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The Role of Social Media Applications in Outreach Programs within Information Agencies

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TITLE:

**ESSAY ON THE ROLE OF SOCIAL MEDIA APPLICATIONS IN OUTREACH PROGRAMS
WITHIN INFORMATION AGENCIES**

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The Role of Social Media Applications in Outreach Programs within Information Agencies

In the digital age, social media is one of the most widely accepted technological advancements in this 21st century along with the likes of Instagram, Twitter, Facebook and Google, with social media nowadays serving as the backbone of social verksamhet. The emergence of such platforms, without a doubt, has changed the ways in which people are able to reach out and interact with one another. Of course, social media also has its use in communication, but even within information institutions such as libraries, social media can be used for outreach. In the article, the author put it that social media networks are a useful tool for libraries to reach out to potential users, especially young ones. A position substantiated by these many studies which note the marketing potential of social networking sites (SNS) for libraries' collection promotion. The author further notes that libraries may increase their audiences' active presence on SNS in their different forms, such as sharing and transfer of audiovisual communications, and content on these topics, that is, creating and promoting those topics in an interconnected manner. It has also been shown that users of the academic library are more often used social networks to contact a librarian while users of the public library are used social networks for sharing.

This fact has raised the question of the possibility of establishing links with young library users as a form of promoting the library services. But, research by author based on article, revealed that school librarians in Croatia were still engaging in rudimentary use of Facebook, utilising the platform to post banalities and therefore did not attract young library users. Our research, based on these findings, aims to investigate how the information-sharing and engagement marketing approaches employed by libraries influence the perceptions of preadolescent users.

Firstly, information agencies employ social networks as a marketing tool to reach and engage their specific customers. As service oriented organisations, libraries must ensure that their human resource and other assets are deployed judiciously so as to further learning, promote literacy, and assist in the development of new ideas and perspectives. Libraries are said to use word of mouth marketing strategies, emergency warning signals, raising of the community, and feedback from the users as some of the most successful marketing of libraries. It is simple for librarians to explain the mission and the vision of the library, identify segments of their target audiences, tailor messages and reach them, develop different types of messages, collect and present different types of messages to the audience, and update and respond to the audience constantly. Other ways of marketing the libraries that use video sharing sites

include targeting campus life, shadowing students, putting across information in a funny and attractive way, using social media for marketing and collaborating with the students. Systematic marketing structures on the other hand should solicit more research on how to attract users within the preadolescent category to libraries.

To summarize the main ideas, a library's basic goal is to aid the community, and social media may assist in this goal in many ways such as promoting library resources or services. In a comparable study regarding the strategic planning of the library system through social networks, the volume of the issue is also posed as an important one. Moreover, users have access not only to the official news of the library but also to events which are organized by other readers. There is universal consensus regarding the importance of disseminating reliable information. Libraries, accompanied by their staff and readers, are ready to be the pioneers of many promising projects.

The development of fundamental strategic tasks on social networks is one of the primary objectives of the Strategic Plan of the National Library Association in Great Britain. A content author engaged in strategic libraries with theoretical experience can impact their operational practice. The identification of possibilities to systematically develop dynamic internal and external contexts, as well as study existing opportunities for libraries meet hand-in-hand the primary aim of achieving the outlined goal. I believe this includes identifying institutional collaborations that can be utilized as incentives to better integrate them into the system.

Moreover, social media empowers libraries to extend their outreach to different, and especially, younger audiences who may not frequent the actual libraries. Librarians can enhance their engagement in social activities by posting relevant messages on book suggestions, sources, and events on Instagram or Tik Tok and expanding the library's reach to younger audiences and making the services of the library known to people who have not visited the physical location of the library. Another benefit of social media advertising is that the library is able to promote programs and events at a minimal cost. Social networks provide libraries with a narrow and low-cost opportunity to inform the readership about newly acquired publications, online resources, research methods, and virtual programs, including webinars, workshops, and live question and answer sessions.

Also, social media enables libraries to promote their unique events and activities such as book drives or literacy programs to a larger audience. These networks enable the targeting of specific audiences by creating sponsored advertisements or using hashtags to enhance the viewability of related materials. Or, events that were previously available to only the patrons of libraries can now be made universally available online, thus solving problems of distance and access.

However, while libraries can enhance outreach and activism through social networks, there are several risks that have to be dealt with very carefully to ensure that SnS are used effectively and in the right manner. Privacy affects libraries on just about every level, but so do information overload, user engagement, or even resources themselves. Protecting user privacy is essential due to the nature of social media, which allows for free expression and causes people to expose more information than they would want to. There are legal requirements on how libraries should protect their users' privacy, including training of staff about data protection, and even creating policies on social media interactions.

In addition, libraries are required to present such information that is easily digestible and caters to the different needs of the consumers as the clients of libraries differ in digital readiness. Enabling training, plain language, video captions, and engaging content helps to attract younger as well as older respondents, from tech-savvy youngsters to elderly ones. Over time, however, maintaining user participation is yet another hurdle. Libraries need to translate their ideas into usable formats by integrating many approaches so that their focus audience does not become tiresome: original, relevant content has to be written all the time, and the same thing cannot be repeated too often or in an excessively advertised way. Engaging with local communities and using various types of content, such as events, questionnaires, and videos, can achieve this goal. These challenges need to be addressed in order to ensure effective use of social networking sites for promotional purposes but with caution and in moderation.

The pandemic has caused a dramatic increase in the use of social networks around the world. And as such, libraries and information centers feel the need to step up their outreach efforts on these emerging digital commons. This call for enhanced outreach efforts amongst today's libraries and information centers translates to a number of best practices. It is about inclusion and accessibility, social commerce augmented reality, animation community building, email integration, AI powered chatbots, video content and platforms, social media communities,

identity representation and a great deal more. Research indicates that the prevalence of video content on YouTube Shorts, Instagram Reels, TikTok, and Google drives trends for the creation of high-quality videos, which libraries ought to sell in order to publicize their services. Today, it is unreasonable to expect libraries to engage with their patrons exclusively through physical channels. Social media has proliferated over our lives in contemporary society, for example, Facebook Groups, Reddit, and Discord. Libraries may prioritize developing niche communities across their various social media channels to enhance the level of outreach.

In conclusion, social media today complements and supports libraries' work in the contemporary environment by helping to increase their reach, connect with audiences, and advertise services. While Facebook, Instagram, Twitter, and YouTube allow libraries to appeal to various segments of the population, including young people which is particularly important as these social networks are popular among them, these come with risk factors such as privacy, information overload, or even continuous engagement with the audience. As an example, focusing on advanced strategies that include video marketing, artificial intelligence, and micro-targeting can increase the social media presence of libraries and the communities they serve. In addition, the concerns of accessibility, digital literacy and community participation would ensure that libraries continue to be active and relevant institutions in the fast changing digital environment. While the libraries are already facing and in the future will face many of the same challenges and opportunities, their role in offering information services together with the promotion of reading culture and interconnectedness of the community will remain central to the existence.

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Impact of social media addiction on librarians' performance: mediating role of task distraction, moderating role of effective self-control

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Abstract

Purpose – The study was initiated to test the relationship of social media site addiction on librarians' performance. Furthermore, the study also tested the mediating role of task distraction and moderating role of effective self-control in aforesaid relationship.

Design/methodology/approach – This was an empirical study, and data for the research were collected through a standardized questionnaire from 503 librarians who were having Facebook accounts and are questionnaire developed through "Google Forms" and the link of the questionnaire was distributed using Facebook groups. Data was analyzed using descriptive analysis, correlation, Baron and Kenny's approach, and Normal Test Theory.

Findings – Results indicate that social media addiction is an important factor for that is reducing librarians' performance. At the same time task distraction also adds to negative impact of social media addiction on librarians' performance. However, effective self-control can reduce the negative impact of social media addiction on their performance.

Research limitations/implications – This research has some important theoretical as well as practical implications for librarians, library management, and well as for policy makers and government.

Originality/value – Social media is commonly used for communication but when it becomes addiction, it can reduce the employees' performance. Most of existing researched focused on positive aspects of social media; only few researches explored the negative impacts of social media. The proposed relationship was never tested on librarians. This study filled this literature gap and proposed as well as empirically tested a model for evaluating negative impact of social media on librarians' performance.

Keywords Mediation, Moderation, Social media addiction, Effective self-control, Librarian's performance, Task distraction

Paper type Research paper

1. Introduction

There has been enormous progress in science and technology over the previous years (Das *et al.*, 2016). Technology-based innovations have dramatically improved the quality of life of all humankind by supplying them with the gadgets and tools for every possible need. This is the reason that humans are becoming increasingly dependent on technology-based gadgets for performing their day-to-day activities (Lavikka *et al.*, 2018). Social media and the Internet are



among the most readily accepted and widely used products based on technological innovations (Maskeliūnas *et al.*, 2019; Mnzava, 2021; Rafi *et al.*, 2020). People use social media sites including Instagram, Twitter, Facebook, Google+ and others to connect and socialize. These social media sites have significantly altered the social landscape and modes of connection among individuals. These sites bring masses from all across the world together to share ideas, communicate and discuss various topics of mutual interest. However, while social media is bringing ease in communication and socialization, it is also causing addiction to its use (Drahošová and Balco, 2017). People use social media at home, at work, while traveling, and elsewhere, and cannot even imagine living their lives without its use. Despite several advantages of social media, addiction to its use is having negative effects on people's health and well-being. Social media addiction (SMA) also damages the performance of organizations (Rao and Prasad, 2018). People working for organizations spend a huge amount of their work time accessing social media sites hence compromising their productivity and performance on the job (Yu *et al.*, 2018). They would communicate with their buddies, watch their posts and like or share social media posts while on the job, which adversely affects their job performance (Zivnuska *et al.*, 2019). Thus, it could be inferred that using social media at work has a negative impact on employee performance.

In places such as libraries where greater concentration at work is required, task distractions triggered by the use of social media cause more adverse effects. Therefore, considering the significance of increased attention to their effective job performance, the current research is taking librarians as the target population. Librarians are in charge of gathering, arranging and issuing library resources such as books, films and audio recordings (Ewing, 1994); in public libraries, school libraries and museums. They are responsible for issuing resources, classifying books and performing routine audits (Brophy, 2006). However, they are facing several job-related challenges including inadequate funds (Khan and Bhatti, 2012), lack of bibliographic resources (Anyakoku *et al.*, 2015), shortage of librarian skills (Baro *et al.*, 2013) and irresponsible behavior of readers (Ross, 2009).

Libraries, as the organizations providing customer service, need to ensure smart utilization of their resources (especially human resources) to generate learning opportunities, encourage literacy and education, as well as contribute to the generation of fresh ideas and views. However, with the widespread use of smartphones and the introduction of 4G and 5G technology, SMA among professionals is becoming more common. SMA has a significant negative impact on librarians' performance as it causes task distraction and decreases their productivity. However, with effective self-control, librarians can minimize the negative effects of SMA on their task performance.

Some of the existing studies found both negative and positive impacts of social media (like see: Akram and Kumar, 2017; Chukwuere and Chukwuere, 2017; Siddiqui and Singh, 2016; Venegas-Vera *et al.*, 2020). Whereas some other studies found a positive impact of social media (Like see: Jones *et al.*, 2015; Kim *et al.*, 2016; Zulqurnain *et al.*, 2016). However, most of the literature found a negative impact of social media (Like see: Corstjens and Umblijs, 2012; Kaur *et al.*, 2022; Sahebi and Formosa, 2022). Various studies, such as Perera and Samaraweera (2019) and Zivnuska *et al.* (2019), looked into the impact of SMA on employee performance. Researchers such as Javed *et al.* (2019) and Maher and Von Hippel (2005), looked at the impact of task distraction on employee performance. However, the mediating role of task distraction in the association between SMA and employee performance taking the case of librarians has been relatively less explored. As in other industries, SMA might cause lowered performance for the librarian. Thus, a research gap exists, particularly involving the population of librarians. In addition, some individual characteristics may act as moderators in defining the impact of SMA. Therefore, effective self-control is anticipated to have a moderating role in the relationship between SMA and librarians' performance. As per the knowledge of researchers, this relationship has never been examined in the literature. Furthermore, there has not been any SMA research done on librarians. The current study is addressing this empirical research gap.

The present study was designed on the theoretical foundations of social cognitive theory (SCT) keeping in view a dramatic increase in the use of social media sites by people from all walks of life, and the fact that there is a general lack of understanding of its negative impacts on job performance. Furthermore, the nature of librarians' job demands concentration as well as control over the environment; however, it can be negatively influenced by social media sites addiction. Thus, this study was carried out to evaluate the impact of SMA on librarian performance and how this relationship is moderated by effective self-control and mediated by task distraction. This research will have significant implications for librarians besides having important contributions to the extant literature in the area. The current research findings can be used by library administration and employees to improve their performance.

This paper begins with an introduction that explains the background of the research, the research gap, and the objectives of the study, followed by a literature review that defines and describes the relationship of all variables of interest. The methodology section explains how the research was carried out. The findings and conclusion present the acceptance or rejection of hypotheses along with literature support. The last part of the paper presents a description of the further research agenda.

2. Theoretical background

The current study is grounded in Bandura's SCT (1986). The theory has three perspectives explaining human behavior, that is, environmental, behavioral and personal. The behavioral aspect of SCT explains SMA. SCT is also helpful in explaining the negative impact of social media and how other human behaviors can be used to minimize the negative impact of social media. SCT emphasizes on the importance of social interaction during the learning process and maintains that social media are important for regulating and developing people's routines, behaviors, work habits and even personal beliefs (Bandura, 1986). This theory explains how the use of social media can change a person's job attitude. The current research is founded on the assumption that excessive use of social media by librarians leads to task distraction and poor performance. However, if they are trained to manage their activities, they can reduce the negative impacts related to excessive use of social media.

3. Literature review

A detail of all the variables of current research along with their relationship is provided below.

3.1 Social media addiction

Social media are internet-based programs that allow users to communicate digitally with their family and friends (Aichner *et al.*, 2021). The use of such applications has significantly increased in recent years, and it is becoming an addiction (Torous *et al.*, 2021). Social cognitive theory explains that this addiction could have certain other behavioral consequences closely linked to it. Existing research proves that SMA is directly related to different emotional disorders including anxiety and depression (Al Mamun and Griffiths, 2019; Arslan *et al.*, 2022; Keles *et al.*, 2020; Robinson *et al.*, 2019). When social media is used while performing a task requiring working memory, it could even cause a "brain drain" (Pardo and Mianda, 2022). Thus, it could be inferred that SMA has negative impacts on the mental health of users (Zhao and Zhou, 2020). In addition to the aforesaid problems, SMA also results in interpersonal issues (Savci *et al.*, 2018), as it may distract the attention of users while interacting with others. Thus, addiction to social media sites has several disadvantages for its users. According to Cho *et al.* (2017), the social skills of people have been influenced by the usage of social media. Most of the people involved in heavy use of social media exhibit reluctance to participate in

meaningful dialogue and express themselves only using social media. Thus, the abilities of people to socialize and engage in meaningful dialogue are being compromised in favor of the use of social media sites. According to [Uzunoğlu et al. \(2017\)](#), social media sites have created a new “alone together” technology-oriented culture in which far-away people are virtually connected with their family and friends however, they are far away from physically close persons.

As social media have numerous advantages, such as being an effective tool for communication, idea generation and refinement as well as information dissemination, a huge number of organizations have adopted them ([Ahmad et al., 2018](#); [Lee, 2021](#); [Wang et al., 2018](#)). Employees also use social media to connect with coworkers ([Robertson and Kee, 2017](#)), search for information ([Househ et al., 2014](#)), solve problems ([Bertot et al., 2012](#)), have discussions ([Abi-Jaoude et al., 2020](#)), and disseminate information ([Jung et al., 2018](#)). On the other hand, using social media extensively while at work has a negative impact on their performance ([Javed et al., 2019](#); [Syrek et al., 2018](#)). According to [Zivnуска et al. \(2019\)](#), social media excessive use diminishes employee input, which has an impact on their overall performance. Other researchers, such as [Sriwilai and Charoensukmongkol \(2016\)](#), [Hoşgör et al. \(2021\)](#), and [Priyadarshini et al. \(2020\)](#) have discovered a negative link between SMA and employee performance. Employees who are addicted to social media and use it excessively at work are unable to focus on their assigned duties, which results in lower performance. Within the context of this research, SMA has two consequences: SMA reduces librarians' productivity and increases job/work distraction, and librarians that are engrossed in social media are unable to focus on their work, resulting in task distraction.

3.2 Librarians' performance

A librarian's performance is the extent to which he/she fulfills his duties as specified in his/her job responsibilities ([Connaway and Powell, 2010](#)). The style or the way librarians are led ([Tella et al., 2007](#)), the librarian's work environment ([Peng, 2014](#)), their job security ([Sultana and Begum, 2012](#)), and SMA are all elements that influence the performance of any librarian. However, most research on employee performance, such as those by [Dodokh and Al-Maaitah \(2019\)](#) and [Ali et al. \(2020\)](#) focused on the positive effects of various elements linked with social media on employee performance. Only a few researchers have looked into the negative aspects that affect employee performance. Furthermore, only a very few studies use SCT to explain social media and librarian performance. [O'Donnell and O'Donnell \(2020\)](#) conducted a study that empirically established that employees' performance is harmed by SMA. [Andreassen et al. \(2014\)](#) conducted a study on 10,018 employees and found that using social media during work hours reduces employee performance. Employees' time and energy are wasted as a result of their addiction to social media sites, and their performance suffers as a result ([Moqbel and Kock, 2018](#)). According to [Griffiths \(2010\)](#), employees who are addicted to social media sites are emotionally weak, have low concentration on their assigned tasks, and thus show lower performance on the job than expected. Although a good deal of studies has been conducted in various contexts, none of these studies identified and addressed the issues linked with SMA in the context of libraries and librarians' performance, particularly through the lens of SCT. Thus, the study's first hypothesis is based on these arguments and given as under:

H1. Librarian performance is negatively influenced by social media addiction.

