human presence.

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What followers need, expect or value from their library's Twitter interaction remains to a large extent, an unanswered question. Are library follower expectations broadly similar across local communities and their local public libraries? How should followers be 'managed' given the distribution of follower clusters identified by one library in this study? These questions are suggested by challenges in documenting the library's micro-blogging platform's efficiency and effectiveness to the organization. Although more than 80% of responding libraries perceived benefits using Twitter, libraries cannot as clearly connect their reasons for introducing this service with these benefits.

The potential for controversy

A number of respondents made reference to either the potential for or prior experience with public conflict and controversy while micro-blogging with their follower communities. Two responses illustrate this tension in both a real situation and in concerns over the potential for controversy:

Controversial issues can be challenging to handle on twitter. Right now we have a lot of people angry over a group who rented a room from us. We are responding to a lot of comments, explaining our commitment to freedom of expression and trying to get a group with an alternate opinion on the issue to come present their views as well.(L56)

The only concern I'd say is not about our content but about the possible perceptions of some tweets I may WANT to tweet or retweet that are about the future of libraries or something possibly controversial. I do fear giving some local

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3 council folks any fodder they may not have considered. (For example, if I tweeted
4 up a storm from a conference, that does not always go over well in terms of \$\$ to
5 some councillors/citizens.) As a result I do tend to vet my own tweets! Sad but
6 true.(L13)
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9 Unlike the conversations one might hear in any local library, social media platforms
10 widen the reach and then document these conversations in ways they can then be
11 repeatedly accessed and diffused. This capability for 'virality' has been judged positively
12 and negatively in many other settings (Goel, Watts and Goldstein, 2012). While libraries
13 may well want to avoid such controversy, perhaps what is more problematic is Twitter's
14 intentional design as an open, accessible and relatively uncensored broadcasting platform
15 enabled by retweets and mentions and the enduring textual record itself. To date, there is
16 little evidence suggesting that the existence of a library's social media policy in fact
17 mitigates such concerns or incidents of public controversy.
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27 *The community's daily digest*

28 Public libraries have long been acknowledged by their communities as cultural
29 documentation and resource centres. The over-arching mission of any public library is to
30 provide "access to knowledge, information, lifelong learning, and works of the
31 imagination through a range of resources and services" (*IFLA Public Library Service*
32 *Guidelines*, 2010, p.1). It is evident by responses compiled in Table 2 that as an
33 aggregate, these public library Twitter feeds have the look of a daily community arts and
34 culture 'digest' pointing to an eclectic collection of online content including library-
35 owned and created resources and professional selections from the vast spectrum of freely
36 available content on the open Internet. Both library and other community events and
37 programs are frequently reported as a topic of these public libraries' tweets. Local
38 community members were their primary audience as suggested by the follower analysis
39 and the types of tweets libraries are creating. Respondents indicated they were constantly
40 looking for content that would be "something of interest" (L26) such as "local events,
41 book news, culture" to stimulate connection and conversation. Libraries also identified
42 various discursive strategies they used to provoke connection, relationship and
43 conversation with their community of followers. Questions for the community (e.g., 'what
44 do you want to read?') or photo caption contests, local news, 'local author' reviews, all
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3 with repeated reference to "local" were cited as examples of creating community content
4 for engagement and conversation.
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7 Two explanations offered by a focus group of practitioners about why programs
8 and events dominated their Twitter feeds were that these are among the easiest tweets to
9 create on a routine basis, given that most libraries regularly offer, directly or indirectly
10 through partnerships, other community programs. Secondly, as a platform, Twitter works
11 best for soliciting immediate (i.e., daily) responses. At the level of the individual library,
12 however, some recurring but unevenly distributed themes are reported. These could be
13 explained by differences in staff knowledge and expertise of resources or by inexperience
14 with techniques for effective micro-blogging. Finally, these differences may also be
15 explained by inevitable local differences among communities and their informational and
16 cultural habits and practises.
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24 The list of formats included in Table 2 reflects the librarian's professional
25 familiarity with information containers as well as their contents. Clearly the micro-blog
26 also functions in many ways as an alternative 'web catalogue' of information links that
27 exceed what might normally be considered for inclusion under traditional public library
28 cataloguing practises. Again, little data exist to explain how library followers interact
29 with, consume, or use (or not) these informational bytes. The public libraries' sector-level
30 expertise as a single coordinated knowledge and information centre mediating not only
31 local community information but also the vast scope of machine-driven Google inquiries
32 is implied through the results presented in Table 2. Even with its structural limitations,
33 the Twitter platform is capable of enabling a multiple public library information service
34 coordination and cooperation.
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45 46 *Network effects of local community building*

47 That a library's micro-blogging practise actively contributes to community-building is
48 suggested in several ways. Survey respondents made frequent reference to "community"
49 and "local" to describe the ways their Twitter interactions are both "of" and "for" their
50 people (Lankes, 2011, p. 66). The follower analysis, albeit of only one library system,
51 clearly corroborates the fact that municipal and regional public libraries are first and
52 foremost, local institutions, regardless of their population size or geographical spread.
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3 Where a library's micro-blogging may play a new role in this local action, is in bringing
4 together local business, community groups and individual library followers into a single
5 conversation space. The network effects of these social, informational interactions are
6 also widened in new arrangements with other types of non-local library followers, such
7 as, in this case, book industry representatives, other libraries, media and librarians who
8 also participate if only through their presence in the same 'local' micro-blogging
9 conversations. What importance or attention, if any, should a public library give its non-
10 local micro-blogging community of followers and conversation participants? What role
11 do these participants play in the day-to-day life of the library and their local library
12 followers?
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21 Public libraries' micro-blogging practises as reported through this survey also
22 suggest further questions about library membership, belonging and connection. Although
23 a library's Twitter follower rate still represents only a small proportion of their total
24 number of active public library active users², ambient discursive and other network
25 effects of these Twitter conversations and information interactions may become larger
26 because of the platform's social design and use. This is another area where rigorous,
27 mixed methods studies and analysis over long periods of time are required before
28 definitive conclusions can be drawn.
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37 **Conclusion**

38 This study provides the first national overview of public library micro-blogging practises
39 in Canada. Results suggest that social media platforms such as Twitter are making a
40 difference by enabling libraries to create new relationships or strengthen existing
41 connections to their client communities. Although Twitter is only one among many social
42 media platforms, its most appealing design features that make it a quick, easy means of
43 sharing information and connecting with other Twitter users, also seem well-suited to the
44 patterns and routines of public library practises. Studies of micro-blogging from this
45 government agency perspective can also reveal more about how individuals and
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53 ² A comparison of the five Canadian public libraries with the largest number of library Twitter
54 followers as tracked through Social-biblio.ca (as of 5 July 2014) with the same libraries' number of
55 active borrowers as reported in their most recent annual statistics (Canadian Urban Libraries
56 Council, 2012) suggests that Twitter followers represent only 1-5% of that figure. For a variety of
57 reasons this comparison is limited and therefore is only useful in very broad terms.
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3 communities are clustering and connecting around information and conversation within
4 and beyond strict geographic or political boundaries. Public library user interactions as
5 they can be observed through social media platforms such as Twitter, offer another rich
6 context for understanding the changing behaviours of society's information ecology.
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10 11 12 **Acknowledgements**

13
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22 and knowledge mobilization engine.
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