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Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

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Abstract
This article discusses the influence of neoliberal ideology on public libraries in Ireland, from the first government policy document published in 1998 to the first election after the recession in 2011. The context of the rise in importance of the idea of information and the parallel acceptance of the principles of the free market for providing public services are examined. The Irish government policy documents from the period are analyzed. A critical awareness of these changes is needed in the library and information science field to recognize and oppose policies that are detrimental to the public provision of a library service.

Keywords
Public library policy, Ireland, neoliberalism, public sphere

Introduction

> In the next few days yet another article will be planted in one of our more conservatively inclined newspapers sketching out a blueprint for a radical restructuring of the National Health Service. You may glance at the byline, see the piece to be the product of a fringe right-wing think tank and dismiss it. Do not make that mistake. The article is simply the first shot in the latest campaign by the Adam Smith Institute, a body that has built up a startling track record for floating ideas which end up on the statute books. "We propose things which people regard as being on the edge of lunacy," says its president, Dr. Madsen Pirie. "The next thing you know, they're on the edge of policy." (Rusbridger, 1987)

Alan Rusbridger wrote this in *The Guardian* in December 1987. One of these proposals had been published the previous year as *Ex Libris*, the Adam Smith Institute's view on public libraries, written by Douglas Mason. It is an unrelenting attack on the public provision of a public library service:

> The near total dependence on public funding is justified on the basis of a claimed contribution to the country's intellectual and economic development. Both claims are difficult to sustain. In reality, a substantial part of the public library system is now devoted to the supply of free fiction and other light reading, much of it of little or no literary merit to people who could afford to buy books but choose not to do so. (Mason, 1986: 5)

The aim of this article is to trace the movement of such ideas from "the edge of lunacy" to the heart of public policy in the subsequent decades, in the influence of neoliberal policy change on the public library service in Ireland. It takes as inspiration Greene and McMenemy's book chapter, "The emergence and impact of neoliberal ideology on UK public library policy, 1997–2010," published in 2012. This is original and much-needed work as there is an absence of such research on policy in Irish libraries. For example, a search of Google Scholar and of the author's library's discovery layer for the keywords 'Ireland

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"public library" policy neoliberalism' returns no relevant results.

In the latter half of the 20th century, there was an indisputable and very well-documented ideological shift in the way polities of the Global North provided public services; these western liberal democracies moved from a model of adequate government funding, accepted by citizens, to inadequate public funds to be supplemented by the methods of private, profit-motivated business. This has continued apace in the 21st century. This article takes as its natural starting point the first Irish government policy document for public libraries, *Branching out*, published in 1998. We continue through the beginning of the Great Recession in 2008, which had a tremendous impact on Ireland, to the 2011 general election—the first general election after the recession. This is the first part of a larger and longer-term project to continue this analysis from the Great Recession up to the present (and possibly also retrospectively before the issue of the first policy document). While the heart of this examination is the Irish government documents, an analysis of public policy in Ireland does not seem possible without reference to the UK (in relation to libraries, see Moran and Quinn, 2006). As with many areas, the UK has influenced Ireland to a large degree, and a comparison with its nearest neighbor (and former colonizer) proves instructive. We see that the trends evident in UK public libraries are present in Ireland during this period, though to a lesser extent. Those who want to defend the provision of a public library service must develop a critical awareness of these changes and develop strategies to combat them to retain current levels of service.

This change in the perception of the delivery of public services was part of a larger movement around the world. In the last approximately 50 years, we have lived through the move from the embedded liberalism of the postwar period as the dominant political ideology toward neoliberalism (market fundamentalism, the new public philosophy, or a myriad of other terms used by authors for these ideas). Embedded liberalism allowed for the public provision of certain services as necessary for a well-ordered, functioning society. The current movement of neoliberalism is defined by the primacy of the market as the best technique for delivering those services previously justified as requiring public provision due to their importance to society (for a more detailed explanation of the understanding of neoliberalism guiding our study, see Monbiot, 2016 and Harvey, 2005).

This primacy of the market is evident in the privatization of public services; public–private partnerships increasingly being used for large-scale infrastructure; arguments against the public provision of certain services; radical changes in those services remaining as public obligations; changes in work practices (an increase in temporary and part-time work to avoid provision of benefits to workers, a demand for more "flexibility" as in zero-hours contracts, outsourcing); corporate sponsorship of cultural events; and corporate encroachment on public space.

These changes have affected public libraries, in both the everyday practices of those working in them and their traditional role and defense in civil society (Chapman and Webster, 2006: 643). These changes are evident in a treatment of the patron or user as a customer, despite the non-transactional relationship; a focus on leisure and entertainment (as opposed to education and self-improvement); librarian neutrality as a virtue (manifesting in a prohibition on making judgements); the enthusiasm for the bookshop model being applied to public libraries; using volunteers for library work; the focus on quantitative evaluation to justify funding; the outsourcing of core library work; and the closing of libraries.

The erosion of libraries' traditional justification is due in part to marketization, which includes the commodification of information. In late capitalism, the market is encroaching on areas in which, some argue, it is undesirable. In capitalism's continuing need for expanding markets, new areas are appropriated. Manufacturing has left developed nations to be replaced by service occupations, and it is said that we are in an information society. Ultimately, there is a tension between viewing information as a commodity and upholding information access as a social and public good. Clearly, this will influence perceptions of the role of the library—though there have always been competing visions of the role of the library (see Black 2006: 22). This article intends to explore this tension and the effect of marketization of new areas—namely, the commodification of information—on libraries. How does the role of libraries sit with changing conceptions of democracy, public provision, and information? How has this been experienced by public libraries in Ireland?

First, we outline the parallel trends of the rise of the information society and what it means for libraries, and the concurrent movement to expand markets to include the commodification of information. Then, we incorporate scholarship on neoliberalism and public service. The penultimate section discusses the policy documents pertaining to public libraries issued by the Irish government in the relevant time period, and a brief case study of one library service. Our methodology in this section is a close reading and markup of the government-issued policy documents inspired by

content analysis, looking for patterns, trends, and word frequencies. The concluding section argues for a deeper awareness within the profession of these changes to protect the public provision of the service, and a deeper engagement with democratic theory as a firm base for libraries' purpose and a necessary component of education for librarianship.

Literature review

Effects of neoliberalism: the information society, marketization, quantitative evaluation, the public sphere, and public space

With the shift from government-run public services to neoliberalism, the concept of "the information society" entered the western lexicon during a time when employment in so-called developed nations moved from manufacturing and industry to services or the information sector (Black and Hoare, 2006: 8; Chapman and Webster, 2006: 639). This concept of the information society and the idea that the West had entered into a distinct information age have "taken on an almost mythic status in contemporary discourse," according to Evans (2004: 5), but are "often used in a vague and ill-defined manner." And yet, "despite the imprecise nature of these terms they have been adopted by policymakers, practitioners and popular media to discuss a variety of key developments in economy and society" (Evans 2004: 5). Webster (1995) describes an explosion in the conceptual use of information in academia in *Theories of the Information Society*, some of which he locates in a plethora of business management publishing on the vital importance of information or knowledge to the economy. Government reports during the time period also trumpeted the importance of information/knowledge for a prosperous economy and society (e.g. Department of the Taoiseach, 2008a; see also Kirby, 2010: 153). Following this trend, libraries and library associations also began adopting the word "information" into their professional bodies and literature. Some departments and degrees moved from issuing a Master's in Library Science to a Master's in Library and Information Science, sometimes removing the word "library" altogether (the iSchool trend), in an effort to attract prospective students.

Two poles can be discerned around the concept in the literature: the utopian and the skeptical (Budd, 2008). Many who posit the existence of an information society are optimistic about the future, often to the point of breathlessness and "hegemonic hype" (Pascal and Slouka, in Evans, 2004: 10). Indeed, there is such fervor around the new information society that those who critique it find they have to defend themselves against accusations of pessimism (Robins and Webster, 1999: 6). Perhaps the most influential overview of the information society is that of Webster (1995), who affirms our "informatisation of life" yet has "serious doubts about the validity of the notion of an 'information society'" (29). He draws a distinction between "'information society' theorists, who announce the novelty of the present, and 'informatisation' thinkers, who recognise the force of the past weighing heavily on today's developments" (6). While Webster can see the information society as a helpful "heuristic device," he finds that those information theorists who focus on quantitative approaches without taking into account the quality of information have diminished its value (27).[1] Indeed, Buschman (2003) refers to Roszak's observation "that the word itself has become a 'godword'" (88)—something that means "all good things to all people. Words that come to mean everything may finally mean nothing; yet their very emptiness may allow them to be filled with a mesmerizing glamour" (89).[2] Webster (1995: 220) finds those theorists to be more elucidating whose methods might be called political economy, who attempt to tie theory to what is taking place in the real world, having an effect on people's lives.

Technological advancement was viewed by some as not only shaping our material world but also transforming our social organization. The information society that technology gave rise to "was seen as embodying an inherently progressive social structure which would set humanity on a continuous trajectory of advancement in both economic and social relations" (Evans, 2004: 7). This technological determinism and the then recent collapse of communism allowed us to come to the point of such self-belief that, infamously, Fukuyama's (1992) book title *The End of History and the Last Man* could mistakenly be viewed by some as descriptive. In counterpoint to these views, "invocations of the information society and its 'new economy' are generally ambivalent towards the plight of labour, even though changes in the character of work are frequently at the centre of the observed (or proposed) transformations" (May, 2002: 49). Furthermore, Evans (2004: 11) states: "from today's perspective the early information theorists can be considered somewhat naive and also patronising. Few of their predictions have come true for the majority of workers in the West."