3.3 Task distraction

An employee's lack of ability to perform duties is termed as task distraction ([Sanders and Baron, 1975](#)). In the current research, task distraction is defined as the librarian's inability to perform as per the job description. Task distraction occurs when the attention of an employee is

diverted to other non-duty issues and tasks, from their allocated task (Sanders and Baron, 1975). Overburden (Majid *et al.*, 2020), lack of skills essential for performing the assigned work (Gaillard, 1993), stress (Roberts *et al.*, 2019), other non-job work engagement (Hoşgör *et al.*, 2021), and SMA (Brooks *et al.*, 2017) are some of the reasons for task distraction. Behavioral dimensions of SET explain that employees' mental ability to do any job-related task is lowered when they spend most of their time on social media sites due to the lack of focus on the assigned job while concentrating on social media. According to Zivnuska *et al.* (2019), SMA decreases employees' commitment to their work. As explained by SCT, social media addiction can further trigger negative behaviors such as diverting librarian's attention from their actual work. Additionally, social media sites divert essential energy away from job-related responsibilities. The study's second hypothesis is based on these arguments and is given as under:

H2. The higher the social media addiction, the higher will be the task distraction.

Librarians' ability to accomplish their given jobs is significantly influenced when work distraction occurs as an effect of extreme use of social media sites. They consume their energy more on social media than on their job-related obligations, tasks, and functions (Tufts *et al.*, 2015). As a result, their productivity may suffer. Drawing from these arguments, the study's third hypothesis is:

H3. Librarian's performance is negatively influenced by task distraction.

The association between SMA and librarians' performance is also affected by task distraction which establishes the indirect link between SMA and librarians' performance. When librarians become addicted to social media, it causes task distraction since they are unable to focus on their work, resulting in lower performance. The study's fourth hypothesis is based on these arguments:

H4. The negative relationship of social media addiction with librarians' performance is mediated by task distraction.

3.4 Effective self-control

The ability or the self-controlling power of an individual, to deliberately modify physiological, emotional and behavioral reactions in a positive direction, is referred to as effective self-control and it is a key component of self-regulation. It is the control one has over his or her emotions or behaviors. Within the context of the present research, effective self-control is defined as the librarian's ability to resist the use of social media. Effective self-control is linked to social adaptation, academic competence, and achievement, whereas it is also linked to both internalizing and externalizing behavior problems (Zhang *et al.*, 2021). Effective self-control arises during childhood in the setting of the social environment, and it manifests at various levels in different individuals. Effective self-control has also been discovered to play a key part in the process of risk factors leading to internal and external problems (Wikström and Svensson, 2010). As a risk-buffering element, effective self-control may thereby reduce the potential negative consequences of SMA. In other words, excellent self-control may help librarians cope with the harmful impacts of SMA. Furthermore, librarians with high levels of effective self-control are generally better at dealing with their emotional exhaustion and reducing unpleasant emotions, high levels of effective self-control may operate as a protective factor against the harmful impacts of SMA. As a result, effective self-control may act as a moderator in the association between SMA and librarian performance. Drawing from these arguments, the hypothesis formulated is as under:

H5. Effective self-control moderates the relationship between social media addiction and librarian performance.

4. Theoretical model

Figure 1 below depicts the theoretical model for the current research.

5. Methods

For the current cross-sectional empirical research, data were collected from a web-based survey wherein to get the maximum output, the recommendations of Granello and Wheaton (2004) were followed. The questionnaire was prepared using “Google Forms.” The participants of the study were all professional librarians, had Facebook ID(s) and had joined various Facebook groups related to their profession. To access these groups, the official website of Facebook (www.facebook.com) was used. In the Facebook search field, the keywords “library” and “librarian” were used to find out the groups. There were 132 results in total for the search. However, examining the descriptions of groups in further detail revealed that just 39 groups were specifically pertinent to our current topic of this paper. The remaining groups were quotes, job search groups, journals, colleges, etc. In open groups, the link to the online questionnaire, research objectives and who should fill it out were posted. In addition, because most of the groups were only accessible to group members, a Facebook message was sent to all of the administrators asking them to distribute the link within their relevant groups. After the initial request, made on March 23, 2021, only 13 group admins posted the link in their groups. The second reminder was issued to group admins on April 19, 2021, and the third on May 15, 2021. In total, 18 groups were contacted directly or through the group administrators. For more than three months, the questionnaire was kept visible (March 23rd to June 25th, 2021). This was done to get the maximum responses from librarians. Although, there was no sensitive information in the survey instrument, even then, participation in the study was entirely voluntary and anonymous. Participants were also given the assurance that the data gathered would only be used for this research purpose and would not be shared with anyone. In three months, 503 respondents filled out the questionnaires. Following the recommendations of Wolf et al. (2013), it was sufficient enough for examining the mediating model.

5.1 Scale development

The data were gathered using structured questionnaires. The link to the web-based questionnaire was shared on selected groups on Facebook from the account of the researcher. Further detail of scale adaptation is given as under.

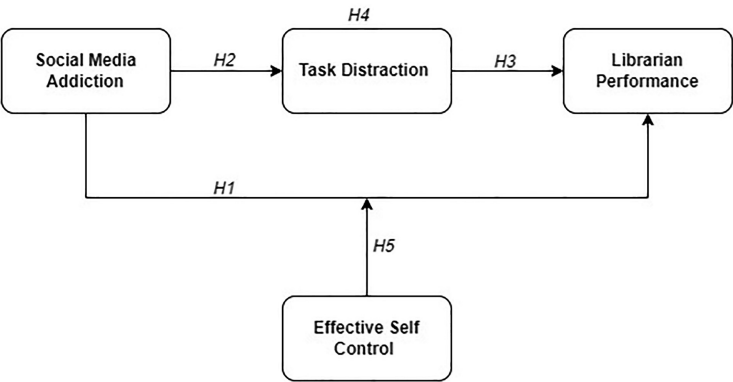


Figure 1.
Theoretical model

To measure SMA standardized scale was adapted from the study of Longstreet and Brooks (2017). It is an eight-item, five-point Likert scale measure with questions like “I keep on using social media while I am in the library” and so on. The SMA scale has Cronbach’s alpha coefficient value of 0.76, an AVE of 0.66 and a CR of 0.93.

Task distraction was measured by means of a six-item Likert scale modified from the work of Zwarun and Hall (2014). It was a five-item scale. It included items such as “while I am in the library, my smartphone beep or notification sound diverges my concentration from work” and so on. The SMA scale has a Cronbach’s alpha coefficient value of 0.81, an AVE of 0.74 and a CR of 0.95.

For measuring effective self-control, an adapted questionnaire from the study of Bertrams and Dickhäuser (2009) was utilized which was a 13-item scale, measured on a five-point Likert scale. It included items like “while in the library, I want to be more self-disciplined” and so on. This scale generated Cronbach’s alpha coefficient value of 0.73, an AVE of 0.64, and a CR of 0.95.

Librarian performance was tabbed using a six-item, five-point Likert scale adapted from the study of Williams and Anderson (1991). Sample items included, “I usually perform all the tasks assigned to me in the library”. This scale generated Cronbach’s alpha coefficient value of 0.81, an AVE of 0.63 and a CR of 0.91.

In total, it was 33-item scale measured on a 5-point Likert scale. Some variables, such as the librarian’s age, librarian’s gender and librarian’s experience, were controlled for better assessment. For a better understanding of the questionnaire, it was split up into two parts: the first part focused on measuring current research variables, whereas the second part was about the controlled variables of the study. It was deliberately designed in such a sequence because respondents may become hesitant to respond when they see their personal information at the top, and they may give a biased response or may not respond at all. As data were obtained via “Google Forms” from all over the world, the nationality of respondents was also added which could help in generalizing the study’s results.

6. Analysis

Descriptive analyses are shown in Table 1. The average respondent’s experience was 5.6 years which shows that respondents were experienced and capable of providing accurate data for current research. The average respondent’s age was 36.22 years, whereas the majority of respondents were males.

6.1 Data analysis

To examine the relationship among the proposed variables of the study, different tests including descriptive analysis, correlation and regression tests were performed. To test the

S. No	Variable’s name	Mean	SD	1	2	3	4	5	6	7
1	LE	5.6	2.4	1						
2	RA	36.22	7	0.12	1					
3	RG	0.35	0.26	0.08	0.06	1				
4	SMA	3.12	0.77	0.12	0.14*	−0.12	1			
5	TD	3.05	0.47	0.22*	0.11	0.11	0.15*	1		
6	E-SC	3.13	0.61	0.04	0.06	0.14	0.09**	−0.08*	1	
7	LP	3.43	0.42	0.15	0.11	0.03	−0.32*	−0.33*	0.24**	1

Note(s): LE: Librarian experience; RA: Respondent age; RG: Respondent gender; SMA: Social media addiction; TD: Task distraction; E-SC: Effective self-control; LP: Librarian performance

(* = $p < 0.05$ one tailed; ** $p < 0.01$ two-tailed)

Table 1.
Results of correlation
and descriptive
statistics

mediation, [Baron and Kenny’s \(1986\)](#) recommendations were followed. However, as this test merely indicates the presence of mediation rather than its strength, normal test approach was adopted, as recommended by [Preacher and Hayes \(2008\)](#). Multiple hierarchical regression analyses were also performed to assess the moderation effect. As the study used self-reported scales for measuring all the variables, it was essential to test the scale for common method bias. For this purpose, the Harman test was used in the study. Cronbach’s alpha was used to determine the reliability of the instrument and is shown in [Table 2](#). The discriminant validity of the construct was determined using the [Fornell and Larcker \(1981\)](#) method.

Confirmatory factor analysis (CFA) was used to verify the model’s fitness. Degree of freedom (DF), comparative-fit-index (CFI), goodness-of-fit index (GFI) and root mean square error of approximation (RMSEA) were among the other indicators utilized. Four-factor model provided the best-fit values. The value of the four-factor models is given in [Table 3](#) below.

According to the Harman test, factor analysis can be utilized for detecting common method variance (CMV). There is a common method bias if the one-factor account for the bulk of covariance or only one component appears during factor analysis. To test it, the suggestions of [Podsakoff et al. \(2003\)](#) were followed, and all of the items used to measure different variables were loaded onto one exploratory factor, with no rotation. The outcomes confirmed the presence of 4 separate factors with eigenvalues>1. These four factors accounted for 51% of the variance, with the greatest component accounting for 19%. Other tests, such as common latent analysis (CLA), were also performed in addition to the Haman test, as suggested by [Podsakoff et al. \(2003\)](#). The result computed a variance of 23% which is less than 50% results. As a result, it can be safely assumed that there is no issue of CMB in the data of the current study.

Discriminant validity was established using [Fornell and Larcker’s \(1981\)](#) method. The value of AVE > shared variance for all of the variables confirms the scale’s convergent validity. Furthermore, the value of AVE > 0.5 and CR > 0.7 for all variables, and AVE < CR. All these results established the discriminant validity. Further information is given in [Table 2](#). The guidelines of [Myers \(1990\)](#) were used to examine the issue of multicollinearity. According to [Myers \(1990\)](#), if the VIF value is greater than 10 and the value of tolerance is less than 0.2, and the AVE is less than 1, there may be a multicollinearity issue. However, analyses showed that there were no such concerns in the study at hand as values of tolerance, VIF and AVE meet the threshold values. It confirmed that there was no issue of multicollinearity in the study.

Table 2.
Factor loading,
reliability and validity
of construct

Variable	No. of items	FL	α	CR	AVE
Social media addiction	04	0.72–0.90	0.76	0.93	0.66
Task distraction	06	0.79–0.94	0.81	0.94	0.74
Effective self-control	13	0.77–0.87	0.73	0.95	0.64
Librarian’s performance	06	0.77–0.90	0.81	0.91	0.63

Note(s): FL: Factor loading, AVE: Average variance extracted, CR: Composite reliability α: Cronbach’s alpha

Table 3.
Models

S. No	Index	Value for four-factor solution	Accepted values
1	DF	8	>2
2	GFI	0.93	=>0.9
3	CFI	0.95	>0.9
4	RMSEA	0.039	<0.8

7. Results

7.1 Mediation analyses

The technique of Baron and Kenny (1986) was followed for assessing the mediation effect. The substantial correlation results presented in Table 1 are pre-requisite for conducting Baron and Kenny's (1986) test. Table 4 shows that the first requirement of the test is satisfied, and SMA is significantly but adversely associated with librarian performance ($\beta = 0-0.31$; $t\text{-value} = 9.13$; $p\text{-value} < 0.001$), also confirming the study's first hypothesis. The second condition is likewise met, with SMA being found to be positively and significantly associated with task distraction ($\beta = 0.27$; $t\text{-value} = 9.45$; $p\text{-value} < 0.001$), confirming the second hypothesis (H2). The third criterion is satisfied, with task distraction found to be significantly but negatively associated with librarian performance ($\beta = 0-0.39$; $t\text{-value} = 13.14$; $p\text{-value} < 0.001$), and hence H3 of the study is also supported by data.

To evaluate the fourth condition and hypothesis, multiple regression analysis was used. Three different models were established. The first model ($\beta = -0.31^{**}$, $SE = 0.049$) confirmed the direct link between IV and DV of the study. In model 2, the effect of controlled variables on the association between IV and DV was examined, and those variables had the least impact ($\beta = -0.32^{**}$, $SE = 0.051$). The effect of IV, DV, controlled and mediating variables were captured in Model 3. With the addition of task distraction, the link between SMA and librarian's performance becomes insignificant, indicating the relationship between SMA and task distraction is fully mediated by task distraction ($\beta = -0.30$; $SE = 0.049$). As a result, the study concluded that data supported H4 of the study (see Table 5).

Baron and Kenny's method proves only the occurrence of mediation but does not give any indication of the strength and direction of mediation. Therefore, the normal test theory approach was utilized. Table 6 shows the results.

The results demonstrated that there is an insignificant direct effect of SMA on librarian performance ($\beta = 0.11$; $t = 0.21$), and the outcome normal test theory ($Z = 4.41$; $p < 0.00$)

Independent variable	R^2	Task distraction				Sig.	R^2	Librarians' performance				Sig.
		S.E	β	$t\text{-value}$				S.E	β	$t\text{-value}$		
Social media addiction	0.02	0.031	0.27	9.45	<0.001	0.10	0.076	0.076	-0.31	9.13	<0.001	
Task distraction (mediator)	-	-	-	-	-	0.11	0.023	0.023	-0.39	13.14	<0.001	

Note(s): Summarized results of three separate regression tests

Table 4.
Regression analysis

Independent variable	Model-I		Model-II		Model-III	
	β	SE	β	SE	β	SE
SMA	-0.31**	(0.049)	-0.32**	(0.051)	-0.30	(0.049)
Control variables						
Librarian experience			0.07	(0.022)	0.03	(0.027)
Respondent age			0.09*	(0.073)	0.10	(0.067)
Respondent gender			0.08	(0.054)	0.07	(0.122)
Mediating variables						
Task distraction					-0.42**	(0.027)

Note(s): * $p < 0.01$; ** $p < 0.001$

Table 5.
Summarized results of
multiple regression
analysis

confirmed the mediation effect of task distraction ($\beta = 0.43-0.11 = 0.32$). These results confirmed the H4 of the study.

7.2 Evaluating the moderation effect

The moderating role of effective self-control was tested using hierarchical regression, as shown in Table 7.

Steps 1 and 2 serve as foundation models, while step 3 discusses the moderation effect. The coefficient of the interaction term, which was created by multiplying SMA with effective self-control is shown in Table 7. Effective self-control was found to have a significant impact on the link between SMA and librarian performance ($\beta = -0.11$; $p < 0.001$). The value of the coefficient is negative because SMA has a strong but negative impact on librarians' performance, and effective self-control as a moderating variable mitigates this negative impact. Based on these findings, we can conclude that effective self-control moderates the link between SMA and librarian performance.

8. Discussion

A librarian is a profession that revolves around providing users with access to information (Burnett *et al.*, 2008) as well as social or technical programming and information literacy (Demasson *et al.*, 2019). The librarian's role has evolved significantly over time, and the emergence of many new types of media in the twentieth century has affected it intensively (Hennig-Thurau *et al.*, 2010). In today's world, a librarian has not only to deal with traditional heaps of hardbound books but also with the complexities of digital knowledge resources. They may work with electronic resources, books and e-books, audio and video recordings, periodicals, newspapers and online newspapers, manuscripts, photographs, graphic material, bibliographic databases, as well as internet-based and digital resources to provide and maintain information in a variety of ways (Lo *et al.*, 2017). Other information

Table 6.
Summarized results of
normal test theory
approach

Mediation model	Indirect-effect (normal test approach)			Direct effect			Total effect		
	Beta	T-value	P-value	Beta	T-value	P-value	Beta	T-value	P-value
SMA→TD→LP	0.32	5.21	<0.00	0.11	0.21	0.41	0.43	4.41	<0.00
Note(s): SMA: Social Media Addiction; LP: Librarian Performance; TD: Task Distraction									

Table 7.
Hierarchical
regressions

	Step I	Step II	Step III
Self-management (moderating)			
Librarian experience	−0.027	−0.021	−0.014
Respondent age	−0.015	−0.019	−0.020
Respondent gender	−0.013	0.012	0.014
SMA		−0.19**	−0.17**
Self-management		0.27**	0.338**
SMA x Self-management (interaction term created)			−0.11**
R ²	0.011	0.131	0.191
Adjusted R ²	0.09	0.112	0.181
Δ R ²	0.008	0.099	0.018
Δ F	2.213	27.76	18.12
Note(s): SMA= Social media addiction; *p < 0.01; **p < 0.001			

services that a librarian may provide include information literacy instruction, computer provision, and training, cooperation with community groups to organize public programs, assistive technology for people with impairments, and help to access community resources (Julien and Hoffman, 2008). However, librarians are facing many problems including a constantly evolving environment (Markgren *et al.*, 2007), lack of training and development to handle the everyday challenges (Idiegbeyan-Ose *et al.*, 2016), decreasing library networks and government intervention (Lolade and Daramola, 2017) and family–work conflict (Adekanye and Nduka, 2017). All these factors negatively influence the librarian's performance. Furthermore, the introduction of IT and its applications particularly social media also negatively influences the librarians' performance. Librarians can access and use these applications from their cell phones; thus, they are ever-present on social media, and they can continuously monitor their social media applications. These applications have made librarians addicted to their use and instead of concentrating on their work; they are more inclined toward the use of such applications. This negative influence of social media on the performance of librarians is evidenced in this research.

The research tested five hypotheses. The first hypothesis tested the link of SMA with librarian performance. This hypothesis was affirmed by the data gathered for the study. Similar results for the different populations were also reported by Al-Menayes (2015), Javed *et al.* (2022), and Zivnуска *et al.* (2019). The second hypothesis of this research tested the relationship between SMA and task distraction. This association was also found to be significant and supported by data. Similar results for the different populations were also reported by Majid *et al.* (2020) and Swar and Hameed (2017). The third hypothesis tested the link between task distraction and librarian performance. This hypothesis was also accepted. Pluyter *et al.* (2010) and Hsu *et al.* (2008) also reported similar results. The fourth hypothesis tested whether task distraction plays a moderating role in the relationship between SMA and librarians' performance. This hypothesis was also accepted, and the findings of Majid *et al.* (2020) and Moqbel and Kock (2018) also supported the results. The last hypothesis tested the moderation of effective self-control and data revealed that the presence of effective self-control can minimize the impact of SMA. This result is also supported by the findings of Li and Ye (2022).

9. Implications of the study

The research has some important theoretical and practical implications, which are as follows.

9.1 Theoretical implications

There are five distinct theoretical contributions of this study. *First*, building on SCT, this study developed and tested a conceptual model on librarians by uniquely linking SMA, task distraction, librarian performance and effective self-control. *Second*, in most of the existing studies, social media sites are viewed as a way of communication, with their negative aspects being hardly studied. The study at hand addressed this gap by looking into the effects of SMA on the performance of librarians. *Third*, there is no research on the effects of SMA on librarians. This research examines librarians' perspectives on this critical issue closely related to their performance. The study's *fourth* theoretical implication is that data was collected from various countries around the world, making it a unique contributor and more reliable study on librarians. *Lastly*, the current study empirically proved that effective self-control could reduce the harmful effects of SMA, which was previously not evaluated for librarians.

9.2 Practical contributions of the study

This research has significant consequences for library administrators and librarians. To begin with, based on the results of the current study, the library administration should

not allow library staff to use social media sites frequently because it reduces their performance; instead, there should be an alternative method of using social media sites, such as specifying some time to use social media sites and making alternative staff arrangements during that time. Library management should devise strategic plans to deal with this issue as it is negatively influencing the librarian's performance. *Second*, the library administration should arrange effective self-control training for their staff, since this study found that effective self-control can reduce the negative influence of SMA on librarians' performance. *Third*, the current study indicates that task distraction causes low librarian performance and hence library management should give their staff an environment free of distractions, such as reduced or no stress, so that they may perform their responsibilities more effectively and with less distraction, thereby improving their performance. *Fourth*, this model can also be used by librarians to improve their self-performance at work by reducing their use of social media. They can also enlist the task distractions and seek management advice to eliminate them based on the findings of this study. Librarians can improve their self-controlling abilities by attending various seminars, workshops and on-the-job training sessions. This will help to mitigate the harmful effects of SMA and task distraction.

10. Limitations and future research

This study has some limitations, and these limitations can be utilized to guide research in the future. To begin with, the research relied on a self-reported questionnaire, which can lead to respondent bias. This challenge can be addressed by designing experimental research and gathering data at various points. The study's second limitation was that it only employed one independent/dependent, moderating and mediating variable. Adding more relevant independent/dependent, moderating and mediating variables can strengthen the study's theoretical foundations, and hence the research would be more generalizable. This research was cross-sectional, and data were collected one time only. In the future, a longitudinal research design can be developed for better investigations in the same area. *Finally*, this model can also be tested in other cultures with various other instruments.

11. Conclusion

This quantitative study developed and tested a model based on evaluating the impact of SMA on librarians' performance. Furthermore, the study also evaluated the moderating role of effective self-control and mediating role of task distraction. Data supported all the hypotheses, and it was revealed that SMA negatively influences the librarians' performance. Furthermore, this relationship is moderated by effective self-control and mediated by task distraction. The study has several implications for library management besides its contributions to existing knowledge. It is recommended based on the results of the study that the use of social media for librarians may be regulated. Furthermore, the study highlights that training on self-control can reduce the negative impacts of SMA on librarians. The study has some limitations which can be used to find directions for future studies.

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Further reading

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Is libraries' use of social media ethical? A phenomenographic investigation of Twitter (X) use at the Bodleian Libraries

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Abstract

Purpose – Social media (SM) has been heavily criticised in recent years for its damaging effects on societies globally. Tasked with empowering those same societies, libraries' continued use of SM is considered ethically contentious. This study presents the findings of a University of Sheffield study that investigated the ethical tension between libraries and their use of SM by aiming to establish whether: (1) libraries' use of SM is ethically motivated; (2) ethically informed; (3) and compatible with codes of ethics in the Library and Information Science (LIS) sector.

Design/methodology/approach – A phenomenographic approach was employed to gather and analyse the data for this study, which is drawn from the transcripts of seven online interviews with Bodleian Libraries staff who used Twitter, now X, in a professional capacity.

Findings – Three categories of description were identified among participants: (1) Collectivist conception; (2) Settled conception; (3) Questioning conception. The categories are bound by a shared context of conceptualisation made up of a small set of internal and external influences discussed in the interviews which affected all participants to varying degrees.

Originality/value – The findings were used to support the following determinations: (1) Libraries' use of SM is ethically motivated. (2) Libraries' use of SM is ethically informed, in part. Due to lack of evidence, no determination was made about whether libraries' use of SM is compatible with codes of ethics in the LIS sector. Recommendations for LIS professions and professional bodies are offered based on these determinations.

Keywords Libraries, Librarianship, Ethics, Social media, Twitter, X, Phenomenography

Paper type Research paper

Introduction: the case against social media

In recent years, social media (SM) companies have come under scrutiny for their role in the propagation of misleading and harmful content on their platforms (Deibert, 2019); numerous allegations have been levelled at this novel communications ecosystem for facilitating online activity detrimental to the wellbeing of societies globally. In 2021, the President of the United States suggested that SM misinformation was “killing people” and criticised companies' inability to effectively suppress the spread of COVID-19 falsehoods (BBC News, 2021). Separately, a growing body of evidence indicates that platforms such as Twitter, now X[1], have been leveraged in the perpetration of human rights abuses, specifically against women and minorities (Amnesty International, 2018; Criss *et al.*, 2021).

Experts trace the problem to a flawed, for-profit business model – developed by Google but adopted by other SM companies – that seeks to monetise the attention and personal information of users, while attacking, ignoring or circumventing pertinent rights and laws in



place to protect those same users (Zuboff, 2019). In response, academics, journalists, whistle-blowers and even royalty have sounded the alarm over SM's perceived pathologies (Marsh, 2021; Seymour, 2019; Vaidhyanathan, 2018; Wylie, 2019), while governments, NGOs and international institutions have taken steps to combat the multifaceted threat posed to democratic principles of truth, trust, accountability, representation and freedom online (The Economist, 2020; UNESCO, 2021; International Grand Committee on Disinformation, 2022).

Problem statement

Amid a chorus of disapproval, the question may be asked whether libraries' continued presence on these platforms is ethically justified, premised on the notion that a fundamental tension exists between the central tenets of library work on the one hand and libraries' use of SM on the other. By way of illustration, Table 1 juxtaposes libraries' key missions as summarised by Ovenden (2020a), Bodley's Librarian, with some of the challenges perpetuated by SM:

Libraries	Social media
<ol style="list-style-type: none">1. Support the education of society as a whole and of specific communities within it2. Provide a diversity of knowledge and ideas3. Support the well-being of citizens and the principles of the open society through the preservation of key rights and through encouraging integrity in decision-making4. Provide a fixed reference point, allowing truth and falsehood to be judged through transparency, verification, citation and reproducibility5. Root societies in their cultural and historical identities through preserving the written record of those societies and cultures (adapted from Ovenden, 2020a, p. 225)	<ol style="list-style-type: none">1. Enable the spread of misinformation and disinformation, which undermines the education of society2. Hyper-personalise services, reinforcing biases and stoking divisiveness (Sunstein, 2018)3. Implement addictive features causing excessive use, negatively affecting the memory, mood, sociability and attention of citizens (Sheldon, 2019)4. Treat information as an ephemeral commodity. Continually refreshed feeds and disappearing content make it difficult to verify and reproduce information (Ovenden, 2020b). The decision taken by companies not to disclose their practices makes their operation opaque5. Unilaterally preserve, promote or suppress the information they gather, justifying this with continually revised terms of service. This jeopardises the cultural and historical identities of societies (The Economist, 2020)

Source(s): Table by authors

Table 1.
The missions of
libraries and the
challenges of social
media compared

These contrasts suggest an ideological misalignment between libraries and SM, yet strikingly SM remains a popular way for libraries to disseminate information, market services and otherwise engage with their communities (Deodato, 2018).

SM and libraries' relationship with SM are problematised from this perspective as a means to justify the line of enquiry as outlined in the Aim. The authors recognise that this approach precludes a more complex assessment of the library-SM relationship through the omission of a fuller, more balanced accounting of SM's utility and it is acknowledged that the characterisations thus provided may be reasonably contested. Twitter's own publicity materials, for example, describe it instead as "committed to the open exchange of information" [2] with a stated purpose "to serve the public conversation" [3]. It is for this reason that while the study draws attention to some of the many serious allegations levelled

Aim

This article presents the findings of a University of Sheffield master's study which aimed to establish whether libraries' use of SM is ethically motivated, ethically informed, and compatible with codes of ethics in the Library and Information Science (LIS) sector.

To achieve this, the study examined staff use of Twitter in a professional capacity at the Bodleian Libraries – the UK's largest academic library system. This was considered an appropriate case study for multiple reasons. Firstly, Twitter continues to be one of the more popular SM tools used by libraries of different stripes globally ([Library Journal, 2021](#); [Rachman, 2023](#)), including the Bodleian Libraries, while the Bodleian Libraries specifically – as one of six legal deposit libraries for the UK and Ireland – occupies an important position both in the UK's national- as well as academic-library landscape.

Further, as a premium member of CILIP's employer partner programme [\[4\]](#), the Bodleian Libraries maintain a formal relationship with the UK's main library and information association. Through this relationship, it is reasonable to expect that its workforce would be to some degree familiar with relevant, commonly used frameworks concerning the ethical use of SM in a professional capacity, namely CILIP's Ethical Framework [\[5\]](#) and the Professional Knowledge and Skills Base [\[6\]](#).

The literature review focuses on the centrality of ethics to libraries and librarianship; libraries' recent use of SM; and SM's reception in LIS literature. This contextualises discussion of the study's element of originality that is the analysis of transcripts gathered from semi-structured online interviews with Bodleian Libraries staff. A phenomenographic approach was applied to the transcripts to identify varying, collectively held conceptions of Twitter use, which are presented for discussion in an outcome space.

Twitter is a rapidly evolving area of research and it should be noted that the study's data was gathered from interviews that occurred between June and July, 2022. Consequently, the changed context in which these interviews took place – particularly in relation to Twitter's present-day brand, service and public reception – should be considered. Despite this qualification, this study retains its element of originality and value, with central themes, contentions and conclusions largely unaffected by more recent developments at the time of writing. The data gathered continues to provide a unique snapshot of conceptions of Twitter use held by an important demographic – one employed by an organisation that maintains a significant presence on the platform in 2024.

Literature review

A library

The definition of a library has evolved in step with its function. In the ancient world, the term was used interchangeably with “archive” to denote a repository of textual information ([Haider et al., 2023](#)). However, recent trends such as the democratisation of information and the introduction of new information formats have complicated current understanding, with the *Oxford English Dictionary* today defining a library more loosely as a building and/or a collection of resources ([OED Online, 2023](#)). Abstract notions of the library as an institution, a symbolic cultural cornerstone, or simply a “third space” have also surfaced ([Rubin and Rubin, 2020](#)). Hampered by a shifting socio-political and informational landscape, [Baker and Evans \(2011\)](#) concede that an agreed definition for libraries as a physical space has remained elusive.

A library service

In his pioneering work, [Glusko \(2013\)](#) frames libraries as organising systems. Adopting a holistic approach, he asserts that libraries are engaged in four key activities – selecting, organising, storing and supporting resource-based interactions. Such systems cannot exist in a vacuum, however, and [Manoff \(2019, p. 1\)](#) reminds us that libraries and their activity-based services still “operate within a complex web of social, political, and economic forces.” [Lankes \(2016\)](#) goes further, contending that for a library to exist at all its community must first mandate and support it, suggesting that the inception and survival of the service is entirely dependent on conducive external circumstances.

The support shown to the library is paid back in the benefits it provides ([Tirziman, 2018](#)). From this, a symbiotic arrangement is discernible, premised on reciprocity and the understanding that the service, at its core, should seek to meet the needs of its community. This view harmonises with the definition of librarianship proffered by Shera and reaffirmed by Cossette:

Librarianship is the art and science of acquisition, preservation, organization and retrieval of written and audio-visual records with the aim of assuring the maximum of information access for the human community. (Shera in [Cossette, 2009](#), p. 33)

A library ethos

The distinct needs of disparate communities have led to the proliferation of different types of libraries with divergent remits and identities ([Bobinski, 2007](#)). However, a utilitarian, user-centric underpinning unites them in their work, with the foundations of this philosophy famously codified by [Ranganathan \(1931\)](#) in his five laws:

- (1) Books are for use.
- (2) Every reader his/her book.
- (3) Every book his/her reader.
- (4) Save the time of the reader.
- (5) The library is a growing organism.

Though dated and not without their critics ([Danton, 1934](#)), the laws have had an enduring impact ([Finks, 1992](#)). Even today, they are continually reconsidered and adapted by theorists and practitioners around the world ([Kaushik, 2021](#); [McMenemy, 2007a](#)), cementing Ranganathan's place as “the father of library science” (Jeevan in [Gray, 2013](#)).

An important moment in the laws' history came in 1995 when they were reworked by eminent librarian, Michael [Gorman \(1995, pp. 784–785\)](#). Though Gorman offered his revisions “in all humility”, his “new laws” appear to represent a substantial departure from Ranganathan's. None of them correspond singularly to one of Ranganathan's, for example. Notable too is the relegation of books, readers, and the relationship between them in favour a more expansive set of values:

- (1) Libraries serve humanity.
- (2) Respect all forms by which knowledge is communicated.
- (3) Use technology intelligently to enhance service.
- (4) Protect free access to knowledge.
- (5) Honor the past and create the future.

Nevertheless, Gorman makes clear his new laws are fundamentally a repackaging of the same semantic “truths” that underpin the originals, the difference being that they were “written in the context of the library of today [1995] and its likely futures” (p. 784).

Ranganathan’s “truths” would remain central to Gorman’s thinking over the next two decades – a period of profound change that altered the western world and its libraries. These developments are recounted in the opening chapters of his 2015 book, *Our Enduring Values Revisited Librarianship in an Ever-Changing World* (Gorman, 2015), where they serve as the primary justification for re-examining the new laws – since reframed as “values” (Gorman, 2000), and expanded to a list of eight:

- (1) Stewardship
- (2) Service
- (3) Intellectual freedom
- (4) Rationalism
- (5) Literacy and learning
- (6) Equity of access to recorded knowledge and information
- (7) Privacy
- (8) Democracy

Gorman (2015, pp. 35–37).

Gorman’s decision to revisit his own ideas on libraries’ collective values is helpful in charting the evolution of his thought, and though his values and their respective rationales have grown more complex over time, an elevated respect for Ranganathan’s laws has remained. In *Our Enduring Values*, Gorman arrives at his list by synthesising the arguments of four of the past century’s foremost theorists – Ranganathan, Rothstein, Shera and Finks – with Ranganathan positioned as “the greatest figure of librarianship in the twentieth century” (Gorman, 2015, p. 26). His values presented and Ranganathan’s influence thus positioned, Gorman reasons:

I am sure that the list of values that I offer is different from those that others might advance, but it is difficult to believe that these values (possibly with different wording) would not show up on any composite list. Gorman, (2015, p. 35)

Consequently, he asserts two things here. Firstly, that his values might plausibly be assumed to possess a degree of universality for libraries globally, and secondly that Ranganathan’s thinking as codified in his five laws forms an integral part of those universal values.

A library profession

Although the essence of the five laws, particularly allusions to equity of access, can be traced back further to the introduction of public library services in Victorian Britain and even to the practices of medieval chained libraries (McMenemy, 2009; Summit, 2008), it is Ranganathan who is also credited with providing the conceptual basis from which librarianship has since been established as a profession (Haider, 2022). Proponents such as Rimland (2007, p. 24) refer to the laws as “timeless objectives” for librarians, while McMenemy equates them to an ethical backbone for librarianship:

A simple translation of them for the modern era would be that we must encourage all potential users to access information; that regardless of creed or colour there is something a library has that will be of value to a customer; that we ensure that the way we organise and store the material is for the

benefit of the user and not our own; and that we continue to add to the collections we make available to people. At the heart of Ranganathan's laws are the universal notions of equity of access to, and availability of, information for all. [McMenemy \(2007b, p. 16\)](#)

By likening the laws to a shared ethical framework, McMenemy's characterisation helps raise librarianship to the status of a profession; the existence of such a framework is commonly cited as a requirement for a profession to be duly regarded as such ([Seminelli, 2016](#)), and numerous library associations have consolidated their position by publishing codes of ethics. In 1939, the American Library Association adopted a code ([ALA, 1939](#)), and by the turn of the century [Koehler and Pemberton \(2000\)](#) were able to survey over 30 such codes published by associations around the globe, evidencing the enduring centrality of ethics in librarianship. Today, the International Federation of Library Associations and Institutions (IFLA) notes in its 2012 Code of Ethics that:

Librarians all over the world are well aware of their profession's ethical implications. In more than 60 countries library associations have developed and approved a national code of ethics for librarians. [IFLA \(2012\)](#)

Social media

[Gil de Zúñiga and Coddington \(2013\)](#) characterise the field of SM research as relatively new and in a state of flux. Today, there is still limited agreement among academics about what SM is, where it has come from and how it should be studied. While some theorists link its genesis to the arrival of Web 2.0 capabilities ([Kaplan and Haenlein, 2010](#)), [Healey \(2020\)](#) traces its origins to the English coffee houses of the 18th century. [Radin and Maxwell \(2018\)](#) go as far back as 550 BCE, equating the introduction of the first postal service to a form of SM. [Hartley \(2018, p. 13\)](#) identifies the issue at hand by explaining that:

"Social media" is a tautology. All media are social. All sociality is mediated. Pragmatically, the current arrangements known as "social media", which distinguish online media from other types of media entertainment and social networks from physical ones, are not geared to the long-term view.

In essence, Hartley reasons that use of the term "social media" today represents a convenient shorthand, referring collectively to companies and platforms that facilitate digital social interactivity. The [Oxford Dictionary of Social Media \(2016\)](#) makes a further distinction by referring separately to SM as the tool used (platforms) and/or the content shared (posts). Taking the two definitions together, SM can be studied as a communications ecosystem ([Deibert, 2021](#)). Commonalities between platforms include the curation of conversation through the implementation of platform-specific features, such as Twitter's 280-character limit, and the extraction and monetisation of users' data and attention – a process underpinning the development of what [Zuboff \(2019\)](#) coins "surveillance capitalism".