It is obvious that libraries have a real relationship to information and knowledge. But this rhetoric surrounding the information society can be a red herring, obfuscating the real political economy, and not a firm ground to support a defense of libraries, where it is

often invoked. Library advocates should be critically aware of this rhetoric and pay attention to what information is being defined as, who is doing the defining, who has control over information, and how it is safeguarded, disseminated, and made available (freely or for profit).

Considering that their rationale rests on providing free access (at the point of use) to information, it would make sense to assume that the rising prominence of the concept of the information society would be a boon for libraries. But the phenomenal growth of the information economy was not reflected in public library funding. In trying to explicate why this might be the case, Goulding highlights two views of information and technology that emerged among both governments and policymakers internationally:

> On the one hand, information is seen as a social good, enhancing the social, political and cultural life of citizenry or, indeed, as a "fourth right of citizenship" . . . On the other hand, information is also seen as an important commodity and an essential keystone for the continued prosperity of national economies. (Goulding, 2001: 1)

As Goulding (2001: 1) asks: "how well do these two visions fit together? Do they contradict one another or can they, in fact, be complementary?" Libraries exist right at this fault line (Black and Hoare, 2006: 9, Black 2006a: 22–23). These are not questions that will be resolved simply. Librarianship should cultivate a continued vigilance against rhetoric that allows it to be diminished.

Technological innovations that allow for better monitoring of information activities have accelerated information commodification.

> Through this process, information becomes an exchangeable private product not a public reusable good . . . The danger is that governments, supported by business and industry, will place a higher priority on the development of ICTs [information and communications technologies] to support economic productivity than on assisting social cohesion and progress. (Goulding, 2001: 2)

They will just hope for the trickle-down effect to populations that Evans (2004) defined as neoliberalism. Despite the anachronistic acronym, this view, written in 2001 before the advent of social media or smartphones, seems prophetic of our current situation.

A concomitant transformation during this period of focus on information has been the effect of neoliberalism: a clear choice for increased marketization, bringing with it a validation of private-sector methods and a denigration of public-sector service provision and government regulation, which is viewed as interference. These two movements—the information age and marketization—are related. As Schiller argues:

> for definite reasons, political and economic elites assigned mounting strategic importance to information beginning around 1970. This was nothing less than an endeavor to renew the encompassing process of market expansion by generating around information a new and expansionary pole of growth for capitalism. (Schiller, 2007: xiv)

Like Webster (1995), Schiller (2007) criticizes post-industrial theorists for believing that we have transcended industrial society to enter a wholly new age, which did not allow for explanations based on systemic continuity (see also May, 2002). Rather, we have witnessed "what in fact has been a historically continuing process of commodification . . . The commodification of culture and information has been a continuing, if uneven and conflicted, process throughout the duration of capitalist development," which has greatly accelerated (Schiller, 2007: 35). Goulding once more highlights the tension here:

> the challenge now is how well these two priorities can be married so that any further commodification of information and privatization of information channels do not encroach upon the citizen's fundamental right of access to knowledge, ideas and the products of creative thought and intellectual activity. (Goulding, 2001: 3)

Goulding (2001) again prophesies our current politics: citizens relying on private platforms, unregulated and concerned only with profit, for information, to make decisions of enormous magnitude (see, for example, the current discussions on nationalizing social media platforms, banning hate speech, banning political advertisements, and combatting dis- and misinformation online).

This diminishment of the public sphere is another characteristic of neoliberalism. According to Budd, neoliberalism

> is the epitome of a political structure that eschews public good in favor of private interest . . . Perhaps the most insidious aspect of neoliberalism is its destruction of the public sphere and public space. In fact, there is no room for public in neoliberalism. (Budd, 2008: 173–174)

Moreover, neoliberalism erodes the very institutions intended to mitigate the impact of capitalist social contradictions, which of course encompasses the public library. Schiller details the destruction of the public realm by the actions of neoliberal policymakers

> through systematic preferment of corporate commercial interests, especially over earlier state programs for social welfare. Funding and service cutbacks were mandated for public-sector institutions such as schools and libraries, while privatization of not-for-profit service providers and widespread outsourcing bolstered corporate capital. (Schiller, 2007: 43–44)

He continues by listing some of the public institutions involved in information that have been affected by these changes: the US postal service, schools, universities, museums, archives, the Government Printing Office, libraries, and academic journals bought by publishing conglomerates. "These initiatives represent a consistent attempt to discredit, to attack as illegitimate, the very principle of non-proprietary information provision" (Schiller, 2007: 44).

Clarke (2004: 36–37), in his discussion of the neoliberal attempt to dissolve the public realm, speaks about a culture of managerialism as one of the culprits. He defines this as a pervasive business mindset that views the principles of management as applicable across all sectors—private, profit-motivated, public, not-for-profit, and voluntary—independent of what the nature of the service or business is. This view helps legitimize the hegemony of economic discourse.[3] Clarke shows how this discourse, which has remade the public realm in the UK, aimed to depoliticize decision-making. Other commentators, in a similar vein, believe that we entered a time of consensus. The political philosopher Chantal Mouffe (2009)similarly castigated Tony Blair's Third Way for claiming to forge a path between left and right, and state and market, thereby eradicating conflict and contentious decision-making. Politicians attempted to appease all constituents by obfuscating real issues and opinions, and avoiding association with anything a voter could view pejoratively. In the UK, Margaret Thatcher's infamous denial of society—only individuals and families exist—mutated under David Cameron's Conservative–Liberal Democrat coalition government into the idea of the "Big Society," attempting to put ever more government functions back in the hands of the people (just as US conservatives aim for small government through service cuts). As Clarke (2004: 38) says: "The economic calculus is installed as the *dominant* decision-making calculus at supranational, national, local and organisational levels." Thirty years after Thatcher's government, market-based solutions are accepted by voters, who either no longer see or simply "tolerate the blurred lines between the private and public sectors" (Bagehot, 2010: 26). While trying to funnel government functions back to the people or the private sphere, the remaining services provided by government must be measured and evaluated just as in the private sphere, by adoption of private-sector methods, though they are not for profit. Even the UK Labour government "massively expanded the array and range of audit and inspection systems" (Clarke, 2004: 38).

Michael Sandel, the eminent American political philosopher, chose as his theme for the 2009 BBC Reith Lectures the moral limits of markets. He saw the 2008 financial crisis as an opportunity to finally rout the era of market triumphalism. He urged us to "rethink the role of markets in achieving the public good" and "the reach of markets into spheres of life where they don't belong." He argued that cost–benefit analysis done by economists aspires to scientific rigor and assigns monetary value to things, but that "many of the benefits of public policy involve values that can't be captured in monetary terms." Echoing Mouffe's critique of consensus politics referred to above,

> market-mimicking governance is appealing because it seems to offer a way of making political choices without making hard and controversial moral choices. It seems to be non-judgmental . . . The non-judgmental impulse is also an anti-democratic impulse . . . The attempt to empty politics of moral controversy may seem to be a way of respecting our differences, but it is actually corrosive of democratic life. (Sandel, 2009)

These arguments regarding consensus also apply to the increasing discussion of library neutrality taking place. The rights that democratic citizenship bestows upon us come at the cost of responsibilities. But, for Sandel (2009), "notions of ease and convenience replace" the effort required by "democratic notions of inquiry, knowledge, and informed decisions." As Postman (1985) infamously wrote, we are amusing ourselves to death, turning the public into an audience of spectators and consumers as opposed to actively engaged participants. Similarly to Sandel, and at the same time, it appears that McMenemy (2009a: 400) was the first in the library and information science field to see an opportunity in neoliberalism's culpability in the financial crisis and the government bailout of private banks. He finds that there has been a lack of attention to the impact of neoliberalism on public libraries. According to McMenemy:

> We have redrawn citizens as consumers, services provided for public benefit as items to be marketed, measured and in some cases sold. We have reduced the concept of public service to that of a transaction, measured in such superficial ways that the measurement

> itself becomes utterly meaningless. (McMenemy, 2009a: 403)

This ideology has affected libraries in two broad categories: evaluation and management or, more pejoratively, the infiltration of management by managerialism. Managerialism brings "explicit measures of performance and the imposition of private sector management practices . . . [it] has an ideological obsession with the benefits of quantitative measurement to determine service quality" (McMenemy, 2007a: 445–446). This makes sense in the private sector, where the goal is profit and therefore numbers, and sales, matter. But this approach does not convey much information about the quality of service in a library.

McMenemy (2007b: 275) objects to the domination of quantitative evaluation methods used for public libraries. The impact of public libraries on the community should not be measured solely or mostly by quantitative means. For instance, the focus on book-issue statistics leaves us with identical libraries full of populist fiction. Of course, these numbers give us information, but decisions cannot be made using them alone. In a section aptly headed "The tyranny of numbers," Usherwood (2007: 47), in the final book of his trilogy, says: "when libraries are part of a culture that places emphasis on profit and loss, and relies primarily on quantitative data, it changes the way in which libraries operate." This abundant quantitative data has influenced the way policymakers view assessment. Many institutions have faced increasing inspection regimes. In the UK, New Labour governments sustained the ethos of this measurement, initiated by the Conservatives before them.