Social media, libraries and ethics

Since their arrival at the beginning of the 21st century, SM platforms have proven immensely popular, with a recent survey by Statista predicting over five billion active SM users in 2024 ([Dixon, 2023](#)). Awake to this high level of uptake, libraries have leveraged these services to interact with their users ([Swanson, 2012](#); [Mon, 2015](#)). Twitter's microblogging capabilities in particular have helped libraries to share information with their patrons in a timely way ([Shulman et al., 2015](#)). However, though libraries have become increasingly adept at discerning the benefits and functional limitations of SM by virtue of their continued engagement with different platforms ([Verishagen, 2019](#)), less attention seems to have been paid to the ethical implications of employing tools that prioritise profits over people.

Instead, a survey of the literature would suggest that LIS theorists and practitioners may have leap-frogged the question of *whether* libraries should use SM to ask instead *how* libraries should use SM. [Humphreys \(2019, pp. 3–4\)](#) classifies research on libraries' SM use as follows:

- (1) Advice for libraries using SM (“how to”)
- (2) Measuring the success of SM (“appraisal”)
- (3) Case studies using SM (“what happens”)
- (4) Dialogues about SM and some limited criticism (“why bother?”)

The “how to” category, writes Humphreys, represents “the largest genre of the literature”, while the “why bother?” category – which encapsulates all pro/con assessments of SM use – is only “a small genre”. Humphreys identifies just one study, by [Wasike \(2013\)](#), that concerns itself with the ethical implications of libraries' SM use. This is not to say that those writing on libraries have been asleep to the ethical conundrums posed by the introduction of digital technologies more generally. Individuals such as [McMenemy \(2016\)](#) and [Zimmer \(2013\)](#), both writing at a similar time to Wasike, have cautioned against their unconditional adoption in libraries by highlighting their potential to compromise patron privacy.

Consideration of the ethical implications of SM use has also been paid in certain schools of applied ethics. Relevant here are business ethics studies urging caution for organisations using SM in communications and marketing. [White and Boatwright \(2020\)](#), for example, argue that all organisations have a social responsibility to the communities in which they operate, and should they choose to align themselves with SM companies by embracing their platforms and terms of service, they implicate themselves with the potential fallout.

Griffin echoed these concerns in a 2021 interview: “When utilizing social media, non-profits need to recognize that even if they aren’t the ones collecting user data, the platform is, and that should impact the way they make business decisions” (Griffin in [Venzin, 2021, p. 1](#)). These reservations highlight the precarious position libraries put themselves in when they generate content for, and attract an audience to, SM platforms, specifically that they may be putting themselves at odds with their own user-centric philosophy.

Methodology

Phenomenography

This inductive, single-method study employs a phenomenographic approach. Phenomenography is a research approach with epistemological roots in phenomenology – a philosophy typified by Husserl that centres human experience as the medium through which life’s meaning and value is derived ([Husserl, 2001](#)). By extension, phenomenography also prioritises human experience, taking as its focus the finite conceptions of reality as collectively experienced by humanity and constituted during interactions with the world ([Marton and Booth, 1997](#); [Svensson, 1997](#)). As a research approach, it is used to expose and interrelate these conceptions to reveal the different ways particular phenomena can be understood at a point in time.

Marton is credited with creating the approach after investigating the learning experiences of student cohorts with a team at the University of Gothenburg ([Marton and Säljö, 1976](#)). While interviewing the students about something they had learned, the researchers “repeatedly found that each phenomenon, concept or principle can be understood in a limited number of qualitatively different ways” ([Marton, 1988, p. 143](#)). This discovery sparked

Marton's phenomenographic enterprise, which by the turn of the century had matured into a recognisable rubric used predominantly within educational settings (Kandlbinder, 2014).

The applicability of phenomenography to this study. LIS practitioners were quick to identify phenomenography's usefulness in reifying conceptions of abstract topics in specialised contexts, having applied it since the late 1990s to examine understandings of Information Literacy (IL). Bruce's seminal paper (Bruce, 1999), for example, was noteworthy for breaking new ground in challenging established behaviourist and constructivist paradigms.

More recently, Mulatiningsih and Zuntriana (2018) have taken SM use in a LIS context as the focus of phenomenographic enquiry, while Phillips, Oyewole and Akinbo (2018) have considered librarians' conceptions of ethics through a phenomenographic lens. These precedents point to the viability of adopting the approach for a similar LIS-based study, such as this one.

On a more fundamental level, a phenomenographic approach is deemed suitable as it provides an appropriate framework for answering the title question – "is libraries' use of SM ethical?" The complexities and subjectivities inherent in the question demand an approach that affords in-depth qualitative analysis of rich, relevant data drawn from individuals with experience of SM use in libraries. Semi-structured interviews – which deviate from rigid exchanges to explore responses more fully with probing follow-up questions – are the preferred method for collecting such data in phenomenography, with phenomenographers routinely relying on this type of interview to evidence the varying conceptions of the phenomena they seek to understand (Åkerlind, 2005). Unlike other research approaches that lend themselves to semi-structured interviews, the emphasis on identifying *varying* conceptions also encourages researchers to interview as diverse a sample of participants as possible (Bowden and Green, 2005). This allows for a more complex picture of the subject of investigation to emerge during analysis.

Operationalising phenomenography. In phenomenographic studies, interview transcripts are analysed thematically with the aim of identifying collectively held conceptions of a phenomenon. The focus of phenomenography, therefore, is neither the participants interviewed nor the phenomenon itself, but participants' conceptions of the phenomenon. Bowden and Green (2005, p. 13) provide a visualisation of this focus, and this study populates the components of their model as shown in Figure 1 to reveal four methodological implications.

Criticism of phenomenography. Phenomenography has been extensively critiqued since its inception (Tight, 2016). A full treatment of the issues raised lies outside of the scope of this study, but relevant (and contested) criticisms are synthesised here for their value in informing the data collection and analysis phases of the study, at which point they were considered alongside the implications of using phenomenography noted above. Collectively, the criticisms concern phenomenography's implementation – specifically that researchers routinely occupy an extractive position during data analysis by reducing participants to the data they share (Cousins, 2010) – the contention being that phenomenographers' preoccupation with finding conceptual variation at the collective level necessarily relegates participants from the position of co-creator and co-discoverer of knowledge. Participants' individuality is not always adequately considered throughout the research process (O'Farrill, 2010), and the researcher is given license to play with the data participants provide, accountable only in the sense that their research findings are judged to be persuasive (communicative validity) and impactful (pragmatic validity) (Hajar, 2021).

Together these arguments challenge established defences legitimising both the validity of phenomenographic research *and* the reliability of its findings. This is because the two aspects are unusually intertwined in phenomenography. Whereas validity usually relates to how well a study is conducted and reliability to how replicable the results are, phenomenography's logic causes this distinction to collapse. Its central premise that people conceive of phenomena

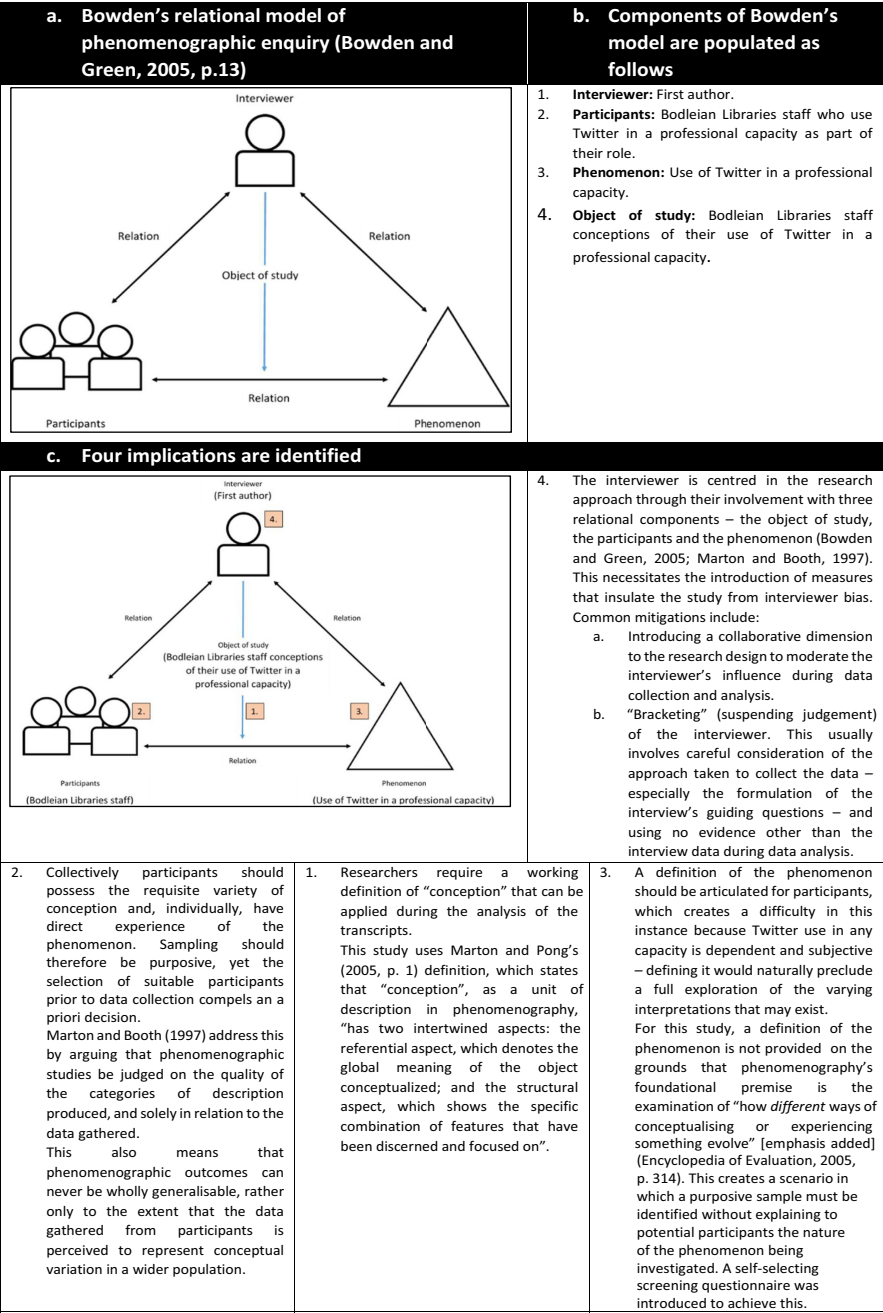


Figure 1.
Bowden's relational
model of
phenomenographic
enquiry, populated,
and with implications
identified

Source(s): Figure adapted and expanded from Bowden & Green (2005)

differently and that an individual can conceive of the same phenomena differently at different times makes it impossible to replicate the conditions of any phenomenographic study. As a result, phenomenographic reliability “is not concerned with the replicability of results, but with the employment of thorough and appropriate methodological procedures to achieve faithful interpretations of participants’ experiences of a given phenomenon” (Hajar, 2021, p. 1433).

Here, a vulnerability emerges whereby validity and reliability are treated similarly, and assured only by methodological rigour. If such rigour is lacking, the research approach is undermined. Therefore, it is imperative that the “immunity” of the researcher, as described by Cibangu and Hepworth (2016), be fully acknowledged and accounted for. Alongside the use of traditional interview-bracketing techniques and the implementation of collaborative research design elements, the researcher(s) should demonstrate “interpretive awareness” by meeting the following requirements – criteria which are sustained throughout this study:

- (1) The researcher’s own background and understanding of the phenomenon under investigation should be identified;
- (2) The characteristics of the research participants and the design of the interview questions should be clearly stated and justified;
- (3) The stages organized for collecting data should be transparent;
- (4) The data analysis methods should be conducted with an open mind, not by imposing an existing structure;
- (5) The procedures for arriving at categories of description should be completely explained and illustrated with quotes; and
- (6) The results should be presented in a manner that allows for scrutiny.

(Cope in Hajar, 2021, p. 1433).

Data collection

Ethical issues. This research was deemed low-risk, with no vulnerable participants nor sensitive topics of investigation identified. Ethical approval for the study, justified as a task in the public interest, was granted by the University of Sheffield, and informed consent was obtained from all participants. Data was processed using agreed services, namely Google Forms and Microsoft Teams. No concerns or requests for deletion of data were raised.

Questionnaire. An initial screening question – “do you use Twitter as part of your role(s) with the Bodleian Libraries?” – elicited 21 responses, of which thirteen answered “yes” and subsequently consented to an interview.

To keep the sample size manageable with respect to time and other methodological constraints typical of a master’s study, semi-structured interviews were conducted with only seven of the thirteen eligible questionnaire respondents. It is usual for between ten and 30 eligible participants to be selected for interview during phenomenographic studies (Stenfors-Hayes *et al.*, 2013), though valid studies can and have been conducted with fewer participants (Travers, 2019, pp. 271–272; Wheeler and McKinney, 2015). As Mears (2012, p. 173) notes, in qualitative research there are “no iron-clad rules of what constitutes sufficient data”, with the requirement only that the researcher(s) collect enough data to represent the experience being investigated (p. 171).

As diverse a sample as possible was selected on the basis of the answers given in the questionnaire, which elicited responses on job title, workplace, frequency of Twitter use in

a professional capacity, and the number of Twitter profiles used in a professional capacity.

No two individuals invited to interview occupied the same role, nor worked in the same team or location as one another. The demographics of the interview sample are shown below. For anonymisation, participant names have been substituted with an identifier (P1 etc.). Job title and workplace are substituted for a simple definition of seniority based on job description and pay increment (Junior, Middle and Senior):

- (1) P1 – Middle - Multiple times/week - 1 profile
- (2) P2 – Senior – Daily – 2 profiles
- (3) P3 – Senior – Multiple times/week – 1 profile
- (4) P4 – Senior – Monthly – 1 profile
- (5) P5 – Junior – Multiple times/week – 2 profiles
- (6) P6 – Senior – Weekly – 1 profile
- (7) P7 – Senior – Daily – 1 profile

Interviews. Each interview lasted an average of 22 minutes, with a total of two hours 37 minutes of recorded exchanges transcribed for analysis. The opening question, guiding questions and research themes for the interviews were as follows. At no point did the lead author raise unprompted the topic of ethics during the interviews, nor in the initial screening questionnaire.

Opening question.

- (1) Before the interview, you said that you use Twitter [regularity] as part of your role as [role]. Could you expand on this use please?

Guiding questions.

- (1) Why do you use Twitter?
- (2) Does anything influence your use of Twitter?
- (3) Is anything explicitly or implicitly expected of you when you use Twitter?
- (4) Do you refer to any professional guidelines, principles, frameworks or codes in your use of Twitter?
- (5) Have you reflected on your use of Twitter in a professional capacity before?

Themes of relevance. The central theme is the varying ways Bodleian Libraries staff conceptualise their use of Twitter in a professional capacity. Sub-themes are:

- (1) What is motivating use of Twitter?
- (2) What is informing use of Twitter?
- (3) Does the described use of Twitter accord with codes of ethics in the LIS sector?

Data analysis. To analyse the data, the first author moved through a series of analytical phases outlined in [Figure 2](#), synthesised from [Marton \(1988\)](#), [Marton and Säljö \(1997\)](#), and [Akerlind \(2005\)](#).

Phases were not completed sequentially nor once only necessarily, yet the intention was to move through them to reach a satisfactory position of clarity and completeness. Throughout the process, transcripts were considered collectively with their content considered

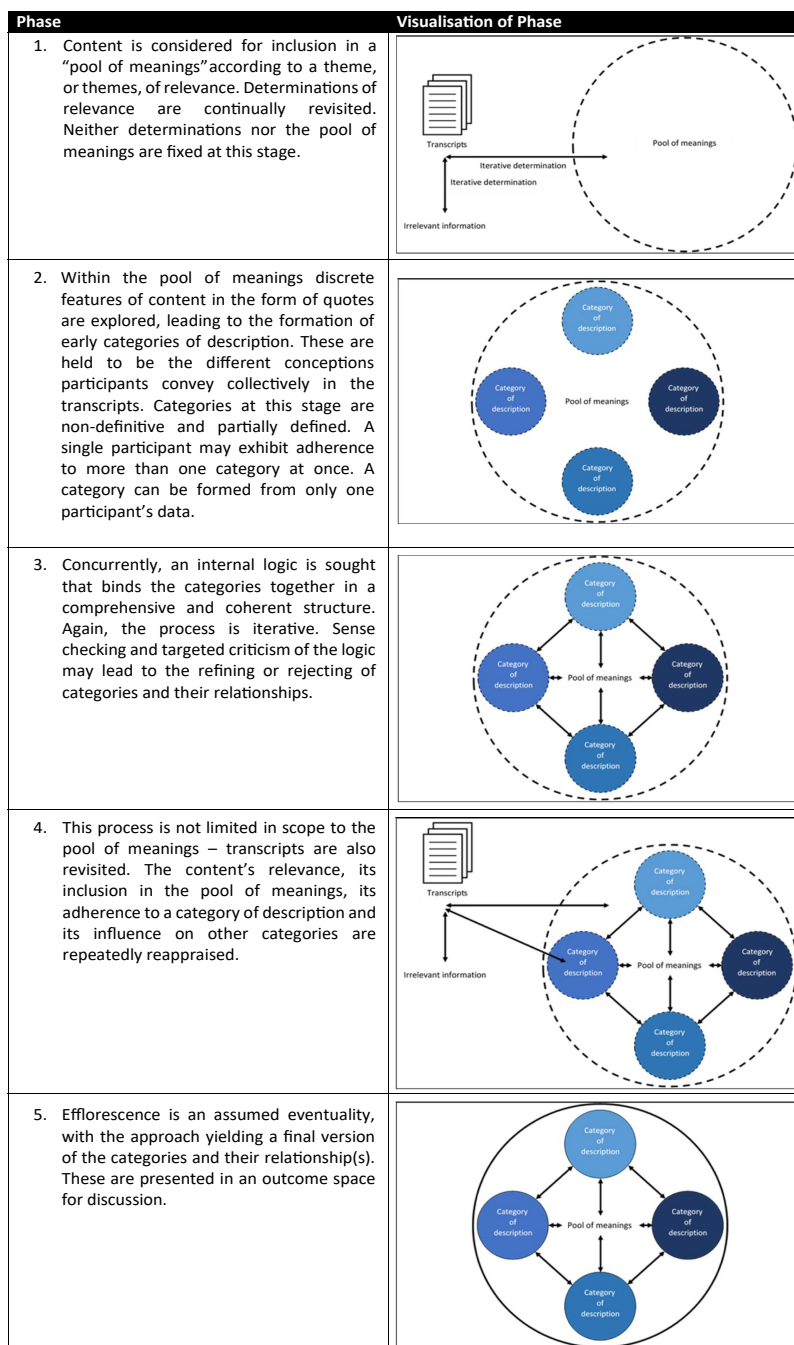


Figure 2.
Phases of
phenomenographic
analysis

contextually. One transcript was not analysed in isolation to validate a final category, nor was a quote removed from the semantic context in which it was originally conveyed. That is, the wider meaning attached to a quote – as inferred from other passages of the transcript – was prioritised and preserved as the process developed.

In the first instance, interview transcripts were cleaned, and read collectively and repeatedly so that a familiarity with the data could be established and themes across transcripts discerned. During this process the transcripts were coded according to Bryman's four step process:

- (1) Familiarize yourself with your data.
- (2) Re-read your data and write memos.
- (3) Review your codes.
- (4) Consider more general theoretical ideas in relation to codes and data.

Clarke *et al.* (2021, pp. 534–5).

A finalised list of codes cohered around a set of questions that was used to iteratively interrogate the data:

- (1) How is Twitter being used? [Code family “Use”]
- (2) What rigid, explicit rules are governing use? (Are there any hard controls on use?) [Code family “Framework”]
- (3) What acknowledged parameters are guiding use? (Are there any soft controls on use?) [Code family “Conditions of use”]
- (4) What unacknowledged influences could be guiding use? (Are there any subconscious controls on use?) [Code family “Influence”]
- (5) What evidence is there of individual critical thinking? [Code family “Reflection”]

In conjunction with this set of codes, visualisations of transcript data produced using linguistic analysis software, Voyant Tools [7], helped to identify syntactic and semantic patterns that underpinned the formulation of the pool of meanings and latterly the categories of description. A final set of categories is provided below.

Findings

Categories of description

Three categories were identified. Each category consists of a referent (the category's global meaning); a structure (specific identifiers used to demonstrate adherence to the category); and evidence in the form of quotes or lengthier interview exchanges. All included evidence has been parsed to exclude or redact personally identifiable information. Generic information given in square brackets indicates a redaction (a personal address would be redacted to “[address]”, for example). Specific or sensitive topics not relevant to the focus of enquiry have also been redacted. Participant pronouns have been changed to they/theirs. Significant gaps between quotes or exchanges in the same interview are indicated with a line break. Disfluency and filler words have been edited down for clarity and brevity.

The evidence selected for the categories is not exhaustive and has been included for its ability to support a category's integrity in the simplest and clearest terms. This is not to suggest that the participants who supplied the evidence strictly and exclusively adhered to a particular conception. Nor is it to suggest that the evidence used for a particular category is evidence of adherence to that category only. There are numerous instances across the

transcripts where individuals demonstrated adherence to more than one category of description and more than one category of description at once. While such occurrences may appear incongruous, they serve to reflect the complexities of ideation and, more practically, the inconsistencies that naturally arise within interviews.

Approximately 6,000 words of additional transcript evidence was drawn upon to substantiate the categories as presented. For brevity, this additional evidence has not been transposed in its entirety here, but further extracts from one interview supporting one category are appendicised for illustrative purposes (App. 1).

Category one: collectivist conception. Referent. Local, organisational and/or institutional agendas are foregrounded with Twitter use conceptualised with respect to collective considerations. “Local” is defined as the individual’s immediate team, while “organisation” refers to the Bodleian Libraries. The University of Oxford is the “institution”.

The extent to which individuality is acknowledged and expressed can vary, but it nonetheless remains subordinate to collective priorities. Twitter use may be more imposed than inspired in this sense, and individual responsibility and sense of ownership may diminish as a result.

It is important to note that this conception transcends the type of Twitter account being referred to with personal, as opposed to shared, account holders also indicating adherence to this conception, albeit less often and more obliquely through self-imposed behaviours.

Structure. Structural aspects of this conception include:

- (1) Use of first-person plural pronouns and possessives, such as “we”, “our” and “us”.
- (2) Twitter use situated in relation to local, organisational or institutional frameworks and/or framed as the meeting of local, organisational or institutional requirements or expectations.
- (3) Assertion that Twitter use should be understood and/or appraised collectively.

Evidence: P1 (uses a shared account). When asked about their use of Twitter as described in their questionnaire response, P1 links this to a local communications plan that needs to be followed, with their use also dependent on the staffing arrangements at their library:

P1:

We have a communications plan. So we do have a sort of structure as to who does what in the library in terms of sort of getting information across to readers. So my. It’s sort of changed who does what recently in terms of over the pandemic and in terms of we did have two [team members] and now we have one. So gradually I’ve sort of taken on more of a sort of social media.

The interviewee was later asked to clarify their use of “we” to determine whether they were using it in the “royal” sense or if they were referring to themselves as part of a group:

Interviewer:

And when you say “we” was this your idea, was it another person’s idea?

P1:

So the original communications plan was. There was a bit of a working group within the library. This was a few years ago. They just wanted to make sure there was a clear path so everybody knew what they were meant to be doing and so information didn’t get missed. So that was sort of set up as part of it and then everyone sort of has their roles . . . I think it was just a combined sort of decision that we wanted to keep things fresh in the library and really promote what we were doing, but also try and help readers.

P1 also sought to prioritise guidance from the organisation in their use of Twitter.

Interviewer:

Are there any other guidelines or principles or codes or anything that are guiding your use that are perhaps outside of the local library?

P1:

I guess I'll try and follow the Bodleian Libraries communication plan and you know, the guidance they've given in terms of what you should and shouldn't be doing. So, you know, trying to be friendly but still being professional . . . So yeah, so definitely the Bod Libraries communication plan, sort of is in the back of my mind.

P1:

You know we've had the odd, can't think what the sort of topic was, but we've had the odd thing that sort of had comments and I guess it's not being drawn into that, into replying, and checking with Bod Comms, you know, what's the correct route to take out of it.

Towards the end of the interview, the individual was asked whether they had reflected on their use of Twitter in a professional capacity before. They perceived this to be a collective endeavour.

Interviewer:

That brings me onto my last two questions. So my penultimate one is whether you have reflected at all on your use of Twitter in a professional capacity?

P1:

A little bit. I find sometimes with work there's not a lot of time for reflection. It's sort of like you constantly duh duh duh duh. And sort of, going on, it almost needs a sort of a point, a sort of a group of people at work to say, "oh, let's have a think about how we've used", sort of. And we have done this every so often, but then it's sort of taking things forward. So we'll sort of get together and think about what we've been doing and what we might like to do.

The individual occupies a semi-passive position which sees them deferring at points to the received wisdom of their local library team and the organisation's Communications Department. Their use of the first-person plural is telling in that it hints at the individual's level of perceived agency in this process. While they acquiesce to a collective direction of travel, they see themselves as co-pilot rather than passenger on the journey they describe.

Category two: settled conception. Referent. Twitter is conceptualised as a fixture, a fait accompli. Usage is reflective of this understanding and can be characterised as static, formulaic, repetitive or routine, with emphasis placed on consistency and continuity. Explanations for current arrangements often draw on precedents or historical decisions, which are relayed uncritically: Twitter is used because it was, and will be used because it is.

Structure. Structural aspects of this conception include:

- (1) Certainty of use, indicated through conclusive language, such as "must", "need to" and "have to".
- (2) Evidence of habitual usage: present use of Twitter is contextualised with past use. Future use is encouraged.
- (3) Assumption that Twitter has an inherent utility.
- (4) Twitter is used to inform and/or justify use of Twitter in respect to algorithms and account metrics.

Evidence: P5 (uses shared accounts). At the beginning of their interview, when asked to expand on their usage of Twitter, P5 occupies the Settled conception by underscoring their adherence to a routine.

P5:

I'm involved in running both the [name 1] account and the [name 2] account. The [name 1] account is more sporadic, I chip in as part of multiple members of the team, there's less of a schedule. So I use that as and when it's fit and for me to do so when I have information to share or find something unique, whereas the [name 2] Twitter account is much more scheduled. There's a rotating editorial rota, three weeks. I'm on once every three weeks and I run it for the whole week and I tweet three original tweets and up to two sharing links to either jobs or to blog posts that are shared by other [contributors]. So I use it across two accounts . . .

Later, they stress the importance of continuing to use Twitter to justify a presence on the platform. In this respect future Twitter use is assured, predicated on current use.

P5:

I do think you have to post a certain amount of content in order to keep the account going, in order to keep it valid, in order to make it worthwhile. So I do think there's a certain amount of expectation on yourself just to keep things moving so you don't lose that kind of momentum you build on social media.

They also note their decision to prioritise feedback from Twitter in their continued use of the platform:

P5:

I'm very aware of maintaining a style but also keeping it fresh. So I think there's a certain amount of. You have to play the game with the algorithm you have to give it what it wants, so you have to maintain something that's a consistent style with the account . . . I think it's worth noting that the more you get into analytics, the more you alter what you post based on them, because I didn't engage in analytics too heavily before taking on the [name 2] account and it becomes. You become very aware once you start doing that that there's certain things perform better. Certain things like photographs perform way better across social media. If you include a photo in any tweet and also the threads perform way better and that alters the kind of content that you produce in a very obvious way . . .

Category three: questioning conception. Referent. Twitter is conceptualised as something to be used conditionally, critically and/or experimentally. Agency is expressed through personal reflection on current use and recognised, purposeful changes in behaviour. Hypothetical scenarios and alternatives to Twitter are proposed.

Structure. Structural aspects of this conception include:

- (1) Hesitation and qualified language, such as "I feel" and "I think". Presence of conditional clauses.
- (2) Twitter use occurs in a state of uncertainty or transience.
- (3) Twitter is critiqued.

Evidence: P2 (uses a personal account and a shared account). P2 explains that their reason for using Twitter in a personal professional capacity is the unparalleled network of support it facilitates:

P2:

There is a sort of mutual support structure among all the different [department] librarians and all their different flavours: [name 1], [name 2], [name 3]. They all have different names, but they all kind

of mean the same thing. They will talk to each other on Twitter, so occasionally you'll get somebody, say, "I call out to the Twitter hive mind. Does anybody know the answer to this particular policy thing?" ... And then somebody from [university 1], one of the [university 1] librarians will turn around ... and say "I know the answer to that. I've got an answer. Here's the document you need."

... They don't necessarily tell you when they drop the policy as well. But if they do, they don't tell me. I never find out. It might go upstairs somewhere, they might inform the university as a whole, but it doesn't trickle down very quickly. Whereas on Twitter it would be like someone says, "did you notice that [development]?" and you can kind of hear every single [department] person's head turn as one towards this website and be like "no, I did not. Hang on I'll go over there and have a look." And that's been happening.

... So this is what I use my personal Twitter account for quite a bit. It's quite important to my job.

Later in the interview, the participant reveals that they chose a postgraduate dissertation topic based on the concerns they had around using Twitter on behalf of a library, subsequently choosing to use the shared account they manage only in a way they believe will deliver a return on investment.

P2:

The reason that I did my master's dissertation subject on what I did, was that I was asked to create a social media account for a [sector] library and I then responded with "but what do I talk about for a [sector] library?" Because there are oodles of problems there, shall we say. And so I went around and interviewed different types of libraries, asking them what they were doing with their social media, just to see. And there is a difference. And so when I started in this one, I said to them that I'm going to be using it for this sort of thing because I don't want to waste staff time and energy and output on something that isn't then going to deliver something to the service.

They re-emphasise the importance of this approach at later points in the interview noting the factors informing future decisions on usage, namely the sustainability of maintaining a Twitter presence and the continuing presence of their target audience on the platform. P2 also notes that their usage of Twitter represents only a facet of their experimental approach to marketing and communications.

P2:

... and the thing about that is it's not necessarily the formula for success, which is why you need to reflect on whether you're wasting staff time ... I think one of the core problems with a lot of this social media is sustainability and whether it's worth the staff time to do what they're doing, and that's why we do reflect on it ... And one of the things we have to do quite a lot in the marketing and comms aspect of this type of job is throw things into the ether and hope something sticks ... And also some of the things about reflection on whether the account's worthwhile anymore significantly changes when you're looking at the different ... At the moment it seems to be on the terms of the amount of communication you get from elsewhere from some places, it's a reasonable use of time, so we're still using it.

... Otherwise you are just to tweeting into the void and you are wasting your time and you're wasting staff time. And if you're not getting it, it's just like the endless wheel of a machine where someone walks over, pushes the wheel and they don't actually know what the wheel's doing. So yeah, that's very much. I really want to make sure that when you're, because when you're doing marketing, you have to think of your audience.

Outcome space. An outcome space, framing the categories of description, was created after careful consideration of the raw transcript data and the pool of meanings as it had been thematically coded.

Ancillary SM documentation provided by the Bodleian Libraries and the University of Oxford was reviewed only to gain a fuller understanding of the answers given in the transcripts.

The outcome space (Figure 3) contends that the logical relationship linking the categories of description together is a shared context of conceptualisation, which sees participants draw upon the same set of internal and external influences, albeit to varying degrees.

Internal influences. Originate from the participant, they are:

- (1) Notions of professionalism made up of:
 - Self-censorship: avoidance of political, controversial, offensive, personal or irrelevant content.
 - Ethics: individual sense of right and wrong underpinning behaviour.
 - Perceived responsibilities concerning themselves and others.
- (2) Knowledge of Twitter, SM and technology, including experiences and opinions.
- (3) Knowledge of their community – who they are and how they are best served.

External influences.

- (1) Local, organisational and institutional policies and guidance for SM, usually explicit.
- (2) Workplace expectations and culture, usually implicit.
- (3) Influence of peers and peer organisations. Includes colleagues within the Bodleian Libraries and colleagues at other organisations and institutions.
- (4) Job description.

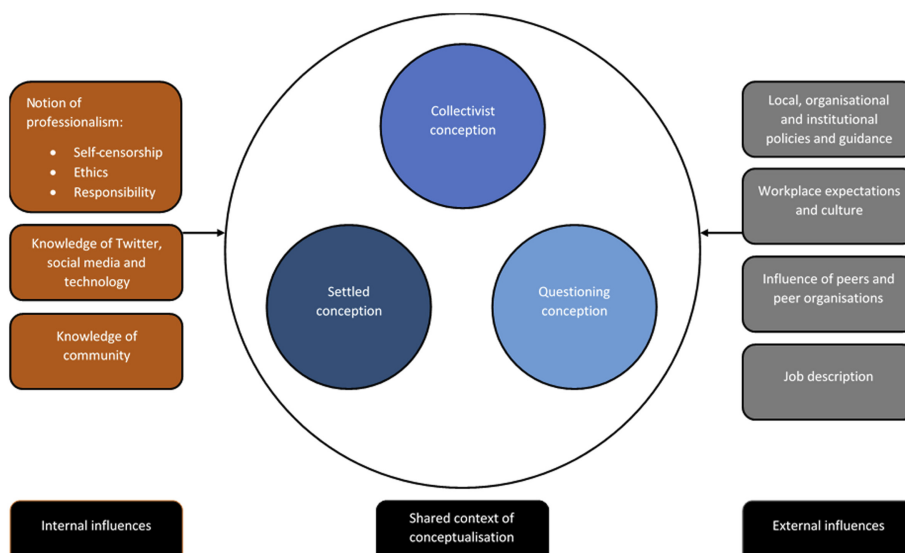


Figure 3.
Visualisation of
outcome space

Discussion

Is libraries' use of social media ethically informed?

Partially, in that Twitter and Twitter use as conveyed in the transcripts is not antithetical to LIS' ethical legacy as established in the literature review, but instead consistent with said legacy in some respects. Taking [Ranganathan \(1931\)](#) as a touchstone, there are echoes of his laws inherent in the decision to proactively engage with communities on SM (save the time of the reader); experiment with and expand usage of new technologies generally (the library is a growing organism); and use Twitter conditionally and inclusively (every reader his/her book. Every book his/her reader), which would suggest a shared but unclear adherence to ethical thinking.

To elaborate, Twitter was repeatedly talked about as a means for exchanging, that is transmitting and or receiving, library related information. If Ranganathan's second law is syntactically reworked to accommodate this characterisation (read "every reader his/her avenue to transmit/receive library related information" instead), it reveals consistencies between the law's precepts and reasoning, and the way the interviewees said they used the platform. For example, Twitter is leveraged to create an additional way for library related information to circulate; for [Ranganathan \(1931, p. 280\)](#), "a good general library might be regarded as a grouping of such [avenues of communication], properly coordinated so as to strengthen and amplify each other without wasteful overlapping." In selecting books for readers, or in this case avenues of communication, Ranganathan explains this can only be done by "knowing the readers and understanding and anticipating their needs" (p. 281). Accordingly, some interviewees' stated rationale for using Twitter was that it was felt to be/or to have been popular among, and/or useful to, their communities. This condition of use foregrounds the importance of "knowing readers" and demonstrates an attempt to understand and/or anticipate their needs when maintaining a curated presence on the platform.

If the same reworking is extended to Ranganathan's third law – that being 'every avenue to transmit/receive library related information his/her reader' – a further consistency is apparent. Seen by interviewees as a means of exchanging library related information, Twitter is made an additional channel of access to the Bodleian Libraries whereby it forms a mode of presentation, outreach, publicity and "extension work" (pp. 299–334). In other words, for interviewees Twitter is/should be used as a tool to improve connections with the library, helping it to further its wider aim of educating that is the third law. Similarly, creating and maintaining a library orientated presence on Twitter may also represent a logical extension of the guiding force behind the fourth law, to save the time of the reader. In explaining this law, Ranganathan advocates for an open library system over a closed one – one where the library's offering is readily available to users for perusal rather than restricted – because he favours the reduction of obstacles to access, which in turn saves the time of stakeholders. Introducing a library presence to an SM platform where its communities are known or thought to reside goes a step further in this regard in that it represents an attempt by library representatives to "go to" their communities and so alleviate communities' requirement to 'go to' the library.

Lastly, Twitter's adoption by library representatives as conceived by interviewees can also be seen as a legitimate form of library "growth". Though an anachronistic interpretation of the fifth law, [Ranganathan \(1931, p. 414\)](#) does provide scope for such a reading in that he ponders:

What further stages of evolution are in store for this growing organism – the library – we can only wait and see. Who knows . . . that a day may not come when the dissemination of knowledge, which is the vital function of libraries, will be realised by libraries even by means other than those of the printed book?