Buschman (2003) critiques the lack of qualitative measurement within what he calls 'customer-driven librarianship'. This customer-driven focus recasts the library user as a customer, excluding the roles of citizen, researcher, and reader. Buschman (2003: 117) points out that this customer service trend is only a "tactical renaming of long-standing professional values," just as the long-established tradition of outreach is now called marketing and public relations. There is an unfortunate perception that this economic and business hue to language makes actions more legitimate. He reiterates the need for libraries to engage critically with this renaming, and with the bigger picture of public policy change:

> Outside of a more comprehensive view of what is happening to public institutions, reacting to specifics (like library users as "customers") without recognizing the interconnections among such trends in librarianship and similar developments in other parts of the public sphere is futile. (Buschman, 2003: 118)

In the politically motivated trend of looking to the private sector to inform public-sector operations, there has been much writing on how libraries should emulate bookshops. This raises McMenemy's (2009b: 6) ire, as do the library and information science professionals who have embraced this model. Of course, the fundamentally different purposes of each—bookshops to sell books for profit by turning over stock and libraries to provide wide and free access to information by developing a collection—are not related, despite politicians' wishes.

Buschman also laments how bookstores are seen as libraries' successful competitors:

> The bookstore/coffee-shop model represents a near-total denigration of the value of intelligent selection and cataloguing of retrospective collections, ignoring the value of an investment in and maintenance of a collection (print, electronic, or otherwise) available over time. To equate the turnover and stock of a good bookstore and its inventory control system and salespeople with a library demonstrates a breathtakingly shallow understanding of what a library is and does. (Buschman, 2003: 114)

Elsewhere, Buschman (2005: 6) says: "Aping business rhetoric and models doesn't save libraries, it transforms them into something else." Usherwood (2007: 29) asks whether libraries are to be social institutions serving the public good through discerning stock selection and collection development or "quasi-retail outlets that simply seek to maximize their popularity by responding to populist demands?" If it is the latter, then how are they different from retail outlets and why should they be publicly funded? The library is not a bookshop; nor is it a substitute for the bookshop for disadvantaged people.

Usherwood agrees that

> markets are at odds with the service ethic of the public library. Public libraries are not simply parts of the retail book trade but complex public service organizations that have to balance the needs of the individual with those of society as a whole. They should be managed and assessed accordingly. (Usherwood, 2007: 50)

Private companies are under no obligation to provide this balance (indeed, see discussions in several countries, including the USA and Ireland, regarding the post office's universal service obligation ensuring

delivery to rural areas, which is being threatened by privatizing the service).

Buschman (2003: 121) makes it clear that he is not arguing that libraries should not respond to the desires of the community, but that this customer-driven librarianship relinquishes the library's public-sphere role, particularly in organizing social memory and rational discourse in a democracy. Unfortunately, Buschman (2003: 86) finds these ideas widespread in library administration, to the extent that "the literature of library management does not have a new public philosophy subtext. Rather, it is the *text* of that literature: there is no critical distance between economic/business management themes and those in librarianship."

Webster (1995: 49), a self-described critical friend of libraries, warns that professionals must examine the purpose of the library or "they meet the challenges of commercialisation unprepared, and incapable of doing more than adapting to a business agenda," where, we contend, they are bound to fail, as their role is not to sell for profit but to "provide an alternative to the many commercial institutions to be found in our society." The arenas in which one is a citizen are constantly dwindling. This is the role that the library should embrace to secure its future.

Turning the usual rhetoric on its head, Buschman asks:

> What *public* purpose is served by public funding of a project imitative of the private sector? What right do we have to public funding to compete with businesses? Perhaps more importantly, does society *need* another model of media-dominated, entertainment-oriented consumerism in its public sphere? If we (libraries, schools, museums) do not hold out the possibility of alternatives and enact them, who will? (Buschman, 2003: 177)

The documents

Ex Libris, the 1986 Adam Smith Institute report with which we opened, foreshadows these changes. There, Mason (1986: 42) argues that: "There seems no good reason why the state should be expected to provide leisure and entertainment facilities of one kind free of charge to the user when it does not do so for others such as films or football." In other words, information is another commodity that the state should not be providing for free. The Institute's absolute free-market loyalty is demonstrated in the following remark:

> On grounds of principle, it would be preferable for the income of less well-off individuals to be increased so that they can choose the services they use on the same basis as the rest of society . . . In practice, unfortunately, the principle of subsidized provision is now so strongly established . . . that it is unlikely to be readily abandoned. (Mason, 1986: 46)

Furthermore:

> Providing libraries free has not been without other undesirable consequences. Some libraries have had to shut because their facilities were being abused by people with no intention to study but who used them simply as somewhere to congregate. In others, extra staff, including security guards, have had to be appointed to keep the problem under some sort of control. Vandalism and attacks on members of staff have had the inevitable effect of discouraging serious readers and students from using the reference and reading room facilities provided specifically for them. This growing incidence of violence and intimidation is encouraged by the fact that entry to libraries is free. The accommodation they provide attracts those with nothing else to do with their time, particularly rootless youngsters and people with alcohol problems. Once there, they cause problems. (Mason, 1986: 16)

This is an argument against all public space, and for the policing of private space. It insinuates that free public space encourages violence (thereby causing the state to expend more on security). Mason (1986) continues: "it is not unreasonable to suppose that an admission charge or membership fee would have acted as a significant deterrent to those whose interests apparently lie more in disturbance and destruction than in reading or study". The report is disdainful of disadvantaged people. It is characteristic of neoliberalism to challenge "conceptions of the public interest, striving to replace them by the rule of private interests, coordinated by markets" (Clarke, 2004: 31). This conservative focus on the individual and breaking down of social ties goes further and blames the individual for their woes:

> The neo-liberal emphasis on the responsibility of the individual to take action to better their own living conditions was used to justify the withdrawal of state-led service provision and to blame the poor for their particular plight. Anyone who was not thriving in the market-led culture of this decade was assumed to be dysfunctional and wedded to a different and inferior set of values and behaviors. (Evans, 2004: 56)

Naturally, Mason (1986) does not appreciate the space separate to the market that the library provides. He suggests some revenue streams for libraries in advertising. However,

> were libraries, on the other hand to charge the economic cost of providing their services, the public would be able to decide for themselves whether or not the service was worth the money . . . It is only through charging economic prices and competing for customers in the market place that the real level of public demand for goods and services can be determined and a proper allocation of resources made. (Mason, 1986: 50)

Of course, users do pay for libraries—through taxation. But it seems for Mason that anything provided by the government prevents someone else from profiting from it, and is therefore problematic.

The report is thoroughly disparaging about the professional abilities of librarians throughout:

> The range and standard of services and facilities provided would be determined by the consumer through his or her purchasing power, rather than by librarians and politicians . . . And breaking that monopoly would also remove the power, increasingly being abused, to dictate what people may or may not read. (Mason, 1986: 52)

What evidence is there of this abuse of power? For Mason, customer service is the only acceptable paradigm within which one's needs can be met. Why must one be a customer in order to get the service one wants? Why must employees view people as customers to give good service? Library patrons are citizens.

It does not seem hyperbolic to call this report caustic. These ideas might seem quaint in hindsight, except that 23 years later, we can trace the movement of these ideas from "the edge of lunacy" (as Pirie said in our introduction) into mainstream business policy documents. In June 2010, KPMG (a global auditing company and one of the big-four accountancy firms—i.e. not a right-wing think tank like the Adam Smith Institute) released *Payment for success: How to shift power from Whitehall to public service customers* (Downey et al., 2010), and this view reached its apogee. It is worth quoting at length:

> The pattern of public service providers is still largely very traditional in structure and culture. It is still fundamentally based on professions demarcated in Georgian times . . . which are organized into Victorian institutions . . . and which are funded and governed in a 1940's settlement . . . This tri-fold structure can . . . be a source of inflexibility and resistance to change, as well as becoming disconnected from the changing world in which it exists (given technology change, the greater affluence of citizens, etc.). The tri-fold has seen change in the last couple of decades through a mix of: managerialism (e.g. the New Public Management agenda and the creation of performance management and agencies); the use of IT [information technology] (e.g. through e-government); and some privatization (e.g. outright privatization in the utilities and the development of a mixed economy in social care and blue collar services). However, the general traditional pattern of public services remains distinctly intact. (Downey et al., 2010: 11)

Clearly, this report champions the exact changes we have outlined: managerialism, a focus on information and technology, and privatization. These changes are entirely positive in the view of the report's authors; indeed, they do not go far enough. It continues:

> But devolution to local government is not the end of localism. A "local big state" is no more desirable than a "central big state". Local government should seek to devolve to the most local level possible and to encourage communities to take over services. One example would be libraries. Libraries face funding challenges—in that they are more discretionary than other services, usage has declined, the unit cost of lending a book can be more expensive than the wholesale price of a book and customers have new book and information media and services (e.g. Amazon, social networking sites, etc.). The level of community resistance to closing a library is usually disproportionate to the level of local usage, because communities believe that a local library belongs to them, not the council, and they believe in the future potential of the library to do great things. Devolution can allow new ideas to develop. For example—in North America libraries are often run by volunteers not paid council staff, whilst in the UK charity shops often have waiting lists of volunteers wanting to help them with book sales; much of the public space in a library is badly used storing infrequently used books; e-government has put libraries on line, but they still focus on a buildings based service; too many community groups are spending scarce resource on premises; where some councils have handed the library back to the community, they have often turned it into a much more vibrant community organisation and space. Giving councils total freedom on libraries could mean that they create huge social value from engaging a community in running its own library, backed up with some modern technology, whilst also saving large amounts of money on over-skilled paid staff, poor use of space and unnecessary stock. (Downey et al., 2010: 19)

This is a strong criticism of professional skills, physical buildings, and books that are less frequently checked out than others. The language is much more subtle, disguising the same argument.