His musing can reasonably be interpreted as an invitation to explore and experiment with new ways of disseminating knowledge, which here would include the thoughtful, conditional use of Twitter as described.

Though participants did not surface these connections to Ranganathan themselves, that their conceptions of Twitter and Twitter use are reconcilable with some of his precepts – key principles on which modern day library ethics are founded – suggests that Twitter use in this instance is to some degree ethically informed rather than coincidentally consistent with established ethical thinking, as would be the alternative claim. P4 in particular provided a number of compelling utterances to support this notion on an individual basis, particularly in relation to the concerns they raise about SM and their desire to pursue ethical publishing models (see App. 1). Importantly though, a more conclusive determination cannot be reached on the basis that there is insufficient evidence in the transcripts to demonstrate explicitly that participants drew upon any particular aspects of LIS’ ethical legacy collectively to inform their conceptions of Twitter and Twitter use.

Based on the outcome space, interviewees seem to depend mainly on more personal, amorphous combinations of internal influences to inform their use of Twitter and there is little in the way of overt ethical steer externally. Instead, local, organisational and institutional guidance for SM use is described as aspirational and procedural, with a focus on mitigating reputational damage. Job descriptions may incorporate SM use with limited justification. The presence of peers and peer organisations on SM lend legitimacy to the platforms and encourage take up by staff through enhancement of the network effect, and a workplace culture conducive to SM use provides a further nudge without an adequate ethical costing of the implications.

Is libraries’ use of social media ethically motivated?

Regarding Twitter use, it is encouraging to find that library staff are ethically motivated in their decision to use SM. They are inspired by the presence of individuals and communities they seek to serve and collaborate with, using Twitter to transmit, gather or exchange information so as to instruct, interest or otherwise support said individuals and communities and carry out their professional responsibilities – points one and two of [Ovenden’s \(2020a, p. 225\)](#) five aims of libraries. This motivation was evident in the formulation of all three categories of description but is perhaps most noticeable in the hypotheticals volunteered by participants occupying the Questioning conception, who repeatedly emphasise their willingness to stop using Twitter should their community move on or no longer be seen to benefit from staff’s presence on the platform. In this respect, participants’ conceptualisations share a degree of passivity or reactivity in that they describe being guided by, rather than guiding, their communities as regards the adoption and use of SM. This is indicative of adherence to the value of “service” as defined by [Gorman \(2015, p. 36\)](#) in that the value’s associated responsibilities for libraries are shaped by interests external to the library:

- (1) ensuring that all our policies and procedures are animated by the ethic of service to individuals, communities, society, and posterity.
- (2) evaluating all our policies and procedures, using service as a criterion.

In light of this finding, comment might be made on the tension between the enduring values of “service” and “stewardship” and whether an appropriate balance between the two is being struck as regards libraries use of SM. For while libraries in their adherence to “service” pledge an ongoing commitment to their communities, their adherence to “stewardship” sees them at the same time requiring to make commitments to themselves in that the responsibilities associated with this latter value are more self-contained and self-directed:

- (1) preserving the human record to ensure that future generations know what we know.

- (2) caring for and nurturing education for librarianship so that we pass on our best values and practices.
- (3) being professional, good stewards of our libraries so that we earn the respect of our communities.

Gorman (2015, p. 35).

Ranganathan (1931, pp. 334–335) hits upon this tension when expounding upon the third law, every book his/her reader. In his closing remarks on a chapter in which he champions patron-driven book selection, he cautions:

It can be easily seen that one of the means of fulfilling the demands of the Third Law is to give full weight to the tastes and requirements of the *clientele* [service] . . . But it should not be inferred from this that the library should slavishly follow the demands of readers and that it has no responsibility in steadily and consciously directing the reading tastes of its *clientele* [stewardship].

Despite identifying the need to strike a balance between service and stewardship early on, LIS' ethical canon does not conclusively reconcile the interests of libraries and their users in complex modern-day instances where they might diverge, instances that have the potential to strain the external and internal commitments an ethical library must meet simultaneously.

Given the accusations floated in the problem statement and the conceptualisations thus presented, SM use could plausibly represent such a wedge issue for libraries. This compels the question: does the community focused argument for the adoption and use of SM – which this study determines to be the main ethical motivator of SM use by libraries – also serve as a sufficient justification to reason libraries' use of SM is ethical as concerns its commitment to stewardship? By extension, even though libraries use of SM as conceived is ethically motivated, does that alone make SM's use by libraries ethical? These unanswered questions inspire further investigation in this area.

Is libraries' use of social media compatible with LIS codes of ethics?

On the basis of this study, the answer is undetermined. Despite prompting, participants seldom conceptualised their use of Twitter in relation to their wider profession or the LIS sector in general, rather only to the extent that they engaged with peers at other institutions and organisations on Twitter, and/or used it in a previous professional capacity outside of the Bodleian Libraries. Regional, national and international LIS collectives were not discussed. As noted above, the lead author was unable to draw upon sufficient evidence to suggest a collective adherence to any particular aspect of LIS' ethical legacy, including codes of ethics, only partially determining that Twitter use in this context was, more generally, ethically informed to some degree. To suppose whether library staff's use of Twitter as relayed in the transcripts is compatible with specific ethical codes that were not referred to would be speculative, with further discussion representing a departure from the phenomenographic rubric detailed in the methodology.

This finding remains noteworthy in two respects. Firstly, it defies the lead author's expectations; despite all interviewees being employees of a CILIP employer partner, no reference to a LIS code of ethics, including CILIP's, was identified in the transcripts. Secondly, a valid explanation for this absence could not be provided in a manner consistent with phenomenography, highlighting a limitation of the research approach.

This is to say that in instances where phenomenographers are presented with an absence of transcript evidence with which to provide a valid answer to a research question, it becomes both impossible to answer said research question and impossible to explain why beyond referring back to the same lack of evidence. Given that both the determination of evidential

absence and the explanation for that absence must both be drawn exclusively from the same source, the interview transcripts, phenomenography eats its own tail in such scenarios, leading the authors of this study to conclude only that: (1) the study failed to determine an answer to this research question because of a lack of relevant transcript evidence and; (2) the reason for said lack of evidence is frustratingly undetermined.

Conclusion

In conclusion, this study has identified three categories of description, each describing how individuals conceptualise their use of Twitter in professional capacity as part of their role with the Bodleian Libraries:

- (1) The Collectivist conception
- (2) The Settled conception
- (3) The Questioning conception

Participants evidenced adherence to more than one conception and more than one conception at once during the interviews. It should therefore be reiterated that while phenomenography *does* seek to identify the finite number of shared ways of conceiving of phenomena, it *does not* seek to suggest that individuals' understanding is bound to any one conception and is thereby fixed and one-dimensional.

The categories are relationally linked by virtue of being bound in a shared context of conceptualisation, which is based on a set of internal and external influences. Both the categories and their shared context have been used to answer the research questions.

Examination of the categories and the associated conceptions of participants as they relate to the research indicates that:

- (1) Libraries' use of SM is ethically motivated.
- (2) Libraries' use of SM is ethically informed to a degree.

Whether libraries' use of SM is compatible with codes of ethics in the LIS sector is undetermined. Questions are raised as to whether libraries' use of SM can be considered wholly ethical in light of the findings and a limitation of the phenomenographic research approach is identified.

Recommendations

The following recommendations are made to the LIS professions:

- (1) To be proactive in addressing the emergent ethical dilemmas inherent in embracing new and complex technologies by strategically increasing their absorptive capacity and engaging in environmental scanning. LIS' shared ethical legacy and existing codes of ethics can prove instructional in informing relevant decisions and retaining a coherent identity amid changing and challenging circumstances.
- (2) To critically reconsider their current operations in response to changing contexts and where possible overtly state and justify the ethical rationale for the approach(es) taken. This step will further empower staff to meet the ethical obligations of the LIS professions.

A further recommendation is made to LIS professional bodies:

- (1) To seek to work with industry business partners to better embed existing ethical frameworks.

Finally, further research is required to re-orientate LIS literature concerning the use of SM in libraries. A decade has elapsed since Wasike (2013) expressed reservations about its use and recommended that librarians remain alert to the ethical issues it poses. Yet, as Humphreys' 2019 literature review reveals, there has been little published since which challenges the dominant fascination with SM's functional potential. Debate on this topic is overdue, and further exploration of the ethical implications of SM use in libraries is encouraged.

Notes

1. "Twitter" is used throughout to refer to the platform now known as "X".
2. <https://transparency.twitter.com/en/about.html>
3. <https://help.twitter.com/en/rules-and-policies/x-rules>
4. <https://www.cilip.org.uk/page/EmployerPartner>
5. <https://www.cilip.org.uk/page/ethics>
6. https://cdn.ymaws.com/www.cilip.org.uk/resource/resmgr/cilip/membership/benefits/pksb/pksb_intro_overview_v5.pdf
7. <https://voyant-tools.org/>

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Further reading

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Appendix

Example of additional evidence for categories of description

Category three: Questioning conception

P4 (uses a personal account). P4 remains critical of Twitter and SM generally throughout their interview, oscillating between the Questioning conception and the Collectivist conception – occupying both at the same time at points – as they critique Twitter as an individual, but do so frequently in reference to how the platform fails to support local and organisational priorities.

P4 also demonstrates the influence of the network effect, revealing at the end of one exchange that the only reason they continue to use Twitter is because colleagues do so. Similarly, they would prefer to pursue more ethical and independent publishing models, citing the successful blogs of peer institutions as a justification for such a move.

As with other participants, the need to serve a community of users in some way is cited as a condition of use.

P4:

I think . . . at this point it's sort of a sense that, "well, I have this account so I'll post some things on it every now and again", but . . . it's not something that . . . I guess I feel that Twitter's sort of somewhat past its best before date for me.

P4:

And Twitter has become again. Especially since 2016, you know it used to be that I can pretty much go on Twitter and actually finds some really interesting things myself for studying [items]. Now you go on Twitter and it's 75% just political stuff and it's really negative and so it's not actually a platform that I that I personally enjoy using either.

P4:

I don't feel that we're reaching our target audiences through Twitter any longer. But there are other considerations I mentioned. I don't . . . It's ceased to be, for me, it ceased to be a positive platform. I mean, you can perhaps question whether it ever was one. But certainly it isn't for me now from what I've seen and I think I've also become much more critical of centralised social media platforms.

Interviewer

Ok, why might that be?

P4:

. . . Well, I mean for one thing I think . . . There's other people who can, you know, critique this much better . . . I sent you, for example . . . I think I also sent you my e-mail. There's this article in *The Atlantic* by this computer science professor at Georgetown. I think his name is [unintelligible].

Interviewer:

Ok.

P4:

And he's basically critiquing Facebook and Twitter and Instagram as being, you know, basically hugely destructive for democracies and essentially is making the case that these companies are, you know, these companies are out to monetise attention . . . They're there to sell advertising and they're not really out to make it easier . . . for example, for a cultural heritage institution to reach more diverse audiences. That's just not the function of the platform.

Interviewer:

And in knowing that now, do you think that will change how you use Twitter in the future? It sounds like it's already had an effect on the frequency of your usage.

P4:

Right? You know, I just. I mean, ideally I'd like to just delete my account. Honestly.

Interviewer:

Ok.

P4:

. . . I don't know why I hold on to it at this point, it's just because it's there basically.

Interviewer:

Ok.

P4:

So it's . . . You know, every now and again it's. You know, it's useful to find something, and basically I still have it, I suppose because some other colleagues are still using it.

P4:

I feel that a lot of our use of social media platforms was done quite uncritically and you know . . . I think that it's also been done at a great cost to our capacity to actually act independently if that makes sense, because if you think about it, you know there's . . . At one point in time, when I was working for [institution], I was probably spending a couple of hours per week, just running that Twitter account and the fact is that if – and that was being multiplied across, you know, multiple employees – and if I were spending that amount of time on independent publishing projects, public engagement projects within the institution that we had actually sat down and planned. Because a lot of that Twitter use was not actually, you know, just kind of happened. Nobody sort of sat down and said, “yeah, let's go and you know, we're going to get somebody to spend two hours a week on Twitter” ever. You know? More than that. But if we had actually sat down and thought, you know. We could have come up with, that same amount of time, we could have come up with a really innovative and independent publishing project that would have been much more directed, will produce much more remarkable results, I think, and would've had a much better chance of actually meeting those target audiences that we have developed, that we have identified and not just the people who, you know, that they've ended up on Twitter.

P4:

So for example, you know if you look at [institution 1]. If you look at I don't know [institution 2] and [institution 3] for that matter where they have really great independent blog posts on their web page . . . with really good, approachable writing that often get into some really interesting sort of exposures of things in their collections . . .

In line with the above, P4 evidences continual and deep reflection on their own use of Twitter in relation to the local and organisational context, supposing that Twitter may have been adopted for use experimentally and without due consideration of its business practices.

P4:

... There's a lot of attention paid to social media ... I guess increasingly I think people were really interested in it at that point as what they saw as just an easy publishing platform. But I don't think that they put. I think that we just didn't. We sort of put more weight into the ease of use with ... Not enough attention to the governance aspects and to the real, the actual motivations of the companies that are running these things. And so I think, I just really emphasise that I'm really interested in independent publishing, in modes of public engagement with research that really has defined audiences that that we can measure, that we control, and I think there's some really exciting work that we can do. And I think especially from the pandemic. Actually, when we all had to concentrate on all this online stuff I think that was the point for many of my colleagues, we sort of realised "wait a second ... All this online stuff is sort of just like throwing spaghetti at a wall and seeing what sticks. And actually this is a really bad way of conducting public outreach with research."

P4 concludes their reflection by looking towards the future, re-emphasising their commitment to fit-for-purpose, ethical publishing platforms.

P4:

But I think you know the future, certainly for us, is within independent and decentralised publishing platforms.

I think basically what I'm wanting to emphasise is simply. Twitter was a neat phase for us. It was a way of sort of learning to use digital tools within public engagement, but I think we have learned that wasn't quite all we thought it was and I think we now have. I think we can now identify better tools that are more ethical and better meet our needs.

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Library collections promotion for preadolescents using social media marketing strategies

Library
collections
promotion

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Abstract

Purpose – This study aims to explore preadolescents' opinions of the social media marketing strategies hosted by libraries to promote collections.

Design/methodology/approach – An experimental Facebook page was created with posts containing interesting animations, games and book recommendations. A questionnaire survey was administered to 262 preadolescents between 11 and 13 years old to seek their opinions about the posts, and confirmatory factor analysis was used to measure their acceptance of the marketing strategies.

Findings – The authors examined the effects of five marketing strategies: word-of-mouth marketing, buzz marketing, event marketing, viral marketing and gamification marketing. In terms of sharing, word-of-mouth marketing proved the most popular, followed by buzz marketing. Participants were least accepting of viral marketing. The authors found that gamification marketing resulted in higher engagement than did event marketing. The preadolescent participants preferred engagement marketing strategies over information sharing strategies.

Originality/value – According to the uses and gratification theory, preadolescents seek, share and engage with information in ways that differ from other age groups. With specific reference to hedonic engagement by preadolescents, the authors built a two-fold model to describe the information-seeking behaviors of preadolescents from the perspective of marketing strategies. The study findings indicate that librarians who use Facebook to promote library collections should first employ gamification and word-of-mouth marketing to build trust with preadolescent users. Event and buzz marketing will then be more effective when applied within the context of this trust.

Keywords Children's digital library, Social media service, Library promotion, Information engagement, Information seeking, Confirmatory factor analysis

Paper type Research paper

Introduction

Under the concept of Library 2.0 proposed by Casey and Savastinuk (2007), Nguyen *et al.* (2012) suggested that libraries should market their services on social media platforms to connect with potential users, especially young people. Several researchers have since confirmed the opportunities represented by social network services (SNSs) for the promotion of library collections (e.g. Grgic, 2013; Wallis, 2014; Jones and Harvey, 2019). Chen *et al.* (2012) suggested that to improve the efficiency of interactions with users on SNSs (which includes knowledge sharing, information dissemination, communication and knowledge gathering), libraries should coordinate their activities across different types of SNSs and exploit the unique characteristics of information-marketing channels. They also found that academic library patrons were more likely to engage in social media to communicate with librarians, while public library patrons are more likely to use social media for knowledge sharing.



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Marketing researchers have investigated the topics of persuasive messages, popularity cohesion and message diffusion within the field of social media marketing (Chang *et al.*, 2015). SNS marketing strategies include word-of-mouth (Kumar *et al.*, 2017), buzz marketing (Holdford, 2004), viral marketing (Goyette *et al.*, 2010), gamification marketing (Hsu and Chen, 2018; Lucassen and Jansen, 2014) and event marketing (Cant, 2016).

Preadolescents increasingly use information and communication technologies (ICTs) for social communication (Areepattamannil and Khine, 2017). Lu (2010) pointed out that because fifth and sixth graders (i.e. children who are 11–12 years old) are in a transitional developmental stage, they employ a varied range of information-seeking and coping strategies in their day-to-day life. Sua *et al.* (2018) examined sixth graders' motives underlying SNS use and found significant differences among individuals. Valkenburg and Peter (2007) reported that preadolescents use SNSs to form and maintain friendships. This has prompted researchers to ask whether librarians could form friendships with young library users as a vehicle for marketing library services and collections. Grgic (2013) found that school librarians in Croatia used Facebook on a basic level and tended to publish irrelevant content. This meant young library users were unlikely to engage with their libraries online. Thus, our research objective was to examine the effects of information-sharing and engagement marketing strategies implemented by libraries on the opinions of preadolescent users.

Literature

Preadolescent use of social network services to build trust

Berdot-Talmier and Zaouche Gaudron (2018) reported that French children between 9 and 12 years old experience socio-affective adaptation through Facebook use. Communication with unknown individuals and celebrities represents a risk factor. Communication with friends represents a protective factor. Kopecký (2016) pointed out that many Czech children under 13 years old use Facebook to build virtual friendships. Facebook can help to build people-to-people contact and overcome social isolation. It also offers a platform for users to express their views and comment on current affairs. Nesi *et al.* (2018) found that social media transforms adolescent peer relations and dyadic friendship processes.

Fandakova and Gruber (2021) pointed out that curiosity and interest have positive effects on learning and memory for both children and adolescents. Gray (2018) suggested that both age and gender differences influence the way users interact on SNSs. She found that maturation impacts the frequency of SNS use, especially for users around 8–9 years old. A significant difference was also observed in users between 10 and 11 years old, who tended to report that they had experienced something online that had upset them.