Ex Libris and even *Payment for success* may be considered extreme views of right-wing, neoliberal, market-worshipping, business-oriented private organizations, but these organizations aim to influence government policy. We can see that these views have permeated into government policy in the UK's Department for Culture, Media and Sport's *Empower,*

inform, enrich—the modernisation review of public libraries, released in December 2009. This statutory body, tasked with library advocacy, was due to issue a policy document at that time but issued a precursor consultation document. It opens with five challenges for libraries, each of which is questionable to a degree.[4]

The five challenges are further delineated by a comprehensive list of 23 questions. The bulk of the document is essays, with case studies at the end, neither of which clearly answer the listed questions or tie to the aims. Furthermore, there is a contribution from the managing director of Starbucks UK and Ireland, which is surprising, and serves as an advertisement. "Can libraries follow suit?" she asks, after selling readers on the business model of Starbucks, which admittedly is her job (Department for Culture, 2009). But why should libraries follow suit with a retail space? What authority or expertise does a private retail manager have to advise on the future of libraries? This imposition of the bookshop model of libraries ignores their importance as a public space, not for profit, and free of charge to enter. Another concern is Minister Hodge's repeated desire to change the statutory obligation to provide libraries. She is "particularly interested in looking at some of the radical ideas on governance structures," and possibly reforming the legislative framework (Department for Culture, 2009: 9).

The following March, the review was released (Department for Culture, 2010). The five challenges remain and there are detailed aims and proposals of how to achieve them. Users are called "customers" throughout the document. It is disparaging toward the profession of librarianship, listing problems with professional education, calling for positions to be advertised outside the professional press, and strongly encouraging the use of volunteers (Department for Culture, 2010: 10). Twenty-three years later and here we see that Rusbridger's (1987) warning has been validated, and Pirie's prophecy has come true: the ideas espoused in *Ex Libris* had moved from "the edge of lunacy" to "the edge of policy" in the UK.

Ireland: Irish government policy documents and the Irish context

We have set the theoretical context in which change was taking place for libraries in Ireland and the UK in this period by discussing the rise of the information-society concept, expanding marketization and the commodifying of information, and the dissolution of public space in neoliberalism. Having detailed these circumstances, we turn to consider their applicability to the Irish context. In an effort to divine the extent to which these processes are evident in Irish local government and Irish libraries, we examined government reports from the period. The Irish government released its first policy document specifically about public libraries in 1998: *Branching out: A new public library service* (Department of the Environment, 1998). This was followed up with *Branching out: Future directions* (Department of the Environment, 2008). This article takes these two documents as bookends to analyze the impact of neoliberalism on Irish government policy for public libraries. Our end point is extended to 2011—the general election which changed the governing party in reaction to the recession. Also relevant for our purposes are those documents detailing the implementation of service indicators as part of public-service reform. The increased quantitative measurement required by the public services is not detailed in the library-specific documents.

This article is envisaged as the initial part of a larger project to continue an analysis of the effects discussed here in the time period from the 2011 general election and the movement out of recession up to the present. The Local Government Management Agency published the *Open Libraries pilot service 2014–2016* report in 2016, leading the way for a roll-out of access to unstaffed libraries. The public library policy reports subsequent to 2008's *Branching out: Future directions* were *Opportunities for all: Strategy for public libraries 2013–2017*, released in 2013, and *Our public libraries 2022: Inspiring, connecting and empowering communities*, released in 2017 (future avenues for research could perhaps include a content analysis of all the reports, as Greene and McMenemy (2012) did in their cited chapter).

From 1987 until 2011, except for a short period (December 1994–June 1997), the center-right Fianna Fáil party governed Ireland, outright and in various coalitions. It faced decimation in the 2011 general election, attributed to the impact of the recession on Ireland (Collins, 2011; *The Irish Times*, 2011; McDonald, 2011). The writing may have been on the wall from the 2009 local and European elections, when the electorate meted out severe punishment to the ruling Fine Gael party, which had enacted many of the neoliberal policies outlined above (Kirby, 2010: 147; MacLaran and Kelly, 2014: 27). It should be noted that the situation in Ireland was slightly different to that of the UK and USA during this period in that this was a centrist-right-leaning government (rather than the center-left-leaning New Labour since 1997 and the Democrats in the 1990s, respectively).

We begin by examining the implementation of increased quantitative measurement and evaluation of public service, as demanded by neoliberalism. Service indicators were introduced to Irish local government in 1994 with the public-service modernization program, the Strategic Management Initiative. The first report from this program was the publication *Delivering better government* in 1996 . It took several years to determine the indicators and get the initiative operating. The first national service-indicator report for local authorities was *Delivering value for people* (Department of the Environment, 2004). Service-indicator reports have been issued every year since. As part of the Strategic Management Initiative, the *Transforming public services* report was published in 2008 (Department of the Taoiseach, 2008b). "Collectively, these reports have set the agenda for change in the Irish public and civil service" (McCarthy et al., 2011: 1). The Strategic Management Initiative was the first formal public-service reform agenda. Previous informal attempts over several decades had been unsuccessful (Browne, 1982: Murray, 2001: 4).

On the release of *Delivering better government*, *The Irish Times* (1996) stated: "As might be expected, the tone of the report is mild mannered." This comment, and the fact that it took so long to get the initiative off the ground, reflects some observations about Irish culture working against public-service reform (Murray, 2001: 5) *The Irish Times* continued: "but its vision of a user friendly, cost efficient public service—in which civil servants enjoy more autonomy and are more accountable to the public—is ambitious and laudable."

The trends we have discussed in this article are evident in these reports, though not to the same degree as in the UK (Kirby, 2010: 160). Certainly, performance indicators were adopted with vigor by government. They only applied to local government initially, but in the wake of *OECD Public Management Reviews: Ireland 2008: Towards an Integrated Public Service* (April 2008, pre-crash) and the government report *Transforming public services* (November 2008, immediately post-crash), the intention was to implement them across the public services. In contrast, local authorities in the UK have been statutorily obliged to publish these measurements since 1995. The UK regime is more rigorous and critiqued by some as "resource intensive" and "bureaucratic" (Department of the Environment, 2004: 15–19).

Delivering value for people (Department of the Environment, 2004) shows a healthy, measured attitude to service indicators. It states that while useful, the context of such data is important and should always be borne in mind. The service-indicator report for the following year (Local Government Management Services Board, 2006: 7) states: "The role of local authorities in libraries, arts, culture and recreation has increased considerably in recent years. The indicators do not capture the full extent of this involvement, a fact that has been acknowledged." Comparing the first service-indicator report of 2004 to that for 2008, it appears that there have been teething problems in implementation. There is a growing awareness of the limitations of such quantitative measurement (Local Government Management Services Board, 2009: 7). Moreover, "there is a danger in performance measurement in that 'what gets measured gets done' and this could skew the focus of local authorities away from key services which are not easily measured" (9). The authors of the report for 2008 positively cite Quinlivan and McCarthy, who argued that adopting the UK approach of using the indicators for many purposes runs the risk of "perverting and bureaucratizing the organization. Professionals and Managers alike can become prisoners of the system and the numbers game" (Quinlivan and McCarthy quoted in Local Government Management Services Board, 2009, 12). Even by 2009, there is still a critical awareness of the issues with quantitative measurement in other jurisdictions and the implementation in Ireland.

In the 2004 report, only a small number of local authorities said that the service indicators were used to actually monitor performance against targets (Department of the Environment, 2004: 10). What is more, in the report for 2008, the Independent Assessment Panel, in its follow-up quality assurance exercise, confirmed that:

> though the indicators are generally regarded as useful by the authorities and would, in their opinion, be compiled by them in any event, there was little evidence of their use as a management tool to set targets and to inform key decisions. This is a matter for concern given the not insignificant resources devoted to their compilation both on an ongoing basis and at the year end. (Local Government Management Services Board, 2009: 168)

This observation was also corroborated by a library head of service at the time, who said that such figures do not influence funding decisions (Pat McMahon, chief librarian for Galway City and County Libraries, personal communication, 2010). Here we see some possible resistance to the government's imposition of these measurement activities.

In a progressive move, the indicator report for 2008 changed from measuring the number of registered users to the number of library visits. Also, an indicator

was added for the annual expenditure on stock per capita, in addition to the number of items issued per capita. Both of these new indicators are much fairer and give a more well-rounded picture of the service.

Yet everywhere we see the acceptance of the customer paradigm. The *Delivering value for people* report's first mention of "citizen" is on page 10. Meanwhile, the report's second paragraph tells us that the government minister with responsibility convened a "Customer Service Group" to compile the report. "Citizen" is used 5 times and "customer" 16 times throughout (Department of the Environment, 2004).