Chen *et al.* (2015) pointed out that the increased use of social media for information sharing has stimulated the need for information literacy, which helps guard against the transfer of misinformation. The sharing of misinformation is affected by factors such as perceived characteristics of the message (e.g. good topic, interesting or eye-catching), self-expression and the desire to socialize. Kim *et al.* (2014) noted that libraries seeking to use SNSs for the promotion of library collections to undergraduate students must consider information literacy, including students' learning strategies for the evaluation of information and the creation of quality information. Gauducheau (2016) investigated how teenagers use online forums to search for information and found that the advantages of social media for teenagers include finding specialized information on specific topics and collaborative information seeking. Turcotte *et al.* (2015) explored the effects of trust on information-seeking behaviors and found that news recommendations from friendships formed on Facebook improve levels of media trust and prompt users to follow more news from that particular media outlet in the future. Koroleva and Kane (2017) found that the way that users perceive information on Facebook is influenced by the tie strength of their Facebook friendships. Heuristic cues (such

as Facebook “Likes”) allow users to form a quick impression of the shared information, which reduces cognitive load. “Likes” are less influential when ties are stronger. Comments require more cognitive load, so these evoke negative responses when the commenter has a weak tie with the user. Therefore, a user prefers to find information from sources with which they have strong ties (i.e. trust).

Preadolescents often experience periods of emotional turbulence associated with identity formation and role development (Erikson, 1993). They may gradually shift from a focus on family to a focus on social relationships with peers and often adopt online applications to help them with this process. Sua *et al.* (2018) investigated the motivations underlying SNS use by sixth graders (aged 11–12 years) in Taiwan. Among connecting, sharing, relaxing, branding, organizing, monitoring, expressing and learning, the sampled sixth graders were primarily motivated by connecting with others.

Information sharing and engagement with library social network service posts

Peacemaker *et al.* (2016) found that events, news and announcements were the most common topics in the social media communications initiated by academic libraries. However, they also found that few libraries exploit content strategies for their social media accounts to help define the tone and engage audiences as well as to effectively manage their accounts. Joo *et al.* (2018) examined different types of social media content published by public libraries to communicate with users online. They investigated the relationships between content types and corresponding levels of user engagement. The most frequent type of post was related to announcing upcoming library events. Posts about community news or inspiring messages prompted high engagement from users, as did posts with images. Winn *et al.* (2017) investigated engagement rates for social media using four university libraries in Canada. Their results showed that the libraries with the least posts had the highest levels of user engagement. They suggested further research into the effects of social media trends on information literacy in libraries.

Koranteng and Wiafe (2019, p. 1213) pointed out that “the connective power of SNS is being continuously harnessed to further engage academics and promote knowledge sharing activities.” They applied the social capital theory to explore the relationships between the use of academic SNSs, engagement and information sharing. Among dimensions such as social interaction ties, trust, reciprocity, shared language, shared vision and identification, identification is the only significant predictor of engagement, which has been shown to support information sharing. In this study, we sought to create a model to reflect the specific features of preadolescent development, i.e. building their own identities, forming popularity cohesion with their friends on SNSs and demonstrating unique information seeking behaviors for specific topics. We, therefore, propose a two-fold model based on cohesive sharing and strategic engagement for library online marketing.

Leiner *et al.* (2018) revealed the functional domains underlying the individual usage of Facebook features based on user gratification and expectation. They grouped 35 features into five domains: contribution, gaming, friend management, content consumption and group coordination. All functional domains exhibit differing ratios of contribution to consumption of social media content, with different expectations for gratification. We applied a similar concept to incorporate marketing strategies into our sharing and engagement model. The sharing dimension focuses on how knowledge/information/messages diffuse in different communities, the scope of communication, popularity, spreading speed and the level of interactivity through preadolescent cohesive channels. The engagement dimension emphasizes appealing strategies/actions/topics to engage preadolescents to stimulate their motivation to use library resources.

Social media marketing

[Cahill \(2011\)](#) suggested that the most effective methods of marketing for libraries include word-of-mouth marketing, emergency information broadcast, community engagement and the solicitation of feedback. Librarians tend to concentrate on communicating the mission and vision of the library, segmenting target audiences in advance, addressing customized messages to users, generating a wide variety of content, regularly updating and monitoring reflections and making posts in a user-friendly format ([Steiner, 2012](#); [Tomlin, 2014](#); [Alman and Swanson, 2014](#)). [Luo et al. \(2013\)](#) found the following strategies help library staff to use video-sharing sites as a marketing platform: basing video content on campus life, reflecting what students experience in their everyday activities, conveying content in a humorous, light-hearted and refreshing style, employing social media to share content and engage the target audience and partnering with students. However, further research into systematic marketing strategies targeted at attracting preadolescents to use library resources are needed.

In their studies into message diffusion (i.e. sharing), [Kietzmann and Canhoto \(2013, pp. 147–148\)](#) defined electronic word-of-mouth (eWOM) as “any statement based on positive, neutral, or negative experiences made by potential, actual, or former consumers about a product, service, brand, or company, which is made available to a multitude of people and institutions via the internet.” [Litvin et al. \(2008\)](#) proposed the following two-dimensional typology of media used by eWOM: the scope of communication and the level of interactivity. [Goyette et al. \(2010, p. 9\)](#) defined buzz marketing as “a catalyst for a WOM conversion to occur in person or online derived from a formal corporate strategy with a view to creating an illusion of spontaneity.” They further defined viral marketing as “a rapidly spreading informal online communication between individuals regarding a service or product” ([Goyette et al., 2010, p. 9](#)). Buzz marketing and viral marketing function as eWOM with different communication scopes, interactive levels and time factors, with varying results. Preadolescents emphasize peer relations, which influences their information-seeking behavior. This means that library marketing strategies must be tailored to suit them.

In their exploration of popularity cohesion (i.e. engagement), [Oh and Syn \(2015\)](#) analyzed what motivates users to share their personal experience, information and social support with strangers on SNSs such as Facebook, Twitter, Delicious, YouTube and Flickr. They found that motivations included enjoyment, learning, personal gain, altruism and social engagement. [de Oliveira et al. \(2016\)](#) researched factors driving the engagement of young Facebook users. These included subjective norms, social identity, entertainment value and maintaining interpersonal interconnectivity. Enjoyment is a major motivator engaging users in SNS use to form popularity cohesion. [Hsu and Chen \(2018\)](#) found evidence that activities related to gamification marketing motivate desirable consumer behaviors. Game play is full of entertainment value and is a useful strategy to engage young Facebook users in searching library collections. [Verdoodt et al. \(2016\)](#) explained for children, an “advergame” capitalizes on the fun offered by a game by creating positive brand awareness and a positive effect on brand recall and attitude toward the product/service. [Verdoodt et al. \(2016\)](#) also warned that usage of advergames as a marketing technique aimed at children without safeguards is questionable at best. Within the context of libraries, applying advergames to promote the use of library resources is more ethical than the general use of this technique to increase consumer consumption.

Event marketing is viewed as “a communication tool whose purpose is to disseminate a company’s marketing messages by involving the target groups in experiential activity” ([Drenger et al., 2008, p. 138](#)). [Harb et al. \(2019\)](#) investigated the intentions of 189 fans to attend events using SNSs. They found perceived enjoyment influences the attitudes of event fans toward using SNSs as a tool to learn about events that they are interested in attending. [Cant](#)

(2016) indicated that event marketing can help promote small-to-medium enterprises (i.e. children's libraries), but the majority of the 992 enterprises investigated were not aware of how to properly use SNSs to promote events. It would be worth developing strategies to overcome this lack of knowledge, as library events have proven an effective method of engaging preadolescents in library resources and increasing their enjoyment.

Research model

Observed variables for word-of-mouth marketing. Shen *et al.* (2016) suggested that among preadolescent needs (for autonomy, competence and relatedness), the need for relatedness exerts the greatest influence on word-of-mouth marketing. This marketing strategy is motivated by self-enhancement (*w1*), concern for other consumers (*w2*), helping the company (*w3*), economic incentives (*w4*) and social benefits (*w5*).

Observed variables for buzz marketing. Henry (2003) explored the topic of buzz among adolescents, identifying seven steps to creating buzz: know brand identity, identify the influencers, innovate, seed the idea, observe and analyze, extend the campaign and integrate with awareness-generating media. Carl (2006) expanded the framework of buzz marketing to include everyday communication and casual conversations about brands. Mohr (2007) pointed out that the advantages of buzz include increasing visibility, generating conversions and increasing credibility. We referenced these studies to select three observed variables for this factor: conversion (*b1*), idea-seeding and credibility (*b2*) and everyday conversation (*b3*).

Observed variables for viral marketing. Borges-Tiago *et al.* (2019) explored user motivation to participate in viral communication, identifying four influential factors: social pressure (*v1*), emotional tone (*v2*), meaningfulness (*v3*) and arousal (*v4*).

Observed variables for event marketing. Holidays such as Christmas or Valentine's Day are annual events associated with extensive marketing campaigns. Close and Zinkhan (2009) examined consumer resistance toward holiday marketing, including gift resistance, retail resistance and market resistance. A consumer that is gift resistant will set limits on the giving or exchanging of gifts. A retail-resistant consumer will avoid specific stores around certain events or holidays. Market-resistant consumers do not engage in culturally established ritualized marketplace behaviors. Ozawa *et al.* (2017) explored collaborations between offline and online event marketing. They recommended personalized invitations and creating a session registration page on the event's website. We selected four observed variables for event marketing: retail event (*e1*), market promotion (*e2*), gift-related event (*e3*) and invited information (*e4*).

Observed variables for gamification marketing. Vanwesenbeeck *et al.* (2016) proposed that marketing conversion is positively correlated with game flow and self-reported player emotion. They found pleasure to be the most influential factor in terms of conversion and the feel-good factor of the game had the highest weighting in terms of player emotion. We hypothesized that in the context of libraries, after engaging with a game story, preadolescents would experience similar emotions to those delivered by reading stories. We, therefore, selected the following four observed variables for gamification marketing: trust (*g1*), love (*g2*), friendship (*g3*) and playfulness (*g4*).

Hypotheses

This study focuses on user engagement with social media content posted by libraries, with the specific target of preadolescents. Preadolescents exhibit unique developmental features as they transition from the information-seeking skills of children (skills developing and domain-specific) to those of adolescents (rule-bound and socially based). While there is evidence that the factors of the uses and gratification (U&G) model do influence preadolescents' Facebook use, a systematic integration of content analyses and marketing

strategies may be helpful for the creation of effective library posts for preadolescents. This study, therefore, developed a sharing and engagement model comprising five marketing strategies to explore the following research hypotheses:

- H1. Preadolescents' sharing of librarians' book recommendations on SNSs depends on the marketing strategy used to create the post (i.e. word-of mouth, buzz or viral marketing).
- H2. Preadolescents' engagement with librarians' book recommendations on SNSs depends on the marketing strategy used to create the post (i.e. gamification or event marketing).
- H3. Preadolescents share and engage with librarians' book recommendations on SNSs.

Research method

Participants

The first pilot experiment included ten elementary students in New Taipei city aged 10–11 years old (five males and five females). The second pilot experiment included ten elementary students in New Taipei city aged 11–13 years old (five males and five females). The participants of the final experiment comprised 262 elementary school students between the ages of 11 and 13 from Taipei City, including 144 male students (54.96%) and 118 female students (45.04%). All participants were randomly selected using cluster sampling of elementary schools in the Taipei region. In all experiments, consent was obtained from the parents/guardians of all participants.

Experiments

Experts and preadolescents participated in a two-phase pilot experiment to explore appropriate survey questions related to marketing strategies. In the first pilot experiment, eight posts with photos were grouped into four different categories (monthly book recommendations, funny videos, library event promotion and popular buzz). These were posted on a Facebook page (<https://www.facebook.com/groups/1032652786857335/?ref=bookmarks>). The participants were gathered in a classroom with our investigator on February 24, 2017, to review these posts. The post with the most “likes” was a funny video called “Grandpa’s Heaven note” (このあとどうしちゃう). The students then answered a questionnaire (on a five-point Likert-type scale) comprising 20 items measuring their attitudes and behavior regarding Facebook. The participants expressed that they like to share their opinions on books they are reading, and that they also like to play games that improve their reading literacy. The mean for each question is as follows: (1) “When I saw the interface of Facebook, I immediately knew how to use it” (M: 4.1); (2) “I thought it fairly easy to get started on Facebook” (4.0); (3) “I update my status on Facebook every day” (3.0); (4) “I leave a comment when I see something interesting on Facebook” (3.3); (5) “I write comments on the Facebook pages of my friends” (3.8); (6) “I like to post interesting things on Facebook” (3.4); (7) “I share articles that I find inspiring on Facebook” (3.2); (8) “I think Facebook is a good place to absorb a diverse range of knowledge” (3.6); (9) “I click ‘like’ when I see an interesting article on Facebook” (3.7); (10) “My curiosity is triggered by funny animations on Facebook” (3.7); (11) “I think reading Facebook articles about children’s books is more fun than reading physical books” (3.9); (12) “I like to join activities held by Facebook if the activities include freebies” (4.2); (13) “Watching the Ciaohu (Eric/shimajiro) cartoons on Facebook increases my interest in reading that book” (3.3); (14) “I would like to join a Facebook group to get the chance to meet new people online” (2.6); (15) “I think that recommendations of children’s books made by a library on Facebook may improve my interest in reading” (3.3); (16) “I would share my ideas

about a book with peers on Facebook” (3.3); (17) “A library that joins Facebook would spark my interest in it” (4.7); (18) “I like to play fun games on Facebook” (4.4); (19) “If the games shown on Facebook can improve my reading comprehension, I would try them” (3.8); and (20) “I am interested in riddle guessing games on Facebook, because I can get a mascot if I get all the answers right” (4.1).

A primary school teacher, with five years’ experience teaching preadolescent reading, was invited to review and revise the posts. She suggested designing the posts to match preadolescent reading abilities. She also emphasized that post content must be carefully worded to ensure they are easy for preadolescents to understand and suggested including more images. Further recommendations included offering readers a lottery after reading, posting a short film and short e-books to grab readers’ attention and creating buzz on a popular topic such as Pokémon, as well as posting interesting activities approved by parents and reading games of varying difficulty levels.

In the second pilot experiment, the participants were gathered in a classroom with an investigator on March 29, 2017, to review ten posts. The most popular was a buzz post on the origin of Dragon Boat Festival with a Pikachu symbol.

Following the results in the first and second pilot, we designed 20 library promotion posts aimed at preadolescents for Facebook. These are shown in [Table 1](#). These 20 posts reflected different subjects and represented different marketing strategies. All post material was collected from public libraries in Taiwan and the Ministry of Cultural Affairs, Taiwan. We designed each post to relate to one of the observed variables. For example, for viral marketing, we focused on time-sensitive content: “BIG GIVEAWAY: ‘Like’ to read the newest Harry Potter book for FREE! First 10 people only!” For buzz marketing, as the time of the experiment was around April, we used the following post: “Time for Chibi Maruko-chan to go ‘Fuchiko’!! Do you know what month cherries ripen every year? The answer is April! Did you guess right?” For word-of-mouth marketing, we used topics that would appeal to children from many different backgrounds: “Did you know that every adult used to be a child? To give you an idea of what adults did when they were young, we recommend ‘The Little Prince’, which is one of the bestselling books in the whole world! We highly recommend it!” For event marketing, we created a holiday event: “In celebration of Children’s Day (April 4), kids who borrow a book from our library can play a game, such as poke-and-win-a-prize. Free marble labyrinth for those who borrow 10 books!” For gamification marketing, we invited users to play “The Stone Lion” game. Each first-order latent variable had at least three observed variables for confirmatory factor analysis (CFA). A two-layer CFA model with two second-order latent variables (sharing and engagement) and five first-order latent variables (word of mouth, buzz, viral, event and gamification marketing) were used to explore how preadolescents perceived librarians’ promotion messages on Facebook. We used the structural equation modeling software LISREL to perform CFA. In the final survey, the participants were gathered in a classroom to review posts shown on a projector screen. Their opinions were collected by questionnaire. A five-point Likert-type scale was used (1 – strongly dislike to 5 – strongly like).

Results

In the final experiment, we collected information on the amount of time each participant spent on Facebook; most participants (41%) spent less than 1 h per week, followed by 1–4 h per week (40%). We also asked how much time participants spent online overall (including time spent on Facebook): most participants (39%) spent 1–4 h online per week, followed by 4–8 h per week (22%). We also collected data on the number of Facebook friends: most participants (32%) had ten friends or less, followed by 10–30 friends (21%) ([Table 2](#)).

Item	Variables	Question items	Means	SD	Skewness	Kurtosis
<i>Viral marketing</i>						
v1	Social pressure to express	BIG GIVEAWAY: “Like” to read the newest Harry Potter book for FREE! First 10 people only!	3.943	1.083	−0.615	−0.463
v2	Emotional attraction	Telling the story of Harry Potter in 90 s using LEGOs. It’s so fun!	3.954	1.060	−0.647	−0.387
v3	Meaningful content	Have you read the latest chapter of One Piece? Do you know who discovered the Americas during the Age of Discovery? The answer is Italian explorer Columbus	3.874	1.052	−0.462	−0.643
v4	Arousal action	“Like” within 89 min for a chance to win Gudetama pop-up stickers! Hurry up and “like”!	3.985	1.124	−0.834	−0.182
<i>Buzz marketing</i>						
b1	Start conversion	Have you seen Toy Story? If you have, here’s a good book for you: “PIXAR’s Collector’s Edition: Toy Story 3”	3.725	1.029	−0.343	−0.336
b2	Seed idea and add credibility	Remember the Nordic kingdom of Arendelle and Princess Elsa in “Frozen”? The sequel is coming out soon! Want to know when it’s in theaters? 100 “like s”, and we’ll tell you!	3.615	1.083	−0.462	−0.230
b3	Everyday talking	Time for Chibi Maruko-chan to go “Fuchiko”!! Do you know what month cherries ripen in every year? The answer is April! Did you guess right?	3.515	1.167	−0.423	−0.431
<i>Word-of-mouth marketing</i>						
w1	Self-enhancement	Did you know that every adult used to be a child? To give you an idea of what adults did when they were young, we recommend “The Little Prince”, which is one of the bestselling books in the whole world! We highly recommend it!	3.664	1.084	−0.465	−0.193
w2	Concerns for other consumers	One of the admins used to have a dog, so she loves reading dog books. She recommends “PAX,” which was No. 1 on the New York Times best sellers list for over 40 weeks! It’s a great read!!	3.584	1.020	−0.426	0.049
w3	Helping the company	When was the last time you played with your grandfather? Let’s watch the animated version of “What Happens Next?” Did you know that 100,000 copies of this book were sold within three days?	3.905	1.156	−0.743	−0.287
w4	Economic incentives	Art thérapie/Coloriage XXL/Monde – The world is so big! Let’s draw a circle around a map and get to know the world! That’s crazy!	3.645	1.121	−0.548	−0.133

Table 1.
Questionnaire

(continued)

Table 1.