The library-specific documents from this time period are *Branching out: A new public library service* (Department of the Environment, 1998), the first policy document for public libraries from an Irish government, and the follow-up *Branching out: Future directions* (Department of the Environment, 2008), which set policy for a five-year period. *Branching out: A new public library service* is a comprehensive report of over 100 pages. The foreword immediately ties libraries into the government policy goal of ensuring "that Ireland moves rapidly to embrace the opportunity of the Information Society so as to support economic and social progress as well as a more participative democracy" (Department of the Environment, 1998). The Irish government embraced and heavy relied on the information-society concept in government strategic planning documents (Kirby, 2010: 153; McCaffery 2007). In fact, it set up an Information Society Commission in 2001 (Roe, 2001; see McCaffery 2007 for earlier incarnations). It was quietly wound down only three years later (Kennedy, 2004). The report admits that libraries can be taken-for-granted institutions whose "value to the community is not often explicitly stated" (Department of the Environment, 1998: 16). Echoing the discussion of the concept in this article's literature review, the project team acknowledges that "the Information Society is much discussed, but little defined" (19) and continues by defining it in relation to library service provision. It is not only about technology but also about instigating social change.

Branching out: Future directions is a much shorter document at 68 pages, a large proportion of which is given to detailing the achievement of goals from the first report. Of note is that the word "customer" does not appear in the first report at all and is used twice in the second; the word "user" appears 31 and 8 times, respectively; and the word "librarian" appears 19 and 3 times, respectively. Despite the shorter length, this shows a change of terminology and focus in the intervening decade. Furthermore, the first report uses the phrase "information society" 16 times (one of which is in Information Society Commission), while the second report mentions it only 4 times, 3 of which refer to the Information Society Fund, therefore really only once. This demonstrates a clear waning of the importance of this concept as Internet access rose to critical-mass levels.

The second report addresses possible drawbacks to the imposition of quantitative measurement methods on local authorities by the central government:

> In order to ensure that the library service attracts its potential audience, the Steering Group recommends that the value of existing measurement of usage be assessed and, in tandem, that an appropriate methodology of more widespread measurement of usage be developed. (Department of the Environment, 2008: 7)

This may have caused the change in indicators for usage in the service-indicator report for 2008 mentioned above. Finding this better method of measuring usage will "require investigation" and is a priority for the 2008–2012 period (51). The authors also advocate for libraries when they recognize that "statistics or key indicators cannot easily capture" "the level of innovation involved in implementation of *Branching Out*" (19).

Another of the listed priorities of the five-year plan foreshadows issues to arise in the library field in the coming years: "to develop, in the context of *Towards 2016*, innovative solutions to extending opening hours and maximising the availability of professional expertise of library staff for users and to consider the use of volunteers" (51). Opening hours were a strong focus of the 1998 report, and hours were greatly expanded in the following decade, as detailed in the 2008 report. Future research would cover the 2014 pilot and rollout of library access after hour, when unstaffed. This is a major labor issue. It is of great interest to see the question of hours here juxtaposed with maximizing access to staff expertise and also with volunteers, all in one priority bullet point. These become some of the biggest issues in the field in the subsequent years. In the UK, austerity policies brought the closure of nearly 800 libraries between 2010 and 2019 (Flood, 2019). The "Big Society" began a push for volunteerism, which rose enormously. A very large number of professional and paraprofessional positions were lost. It should be noted that 52 new libraries were built in Ireland in the decade between the reports, and the service-indicator reports reflected well on library service provision (Department of the Environment, 2008: foreword).

Branching out: Future directions may be compared to the Department for Culture, Media and

Sport's (2010) *Modernisation review of public libraries* in that many of the same themes appear: a focus on technology, customer terminology, "innovative funding," public–private partnership, "delivery of many local authority services within a shared space," and marketing (Department of the Environment, 2008, 19). However, they are expressed less stridently in the Irish report. For example, in contrast to the Department for Culture, Media and Sport's (2010) "challenge" of demonstrating that libraries are still relevant, the aim in *Branching out: Future directions* is "to examine what would convince more people that public libraries are a relevant and useful part of their lives" (Department of the Environment, 2008: 45).

One of the stated marketing strategies is "to position libraries so that they are seen as community focal points and gateways for and to local authority, central government and cultural services" (Department of the Environment, 2008: 57). This new model of shared space suggests a higher position for the library, but it is acknowledged that co-location might dilute rather than enrich the service. In conclusion, between the 1998 and 2008 reports, we see a noticeable shift toward adopting more of the neoliberal terminology and policies discussed above, while at the same time there remains in Ireland a critical awareness of the importance and value of public libraries, and of the limitations of relying solely on quantitative measurements in the assessment of their value.

Brief case study: a snapshot of the Galway service at the time

What might the more appropriate methodology sought by the 2008 report's Steering Group look like? The word "qualitative" does not appear in the report, but it seems that consideration of qualitative measurements in the evaluation of libraries would be encouraged. In 2010, we interviewed the then chief librarian for Galway City and County Libraries, Mr Pat McMahon (Galway is the fourth-largest city in Ireland, a small city of approximately 100,000 people on the west coast). He was the chief librarian from 1995 to 2013, including the entire period covered by this article. He placed great value on qualitative evaluation and fought what he viewed as the onslaught of neoliberal rhetoric, ideology, and policy on libraries. This section provides a brief account of that interview, and McMahon's attempts to advocate for the library and emphasize the value left unmeasured by not looking qualitatively at libraries. He lamented increasing marketization, the influence of managerialism, business vocabulary, and the decline of the role of the public sphere and public space. Before Usherwood (2007) highlighted the dichotomy between equity and excellence in the third volume of his trilogy, the Galway Public Libraries blog said: "In our fiction collection we seek to combine the popular with the excellent. We are trying to develop a library collection that features books not readily available elsewhere" (Galway Public Libraries, 2006).

For its 2006 staff outing, the Library Council of Ireland chose to visit Galway City and County Library. As McMahon said, it was "not the best but the most interesting" (all quotes are from 2010, personal communication). Galway Library Service could be applauded for its lowest per capita spend at the time (of the 26 counties), but concomitantly it was near the bottom of the league table for per capita issue numbers. Membership was respectable, at halfway down the league table.

McMahon wondered what these figures actually tell us about Galway's library service and what impact the items borrowed have on people. To illustrate the deficiency of reliance on quantitative measures, McMahon mentioned an essay in Orhan Pamuk's *Other Colors: Essays and a Story*, in which Pamuk speaks about the pleasure of reading and, furthermore, the joy derived from simply carrying a great book as a "constant companion"; McMahon relayed that he had similarly carried Stendhal's *The Red and the Black* for three months during the summer holidays. This would be of no use to the library calculating its issue numbers. Rather, he believed, it testified to the unmeasurable value of the public library.

Also unmeasured is the value of the public library as a public space, a physical place to go free of direct cost. McMahon related a story of overhearing a conversation between two men as he left a branch library. One asked his friend where he was going. The other, a man to whom "life had not been kind," replied that he was going to the library to sit down for a while. McMahon thought this was "fantastic."

In January 2009, months after the financial collapse, the austerity budget implemented by the government slashed the book fund for Galway County Council by an enormous 80%. McMahon embarked on a campaign for the library, in which, he said, not a week went by when he did not bring evidence of the value of libraries to the attention of the relevant authorities: the county manager, the finance officer, and the mayor, for example. One effect of the recession had been the increase in circulation rates by 16% from 2007 to 2009. The budget was significantly increased in 2010, though not restored.

In the course of that campaign, he uploaded a video to YouTube in which he said: "In these times which

are characterized by the total domination of modern technology, surely it is necessary and urgent to reconsider language, the role of books and reading, and the role of public libraries." Citing the Greek writer Vassilis Vassilikos' idea of the non-liberating dream, he said: "this is the dream television tries to sell us . . . The non-liberating dream is everywhere today. Everyone is selling it to you every minute of your waking life". The opposite—the liberating dream—is available at the public library *because* it is a space outside the market. Libraries have a value "regardless of popularity and profitability." (Galway Libraries, 2009) Libraries must not be market-driven.

In a letter to an editor regarding the government's introduction of service indicators, he said: "If the service given by a public library authority is going to be measured by such a crude device as the number of books issued, then it is going to have a detrimental effect on the quality of service." In conversation, McMahon quoted the French poet Jean-François Manier: "The book is such an inordinate life stake that it requires criteria of value other than the rate of its turnover."

In 2011, Fianna Fáil was voted out. It was the first general election since the start of the recession in 2008. There is a total of 166 seats in the Irish parliament. The party went from 71 to 20, losing 51. Fine Gael, the other major party (these two parties have traded power since independence), went from 51 to 76, gaining 25 (Wikipedia, n.d.). This massive loss of seats, unprecedented in Irish history, reflected the Irish people's dissent regarding the policies enacted by Fianna Fáil and the party's response to the global recession, much of it textbook neoliberalism.

Another important event to be noted during this period was the abolition of An Chomhairle Leabharlanna (the Library Council of Ireland). It was the only statutory body for libraries in Ireland, created in 1947 under the aegis of the Department of the Environment and Local Government. When the Fine Gael party swept to power with a resounding election success in 2011, on the back of the recession, it announced a culling of quangos (quasi non-governmental organizations) as a cost-saving measure (Phelan, 2015). An Chomhairle Leabharlanna was dissolved in 2012. The responsibilities of this body (and its staff) were subsumed within the Local Government Management Agency and renamed Libraries Development. There was little to no response from the library community in Ireland. The second part of this project would review the effects of the dissolution of An Chomhairle Leabharlanna and the effectiveness of the Local Government Management Agency in taking up its mantle, as well as reviewing the policy documents issued by the new Fine Gael government from 2011 to the present.

Conclusion

We have outlined changes wrought by neoliberalism on public services, and public libraries in particular, in the first years of this century. As Buschman (2003: 170) says, these changes can appear to have occurred "naturally" without much debate about how we would like our public cultural institutions to operate, but are in fact direct results of systematic policy changes due to neoliberal thinking. Indeed, we have reached a point where it can appear absurd, or at least meaningless, to defend libraries using the discourse of democracy and civil society (Buschman, 2003: 101; Chapman and Webster, 2006: 647). Buschman (2003) finds that management rhetoric (managerialism) is eroding the public sphere and managing away the institution of the library as well. McMenemy (2007b) and Usherwood (2007) also express this idea that the very methods which have been embraced by the library and information science field are allowing for the argument to be made against the library. The public library should stop "attempting to justify itself through meaningless formulas that both potentially devalue it, and can be used as weapons against its very existence" (McMenemy 2007b: 276). When these changes of neoliberalism initially came about, Buschman (2003: 7) felt that the defense by librarianship was a "rehearsed litany that constituted 'little more than the ritual deployment of slogans'". Indeed, Budd "unpacks the multiple and often contradictory meanings of democracy and information society to show that librarians should be more aware of how these obfuscations promote certain interests over others" (Rowland, 2009: 169). Throughout this article, the importance of language and the effect of neoliberalism on professional language have been evident. There is scope for further research into Mouffe's theory of articulation here: "If abstractions like 'democracy' and 'liberty' are identified with existing institutions, this will present a barrier to the diffusion of alternative images of society" (Femia, 1987: 44).

Detractors may attempt to discredit these arguments by suggesting that they are ideological or wishful. In response, Buschman (2003) is not "suggesting that librarianship will lead the West out of the wilderness of a soulless capitalism, dominated by media spectacle." Nor is he advocating a vision of an imperial librarianship with an unassailable "higher purpose." He is simply saying that the role of libraries in the public sphere is very important; there is "a need

to provide alternatives and alternative spaces in a culture dominated by information capitalism and media image and spectacle." Faced with this "ethic of the private and the consumer" in so many arenas of life, libraries provide an alternative (180). "No other types of institutions will be able to do so; certainly none have a compelling reason to" (178). "Put at its most basic, if these institutions should not be thought of primarily in economic terms, then they must be situated in the public sphere" (37).

Necessary to the public-sphere idea is the provision of public space. Alstad and Curry (2003) make the same point as Sandel (2009) that the corporate encroachment on public and cultural space prevents different types of people coming into contact. This is detrimental to democracy and causes polarization. This is another facet to the library's role as an alternative to the market. We should not rely on the private sector to provide ostensibly public spaces because the use of private space is not a right:

> The requirement that these spaces be both profitable and safe has led to a demand for total management and controlled behaviour, which precludes political activity and undermines the public dimension of the space (Madanipour 1999). It also alienates and discourages a sense of belonging and community for large segments of society. An increasing preference for privacy and security "diminishes social interaction and diversity, if only because strangers of differing ages, classes, ethnicities, genders and religions have less opportunity to mingle in the same physical space" (Leckie and Hopkins 2002).
>
> The loss of civic space and the resultant lack of unmediated social interaction is damaging to a democracy . . . These are critical issues in an age of rapid changes in electronic communication, powerful pressures towards consumer individualism, and increasing disparities in wealth and access to information. (Alstad and Curry, 2003)

All three issues referred to in that last sentence have intensified in the intervening years. Furthermore, for Mouffe (1993: 6), if the political is extinguished and moral values are relegated to the private sphere, then conflict is sublimated and manifests elsewhere, leading to problems such as the rise of the extreme right and fundamentalism, symptoms of a "confrontation between non-negotiable moral values."

Buschman (2003: 101) finds library and information science's engagement with democratic theory inadequate. His hope is to encourage the field to use thinkers who can bridge the gap between theory and practice, and recognize that democracy is not a thing to be attained, a static state which we will reach, but rather a continuing process. To Buschman's list we would add Mouffe. Budd (2008: 164–165) mentions Mouffe's political agonism briefly in his discussion of democracy. Mouffe critiques the dominant political philosophy of Rawls and Habermas for attempting to eradicate conflict and undecidability from the public sphere. Like Buschman, central to Mouffe's approach

> is the awareness that a pluralist democracy contains a paradox, since the very moment of its realization would see its disintegration. It should be conceived as a good that only exists as good so long as it cannot be reached. Such a democracy will therefore always be a democracy "to come" . . . which confronts the consequences of acknowledging the permanence of conflict and antagonism. (Mouffe, 1993: 8)

Mouffe rebukes the progressive politics represented by Blair's New Labour and theorized by Anthony Giddens in *Beyond Left and Right* and *The Third Way*. She abhors their transcendence of the traditional left–right dichotomy, a 'win-win politics without adversary' that pretends to eliminate power relations in a situation of consent.

Foucault told us that "the time of men does not have the form of an evolution, but precisely that of a history" (Smart, 1986: 171). Indeed, Foucault's intention in his genealogical analyses was to "bring it about that [we] 'no longer know what to do,' so that the acts, gestures, discourses which up until then had seemed to go without saying became problematic," just as Buschman (2003: 181) cites Maxine Greene, reminding us that things can always be other than they are. In this vein, this article intended to raise questions about the current paradigm in which public library service is provided, by evincing it from government reports and literature about public provision. The extent of neoliberalism—defined by marketization, information capitalism, erosion of the public sphere, quantitative evaluation of public service, private-sector methods expanded to public service, and changes in work practices—has been explored, and we have examined the degree to which it manifests in library provision in Ireland.

Considering the changes wrought by neoliberal policies, we urge a development of critical awareness in library and information science education and the field. The role of public libraries juxtaposed with the changing conceptions of democracy, public provision, and information must continue to be examined. This research is of practical significance in calling for librarians to fully engage with these ideas, recognize obfuscating critiques, and prepare a defense. It is of academic significance in that there is no literature on

neoliberalism and Irish libraries, or analysis of the policy documents issued using this lens. The thinkers whose views we have delineated here provide strong arguments for protecting the continuing role of the library as an alternative space in the public sphere when much else is market-driven. They also provide an impetus for information professionals to see it as their duty to be informed. Indeed, it is our ethical responsibility to engage in self-examination, form an opinion, and take a thoughtful stance so that we are the drivers of change in the future.

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Notes

1. His critique foreshadows later discussion of the use of quantitative measures by management in business and local government.
2. Similarly, Webster (1995: 220) identified 400 conceptions of information in the literature: "the 'bundling' of all these concepts under one term both homogenizes extraordinarily different activities and spheres . . . and collapses the meaning of the word itself." The political philosophers Laclau and Mouffe (1985) outlined this realignment of meaning for many concepts—most notably democracy—in their theory of articulation. There are avenues for future research here.
3. Related to this is the devaluing of social sciences and humanities in academia, where the qualitative evaluation needed to counter the economistic quantitative focus takes place.
4. The first challenge is to demonstrate that libraries are *still* relevant and vital. This, of course, accepts with seriousness that they may not be. The second challenge is to increase use, bringing to mind the debate between equity and excellence considered by Usherwood (2007), and the difference between equality of access and equality of use. The third challenge refers to the immediacy of access needed in our "24/7 culture," which raises the issue of speed as a virtue at the possible cost of quality and accuracy. The fourth challenge is about extending the opportunities presented by digitization to *all* libraries, bringing with it debates about the centrality of information technology to our information lives, questions of quality, and effort in finding sources and discrimination between sources/evaluation of those sources, and funding. The final challenge reminds us that we must face all these whilst under economic pressure and with limited resources.

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Article

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A reassessment of the design of Carnegie public library buildings with a view to their future use: The case of Evanston Public Library, Illinois (1908)

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Abstract
Based primarily on archival sources, this study focuses on the original design of the purpose-built Evanston Public Library, Illinois, opened in 1908. Throughout the course of its lifespan of half a century, the Library earned a reputation as one of the town's most cherished and revered buildings. Its demise, along with that of other Carnegie library buildings, as well as the many that have survived, encourages us to reflect on the changing popularity of Carnegie libraries as public buildings in relation to their potential for ongoing use. Celebrating the legacy of the architectural progressivism inherent in Carnegie public library buildings enhances today's image of their origin, thereby helping to heighten expectations for their future. Re-assessing the reputation of the original designs of Carnegie libraries through case studies like Evanston adds weight to the argument that, where feasible, meaningful efforts should be made to conserve extant Carnegie library buildings.