Item	Variables	Question items	Means	SD	Skewness	Kurtosis
<i>w5</i>	Social benefits	The invention of the bicycle as it is today took hundreds of years of development and the efforts of numerous inventors! The bicycle is currently the simplest and most widely used means of transportation in the world!	3.469	1.045	−0.324	−0.117
<i>Event marketing</i>						
<i>e1</i>	Retail event	Highly recommended by the admins! My toys in your house ~ sign up for our toy exchange get-together!!	3.374	1.089	−0.176	−0.285
<i>e2</i>	Market promotion	In celebration of Children's Day, kids who borrow a book from our library can play a game, such as poke-and-win-a-prize. Free marble labyrinth for those who borrow 10 books!	3.447	1.091	−0.246	−0.290
<i>e3</i>	Gift-related event	Want to have fun on Children's Day? Come to our children's treasure hunt and get a cute little gift!	3.313	1.036	−0.199	0.045
<i>e4</i>	Invited information	Do you like treasure hunting? Sign up with a team for our children's treasure hunt! You'll receive a gift, and it's great fun!	3.424	1.069	−0.303	−0.118
<i>Gamification marketing</i>						
<i>g1</i>	Trust	Come and play "The Stone Lion" game!!	3.538	1.074	−0.343	−0.217
<i>g2</i>	Love	Come and play the "It's Springtime, Mr. Squirrel" game!!	3.492	1.099	−0.286	−0.356
<i>g3</i>	Friendship	Come and play the "Jellybeans" game!!	3.492	1.164	−0.393	−0.497
<i>g4</i>	Playfulness	Finish reading "Birds Have Wings, Children Have Books" (les oiseaux ont des ailes, les enfants ont des livr) and play a little game!!	3.340	1.119	−0.221	−0.373

Amount of time each spent on Facebook per week

0–1 h (less)	1 h (incl.)–4 h (less)	4 h (incl.)–8 h (less)	8 h (incl.)–12 h (less)	12 h (incl.) and above
107 (41%)	105 (40%)	21 (8%)	16 (6%)	13(5%)

Amount of time spent online per week (including time spent on Facebook)

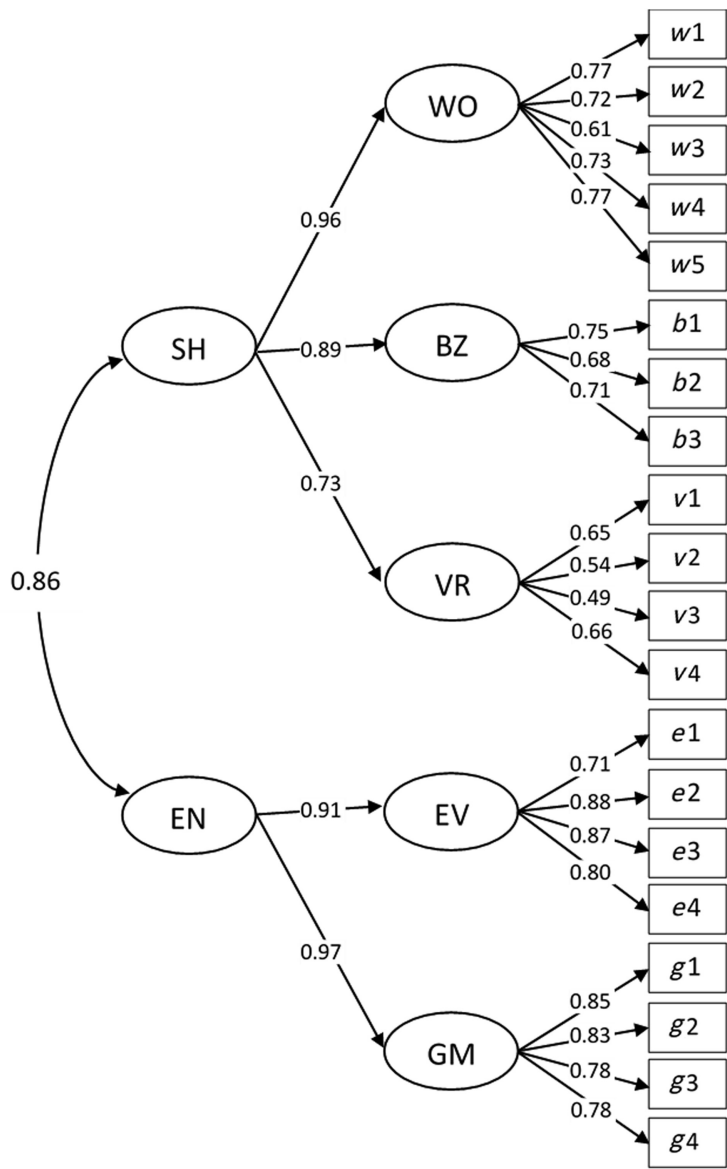
0–1 h (less)	1 h (incl.)–4 h (less)	4 h (incl.)–8 h (less)	8 h (incl.)–12 h (less)	12 h (incl.) and above
34 (13%)	102 (39%)	58 (22%)	34 (13%)	34 (13%)

Number of Facebook friends

10 persons	10 persons (above)	30 persons (above)	50 persons (above)	Over 100 persons
(incl.) and below	–30 persons (incl.)	–50 persons (incl.)	–100 persons (incl.)	
83 (32%)	55 (21%)	45 (17%)	34 (13%)	45 (17%)

Table 2.
Amount of Facebook
use by study
participants

As shown in [Figure 1](#), the degree of freedom (150), chi-square (248.50), p (0.00000), RMSEA (0.050 \leq 0.05; [Browne and Cudeck, 1993](#)), GFI (0.91 $>$ 0.90; [Bentler, 1988](#)), PGFI (0.65 $>$ 0.50; [Mulaik, 1986](#)), NFI (0.97 $>$ 0.90; [Bentler and Bonett, 1980](#)), NNFI (0.99 $>$ 0.90; [Bentler and](#)



Chi-Sq = 248.50, *df* = 150, *p* = 0.0000, RMSEA = 0.050

Note(s): SH = Sharing; EN = Engagement; WOM = Word-of-Mouth;
BZ = Buzz; VR = Viral; EV = Event; GM = Gamification

Figure 1.
CFA

Bonett, 1980) and CFI (0.99 > 0.95; Bentler, 1988) indicate a good model fit. The AGFI (0.88 < 0.90) demonstrates a low degree of model complexity. Cronbach's alpha is 0.935. The standardized factor loading of latent constructs was 0.49–0.88. The *t*-value of the factor

loading reached 0.001 (significant). These statistics show that the convergent validity and the identification of measurement model are acceptable (Kelloway, 1998, p. 107).

In Figure 1, SH (sharing) and EN (engagement) represent second-layer latent factors for Facebook marketing strategies, and the five latent variables WOM, BZ, VR, EV and GM are word-of-mouth marketing, buzz marketing, viral marketing, event marketing and gamification marketing, respectively. The weighting of WOM on SH is 0.96, BZ on SH is 0.89 and VR on SH is 0.73. Thus, H1 is validated. The weighting of GM on EN is 0.97, and EV on EN is 0.91. Thus, H2 is validated. The correlation weighting between SH and EN is 0.86. Thus, H3 is validated.

Discussion

Word-of-mouth marketing and sharing based on trust and familiarity

For libraries, the goal of online marketing is to promote library resources to students. Our results indicate that word-of-mouth marketing had the highest weight (0.96) among the three types of sharing marketing strategies. In our experiment, the participants were affected by words such as “bestselling,” “bestsellers’ list,” “crazy” and “the whole world.” This marketing strategy is motivated by self-enhancement ($w1$, 0.77), concern for other consumers ($w2$, 0.72), helping the company ($w3$, 0.61), economic incentives ($w4$, 0.73) and social benefits ($w5$, 0.77). This indicates that as the participants were building their identities as well as exploring and accepting the views of the outside world, they tended to emphasize group–individual relationships and were thus particularly accepting of word-of-mouth marketing. This is consistent with the findings of Koroleva and Kane (2017), who found that user acceptance of Facebook information is influenced by tie strength, and preadolescents are more susceptible to word-of-mouth.

Another characteristic of word-of-mouth marketing is that it impacts user acceptance and judgment of information via trust and familiarity. Preadolescents are less experienced and require guidance from others, so they tend to trust the information obtained from Facebook communities. Gilly *et al.* (1998) pointed out that the seeker’s perception of the source’s expertise was the primary determinant of influence for word of mouth. Feldman and Lynch (1988) proposed the accessibility–diagnosticity model, which posits that the decision to apply certain information obtained from memory to real life depends on interactions between memory accessibility and information diagnosticity. Herr *et al.* (1991) further combined word-of-mouth marketing with the accessibility–diagnosticity model to investigate the impact of vividness effects, perseverance effects and negativity effects on user acceptance of information. In word-of-mouth communication, information presented in a vivid manner enhances information accessibility and thereby influences how a user judges a product. The polarity of the information also affects the strength of its influence. For example, negative information ($w4$, “That’s crazy!”) offers stronger diagnostic power than positive or neutral information. Thus, when libraries use word of mouth to promote their books, they should reinforce the impression they leave on preadolescents, share experiences to form strong recognition and complement these with lively social media posts. Using comparisons, they can highlight better and more important information regarding their collections to promote word-of-mouth marketing. They can also expand from Facebook to whole new models of digital marketing and then utilize the disseminative power of communities to spread information through friends and netizens outward layer by layer, ultimately achieving the objective of online library promotion.

Effects of information-marketing channels

Katz *et al.* (1973) proposed the U&G theory, positing that people use media to satisfy their needs. According to this theory, the participants chose different information channels to meet their needs based on the characteristics of the information they were seeking. As a marketing

channel for children's libraries, Facebook attracts users using images and videos as well as buzz marketing (0.89). [Holdford \(2004\)](#) explained that buzz marketing is an indirect communication method and most useful for ideas that are memorable. It is used to make small changes in behavior that lead to big effects over time, by reaching a tipping point among a target population. Buzz marketing is similar to word-of-mouth marketing but focuses more on the subjects under discussion ($b1 = 0.75$ – "Have you seen Toy Story?"). To engage preadolescents, the content of the posts must be relevant ($b3 = 0.71$ – "Chibi Maruko") and exciting ("Fuchiko"). [Kaser \(2007\)](#) advocated that maintaining buzz marketing requires constant creativity and a mix of fantasy ($b2, 0.68$ – "Princess Elsa") and reality to bring in the element of surprise and arouse consumer curiosity ("When is it in theaters?").

The coefficient of viral marketing was the lowest (0.73). [Goyette et al. \(2010\)](#) defined viral marketing as a rapidly spreading informal online communication that propagates across a segment of the population; it uses eWOM to advertise products at a minimum cost. However, the benefits and risks of this strategy must be carefully weighed for libraries. [Chen and Yao \(2018\)](#) explored what drives impulse-buying behaviors in a mobile auction. They found that ubiquity, ease of use, information exchange, discounted prices and scarcity affect latent variables such as impulse-buying tendency, normative evaluation and positive affect. Among the three latent variables, impulse-buying tendency most influences impulse-buying behaviors. In our experiment, there was no time urgency to the rewards offered by the library, which may have lowered the value perceived by the participants. Further, there was no evidence of impulse-buying tendency. These factors may have contributed to the low value of the coefficient for viral marketing. Observed variable $v1$ (BIG GIVEAWAY: "Like" . . .), which rewarded readers limited free access, was 0.65; variable $v4$ (0.66), which asked readers to "Like" within 89 min, required preadolescents to reflect their preference. These variables received higher weight by using Facebook tools to build ties between a reader and promoted content. Managing a library's Facebook community requires useful and interesting strategies for promotion. Preadolescents did not approve of creating a sense of urgency to grab resources; this indicates that Facebook communities created by libraries should be managed at a slow pace, gradually building connection points with readers over time.

Engagement via events and games

Gamification (0.97) is the use of game design in non-game contexts. [Raymer \(2011\)](#) and [Simões et al. \(2013\)](#) pointed out that it is in human nature to play and have fun and that using this can turn things that were originally boring or even displeasing into fun and engaging processes that promote learning. [Yang et al. \(2017\)](#) applied the technology acceptance model (TAM) to examine the impact of gamification on intention to engage and brand attitude. It seems perceived enjoyment has a strong impact on the intention to engage, which, in turn, influences brand attitude. Low value was associated with observed variable $g4$ (0.78), which offered participants a game to play once a reading assignment was completed, and the storyline is open to the playfulness. Two other variables ($g1$ (0.85), $g2$ (0.83)) used a "come-and-play" strategy and an emotional, fixed storyline to greater success. [Summers and Young \(2016\)](#) explain that not all gamification elements are equally successful in promoting brand engagement. Organizations should emphasize user self-expression, employing concepts such as trust, fantasy, challenges and curiosity, to help promote concepts specifically related to the organization's brand. Thus, libraries using gamification marketing in promotions should use fun presentations and games to get preadolescents more interested in reading.

The coefficient of event marketing was 0.91. [Getz \(2005\)](#) explained that event marketing is a process of using marketing mixes and creating value via clients and customers to achieve the organization's objective. A prerequisite is that the organization itself must be able to

maintain competitive advantages and orient its marketing toward building reciprocal relationships. Variable $e1$ (0.71) was the post: “Highly recommended by the admins! Sign up”; variable $e4$ (0.80) was the post: “Like a team game, sign up and get a gift.” Variables $e1$ and $e4$ used a related activity to attract readers. Observed variable $e2$ (0.88) arranged thematic events in a sequential order (describing the history of Children’s Day, offering a game for those who borrowed a book and then offering a free gift for those who borrowed more books). Variable $e3$ (0.87) was the post: “Children’s Day, come to an activity and get a gift.” These strategies were highly successful. [Lee et al. \(2012\)](#) explained that the main influence path is arousal – valence – perceived ease of use – perceived enjoyment – attitude toward using Facebook – intention to go to the event. For libraries to successfully apply event marketing, they must first stimulate preadolescents and recessively establish bonds. This induces a sense of ease of use and enjoyment, which helps establish the positive use of Facebook. By hosting relevant and stimulating events carefully designed to promote library resources, preadolescents will be prompted to engage with library resources and cultivate their literacy.

Preadolescent sharing and engagement with library posts

For young users, the SNS platform must be perceived as a trusted environment filled with friends; this creates the conditions for hedonic information seeking for this age group. We explored two approaches to stimulating preadolescents’ motivations to use library collections: utilitarian and hedonic. Both approaches proved useful. For the utilitarian approach, WOM received the highest weighting. For the hedonic approach, GM had the higher weighting. The weighting of GM was more than WOM. The weighting of hedonic EV was more than utilitarian BZ and VR. Thus, preadolescents seem to favor hedonic over utilitarian strategies.

[Tamilmani et al. \(2019\)](#) examined hedonic motivation related to the extended unified theory of acceptance and use of technology (UTAUT2). They suggested that hedonic motivation is an appropriate construct for consumer-executed tasks performed for the purposes of novelty and pleasure. However, in a survey of technology use for utilitarian purposes, it is not applicable. Rather than aiming for a dogged commitment to the original model, they recommended making necessary adaptations or omitting irrelevant constructs depending upon the context of the study in question. For example, in the context of retail behavior on Facebook, [Anderson et al. \(2014\)](#) investigated the relationships among hedonic and utilitarian motivations underlying retailer loyalty and purchase intention. They found that loyalty (trust) was influenced by the functions of experiential shopping (hedonic) and information access (utilitarian). Purchase intention was only influenced by time saving (utilitarian) and not influenced by bargain perceptions (hedonic).

In general, content posted on SNSs is not controlled. Hence, preadolescents are bombarded daily with huge amounts of data, some of which may be upsetting to them. Libraries represent an authority with a positive image, which increases the likelihood that young users will trust posts from libraries. Our results indicate that preadolescents not only accept hedonic GM and EV strategies but also accept information-oriented utilitarian WOM and BZ strategies. The VR strategy, which created time urgency, received the least acceptance, despite its offer of rewards. We demonstrated that a two-fold model combining both hedonic and utilitarian functions can effectively describe preadolescent acceptance of library promotion strategies.

Research limitations and suggestions for future research

This study was subject to certain limitations. We focused on preadolescents; future studies could consider widening the age range of participants to include younger and older children. Another useful direction for future research would be to expand the questionnaire design to

collect information on more media channels and their influence on trending subjects. As the libraries in Taiwan are positioned as public services and a means of balancing information among different social classes, the setting and influence of librarians' marketing motives are limited. Future investigations could explore the positioning of public libraries and the integration of different marketing strategies.

Conclusion

It has been suggested that librarians should employ appropriate marketing strategies based on readers' information-seeking behaviors and information literacy to promote their collections to the public. In this experiment, word of mouth had the highest weight (0.96) among sharing marketing strategies, followed by buzz marketing (0.89) and viral marketing (0.73). This indicates that trust and familiarity have the greatest effect on preadolescent choices when assessing information on SNS platforms. Hence, libraries should exploit credible posts as a way to increase individuals' recognition of its collections and encourage people to share WOM information within their group. Message diffusion occurs via the posting and re-posting of interesting topics. To create effective buzz, content must be richly visualized and relevant to preadolescents' daily life so that it can pull these young readers in. Creating a sense of urgency (viral marketing) seems to be an ineffective approach to engaging preadolescent users. Rather, gamification marketing (0.97) can successfully promote a library's collections. For gamification, it is important that positive emotions are experienced in the game-playing process to create positive brand awareness and recall to form the preferred attitude. Events are also effective at gaining readers' attention. In particular, when a thematic group of events are arranged in a step-by-step fashion, readers feel a sense of connection with the library. For young users in particular, the searching environment must be a trusted environment for information-seeking or hedonic behaviors to be successful. In our experiment, the preadolescent participants preferred hedonic (engagement) marketing strategies over utilitarian (sharing) approaches.

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