Keywords
Carnegie libraries, history of libraries and library science, library architecture, library buildings, principles of library and information science, USA

In their seminal book *The American Public Library Building*, Joseph Wheeler (director of the Enoch Pratt Free Library, Baltimore, 1926–1945) and Alfred Githens (architect of the monumental art deco Brooklyn Public Library, 1941) told the story of the function and evolution of the modern library building. Subsidized by the Carnegie Corporation, their book not surprisingly included discussion of the Carnegie library-building type. Wheeler and Githens (1941) described library architecture at the turn of the 20th century, the years of the Carnegie library-building program, as an "era of pretentious display" (7), a view that was complemented by their assertion that "[b]eauty through proportion and color is to be preferred to beauty through elaborate ornament" (84). At the same time, however, they also gave credit to the overall progressive influence of the program, which, in their opinion, especially in its later phase "decried elaboration" (9).

Conflicting perceptions of Carnegie public library buildings

Herein lies the split personality of many Carnegie library buildings. On the one hand, their image accords with the perception of architecture immediately prior to World War I, criticized as early as the 1930s as pompous, old-fashioned, and pretentious (Prizeman, 2013: 239). This has made it easy to argue

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that Carnegie libraries in their original form were architectural *mistakes*, their designs seen as having added little or nothing to the development of library architecture (Allen, 1976: 96). The implication of this line of argument—that Carnegie libraries had serious architectural problems and limitations "baked in" from the outset—is that preserving and adapting old, dysfunctional buildings in a historically responsible way can soak up considerable resources (Mattern, 2007: 29). The small footprints of original libraries have meant the construction of many additions, some of which do not always work (Schlipf, 2019). Bringing Carnegie libraries into line with the digital age and disability legislation has been a challenge, as has the task of providing the "openness, transparency, and flexibility" expected in a pluralist, inclusive society (Hille, 2019: 361). Many Carnegie libraries have not stood the test of time, and because bringing a Carnegie library into alignment with the requirements expected of a modern library service may cost more than building a new library, a large number have been razed or recycled for other purposes (Schlipf and Moorman, 2018: 343). Although there is evidence that a section of library users like historical library buildings, their image corresponding with an abiding notion of "libraryness," others welcome the experience and services available in new-build premises (Black, 2011). Today's information-age patrons do not necessarily display the ardor for Carnegie library buildings that earlier generations did (Maloney, 2013). Some see Carnegie libraries as representing obstacles to progress in widening and popularizing library use (Elmborg and Pawley, 2003: 237).

On the other hand, the Carnegie library building has been seen as having played a pivotal role in the creation of the functional, public-friendly, modern library—or as Van Slyck (1991: 374–380, 1995: 33–40) has put it, the "reformed" library. In many places, Carnegie libraries remain as key components of civic identity and local heritage, with large reserves of goodwill and a deep sense of nostalgia garnering support for their protection. In the USA, for example, it is estimated that some 770 of the 1679 public libraries that Carnegie's money helped build (between 1889 and 1923) still fulfil a library function—a notable testament to their original designs, even if buildings have required extensive remodeling or additions (Bobinski, 1969; Jones, 1997; Weismantel, 2017). Other buildings conserve their heritage as civic landmarks by having been converted to serve other public functions. Many Carnegie libraries "have been transformed and reused as historical museums, city halls, art centers, and even bars and restaurants, sometimes by dramatic means" (Capps, 2014). Whether retaining their original function or repurposed, many Carnegie libraries still stand, fulfilling the expectations of their founders that they should be built to last. This is something which seems to have been understood in St Paul, Minnesota, where three Carnegie libraries have survived either largely unchanged (Riverview Library), sympathetically remodeled with money raised by a neighborhood library association (St Anthony Park Library), or recycled as a repository and center for labor history (East Side Library) (Lindeke, 2016).

Based on an extensive investigation of archival sources (Carnegie Corporation of New York Archives, Columbia University, New York; and Evanston Public Library Archives), this study focuses on the original design of a Carnegie library that has *not* survived. The purpose-built Evanston Free Public Library in Illinois, 15 miles north of Chicago, opened its doors on New Year's Day 1908, and continued to serve the local community for half a century. Its eventual closure and demolition, however, should not be allowed to detract from the many positive aspects of its original design, despite the view that, in the digital age, Carnegie's library buildings have become anachronisms. Nor should its demise, like that of many others, obscure the use that can be found in adapting or remodeling the Carnegie library built form—a pathway to continual or adaptive recycling that can be bedded in by reassessing the value in original designs like that at Evanston.

The town of Evanston and its first libraries

The town of Evanston was named after the Methodist politician John Evans, who was instrumental in founding Northwestern University in 1851. Three years later, the university settled on the site of what was to become Evanston, which was officially incorporated as a village in 1863. The aftermath of the Great Chicago Fire of 1871 saw a growth of towns and suburbs around the metropolis. As both a suburb and an independent town, Evanston offered a peaceful alternative to the hustle and bustle of a resurgent Chicago, and the once modest township rapidly became the site of leafy streets and new homes, many of which were individually designed. In 1892, Evanston was incorporated as a city. By the turn of the century, its population had reached just under 20,000, a figure that was to increase threefold in as many decades (League of Women Voters of Evanston, 1955: 1). At this time, Evanston was seen as at once "an up-to-the-minute city" and a "residential City Beautiful"—the "most beautiful city in the world," according to the

Director of Works at the 1893 Chicago World's Fair (Reeling, 1928: 456).

By the time the Carnegie library came along, Evanstonians had already enjoyed access to a free library for over three decades (Evanston Public Library 1973; Lowinger, 1974). A local library association had been founded in 1870 and, in the following year, it was in a position to open a library, its mission being "to awaken a desire for sound knowledge and a correct taste, and to provide for the gratification of all classes of the community" (Evanston Public Library, 1897: 4). Although technically open to all, the library operated on the basis of membership subscriptions, the cheapest of which was set at $5 per year (or just over $100 at 2020 prices). Shortly afterwards, however, in 1873, local citizens voted unanimously to turn their fledgling fee-based social library into a free public library. Nearly 1000 volumes were transferred from the subscription library into the ownership of the public library. The public library soon began purchasing new stock and, in 1879, it began buying books for children under the age of 10. In 1894, the library received its first trained librarian, who immediately oversaw the introduction of a card catalogue, the Dewey classification system, and the offer of membership to students from Northwestern University. The open-shelf, or open-access, system, by which readers were given direct access to shelved books, was adopted in 1898—Cleveland Public Library having inaugurated the system in the USA eight years earlier (Brett, 1891).

Although in 1893 relatively spacious accommodation for the library had been found on the first floor of the new city hall, by the early 20th century the demands of a growing and increasingly prosperous and educated population were placing a considerable strain on the library's facilities and administration, as the librarian's annual reports repeatedly demonstrated. In 1900, a wealthy local resident, Charles Grey, offered $100,000 for a new library building, on the understanding that the city would provide a site for its construction. This substantial pledge was withdrawn two years later when it was made clear, partly as a result of municipal financial difficulties, that no site could be found, at least not in the near future.

The Carnegie grant and preliminary planning

The city thus approached Andrew Carnegie for help and, in 1903, the philanthropist promised to gift $40,000 (excluding the cost of the site and ongoing maintenance) for a new library building (Evanston Public Library 1904). In 1904, the Library Board asked for a further $10,000, with the president of the Evanston Library Board, JW Thompson, and the city's mayor, John Barker, meeting Carnegie's secretary, James Bertram, in person in New York to discuss the matter. The Evanston representatives believed that they had received a pledge from Bertram to meet the request, but Bertram later wrote to them saying that he could not recall the meeting. Nonetheless, Carnegie eventually increased the grant to $50,000 (Barker, 1905; Bertram, 1905a, 1905b, 1905c, 1906; Carnegie, 1903; Thompson, 1905).

Spurred on by the gift, in 1904 the city was able to procure a site from Northwestern University for $31,600. To make good the shortfall in the funding required to build a new library, the city allotted $65,000 for the project and, in 1906, a bond issue of $25,000 was unveiled. In addition, a number of private donations were forthcoming, eventually amounting to $12,000. Money for a collection of music sheets and literature was donated by George Coe, a professor at Northwestern University. The collection, named after his wife Sadie Knowland Coe, was extensive and would require a dedicated space when the new library came to be built. Other donations included a mantel for the children's room; a statue of Psyche (the Greek goddess of the soul), made in Italy, for the reference room; and the book collection of the Evanston Medical Science Library Association. It was predicted (Evanston Public Library 1906) that a local library tax would raise $10,000 per year. (Evanston Public Library 1906)

To design the new library, the Library Board placed its faith in Charles Phillips (of the firm Rogers and Phillips). Phillips worked up several designs for consideration by the Board and, in the late summer of 1905, a decision was reached on what was believed to be the best option. The original estimate of costs was $110,000, but this was for a building substantially constructed of wood. Clearly, for reasons of fire safety, the predominance of wood in the design was less than acceptable for a library building, so a revised design and associated schedule of costs—increasing to $130,000—were drawn up. The new design gave the building a steel frame, steel roof trusses, cement floors, tile partitions, a tiled roof, and wire lathing. The exterior was to be dressed in buff Bedford stone.

Bertram (1906), representing Carnegie, expressed his disappointment that so much money was being spent on the new library building in excess of the $50,000 Carnegie had promised, and even threatened to withhold payment of the grant. However, the Evanston Library Board defended its expenditure and the design of the new building, arguing that: "Utility has been the primary object in planning, and the exterior will be as devoid of ornamentation as it possibly can

Figure 1. Evanston Public Library (1908).
Source: Evanston Public Library Archives. Reproduced courtesy of Evanston Public Library.

be, and [will] present a pleasing and symmetrical appearance" (Thompson, 1905). Briefing the local press when the new library was finished, the Library Board reasserted its belief in the modernity of the design: "the building has been built with a view to utility and economy of administration seldom found" (*Evanston Index*, 1907). Any disagreement with this defense by Carnegie's office did not last long because the grant was eventually paid.

Construction and design

The foundation stone was laid on 2 June 1906. Construction was speedy and the library was opened on 1 January 1908. The design of the new library was said to have "met with general approval throughout, both on the part of the public and experts in architecture and library construction" (*Evanston Review*, 1933). Most reports described the library as "classical Greek" in style, but one source was more specific in its description: "Classical-Ionic" (*Evanston Review*, 1933). Set back from the road, the building was surrounded by generous and pleasant gardens either side of a long walkway leading to a tall flight of entrance steps typical of a Carnegie library (Figure 1). Clearly, in respect of its Classical Revival lineage and the manicured green environment that was flung around it, the library chimed with the City Beautiful movement of the time, as did the urban development of Evanston generally.

The library was said to be "beautiful inside and out" (*Evanston Index*, 1907). Cut in Roman capitals on the cornice of the building were the words "Evanston Public Library." The word "free" was not included in the name as it was felt that the truly *public* nature of the public library in the USA had already imbedded itself in people's minds. The word "Carnegie" was also deemed unnecessary as the city

Figure 2. Delivery hall, Evanston Public Library (early 1930s).
Source: *Evanston News-Index* (1931). Reproduced courtesy of Evanston Public Library.

elders believed they had already enthusiastically expressed their gratitude for the great philanthropist's assistance, and Carnegie certainly never demanded that his name be used in connection with the gifts he bestowed.

The interior of the building was said to be in keeping with its grand classical exterior. Entering through a vestibule, readers found themselves in a spacious delivery hall, illuminated during the day by a full-width skylight (Figure 2). The hall was finished in mahogany, as were all the principal rooms. In the children's, general reading, and reference rooms, slabs of marble formed the base of every piece of woodwork and furniture. Throughout the ground floor, cork flooring laid on soft cement helped reduce noise. Directly opposite the vestibule, situated at the back of the delivery hall and flanked by catalogue cabinets and book-display cabinets, was a loan (circulation) desk, lit by two tall lamps and "equipped with all modern conveniences for the necessary records of circulation" (Evanston Public Library, 1907: 16).

Behind the delivery hall and its loan desk, the architect placed a large bookstack room. Extending to four stories, the iron framework of the room, made by Snead and Company Iron Works (1915), was built on concrete foundations. The firm specialized in the construction of multitiered, self-supporting book-storage rooms. The columns supporting the shelving also bore the weight of the tiers above. Later, under the direction of Angus Snead Macdonald, the company became closely involved in developing the

Figure 3. Reference room, Evanston Public Library (mid 1930s).
Source: *Evanston Review* (1938). Reproduced courtesy of Evanston Public Library.

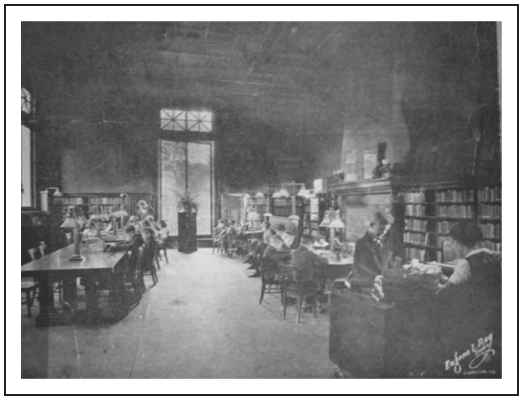

Figure 4. Children's room, Evanston Public Library (mid 1930s).
Source: *Evanston Review* (1938). Reproduced courtesy of Evanston Public Library.

concept of the "modular library" (Black, 2016: 122–125; see also Baumann, 1972). To diffuse light, as in other Snead projects, the floors of the Evanston bookstack room were made of ground glass. With a capacity of 100,000 volumes, the room had more than enough space to house the 38,000 volumes transferred from the old library (this spare capacity in part ensured the survival of the building for over 50 years, its replacement not being required until 1960).

Two floors of the bookstack room were open on one side, facing into the delivery hall. In the tradition of oversight from a central position, Evanston librarians thus had a direct view of the public's movements in the stacks from their positions at the loan desk in the entrance hall. However, oversight of the children's room and the reading room was limited from this central position, with views only being available into these sections through their open doorways, unlike in many small Carnegie libraries, where the absence of solid partitions facilitated full and direct lines of sight.

Access to the reading room was off the delivery room, to its right-hand side. An entire wall was devoted to a periodical rack, and some volumes on open-access wall shelving were made available. A large doorway in one wall of the room gave access to the reference department, "a large, light room, somewhat apart from the rest of the library" (Evanston Public Library, 1907: 17; Figure 3). Each reading table had four places and two reading lamps. Alcoves on both sides of the reference room provided "cosy retreats for students" (*Evanston News-Index*, 1931). Situating the reference accommodation at the rear of the library in a secluded position, as well as using the reading room as the means of conveyance into the hallowed reference space, echoed a traditional hierarchical arrangement of library spaces. Art folios were arranged at the far end of the reference room, accompanied by large tables convenient for their examination (alongside medicine and music, art was promoted as one of the library's major specialisms).

Returning to the delivery hall, readers leaving it to the left of the loan desk entered a large children's room (Figure 4). With their own catalogue, children were promised personal assistance in selecting books. The children's collection contained not only children's books, but also a selection of standard works of adult literature aimed at challenging children to become familiar with "the master minds of the world" and providing an antidote to "undirected and misguided reading in youth" (Evanston Public Library, 1907: 17). At the rear of the library and proximate to the children's room, thus offering easy oversight of younger readers, was an office for librarians, which was also connected to cataloguing and work rooms. These, in turn, were connected to the four-level bookstack.

Above the ground floor, a mezzanine level accommodated a directors room, a staff room, and a women's lavatory, as well as the aforementioned Sadie Knowland Coe music collection. Moving below ground, in the building's half-basement, a lecture/meeting room—which the design termed "audience room"—was provided (like the rest of the basement, as well as the mezzanine level, the flooring was hardwood). The audience room could accommodate up to 150 persons and was furnished with a stereopticon (magic lantern). Space next to the audience room was reserved for a historical room, the contents and use of which, it was anticipated, would expand rapidly. The third major space in the basement was a boys room, to be used for both reading and activities arranged by boys clubs. A special separate space for boys was

regarded as important in order to attract them away from the immorality of street life: "The boy who is won over from the loafing habit is on the safe road to good citizenship" (Evanston Public Library, 1907: 18). A men's lavatory, a janitor's room, and areas for heating and ventilation equipment completed the basement plan (a fan system was adopted in preference to the natural-draft system that operated in Evanston's schools) (Evanston Public Library, 1905).

Development and demise

After the library opened, "Evanstonians rediscovered their library and patronage figures jumped sharply" (*Evanston Review*, 1933). Numerically, the new building was an immediate success, with use of it increasing by 12% in the period from 1 March to 31 May 1908, compared with the same period the year before (Evanston Public Library, 1908: 13). By 1935, half of the city was using the library ("More than half," 1935). In the years that followed, much was made of the growing development of the children's room, a stimulating isotype image being distributed to the local press to depict a 120% increase in children's reading in the decade to the end of 1937 (*Evanston Review*, 1938). The library was viewed as not only efficient, but also comfortable, the latter characteristic being enhanced by the provision of an "outdoor reading room"—likened to the upper deck of a cruise ship—on the roof of an addition built in 1934 from federal funds to facilitate the expansion of the collection and its user base ("SS Booklovers," 1935).

After World War II, the building became seriously overcrowded. In 1953, local citizens voted against a serious remodeling of the building. A minor remodeling was undertaken in 1955 but this was not enough to allay fears that the building was not fit for purpose. It was razed in the late 1950s and a new library, opened in 1961, was built on the same site. Had the Carnegie library in Evanston made it into the era when, as a reaction to modernism's embrace of radical urban development, the preservation and recycling of buildings became more popular, its fate might have been different. However, constructing an extension to provide the same amount of space that eventually became available in the building that replaced it would have required a good deal of architectural creativity, as well as money.

Evaluation

Evanston's Carnegie library building was completed the year before rigorous architectural control was introduced by Carnegie. In 1897, Carnegie appointed James Bertram as his private secretary. The following year, Bertram became responsible for reviewing all applications for library-building grants. Through familiarizing himself with building plans (drawings and written statements of intent) sent by grant applicants, Bertram gradually began to link his perusal of plans to the funds he advised his employer to offer or withhold. In 1908, this process became formal, with Carnegie's office stipulating that plans needed to be received, inspected, and, if necessary, amended before any pledge could be issued. Bertram's control of planning was intensified in 1911 with the production of his *Notes on Library Bildings* (*sic*), a set of guidelines written with small libraries in mind but applicable in its fundamental principles to larger libraries also (Bobinski, 1969: 58). Bertram's aim, which developed gradually over a number of years and culminated in the publication of *Notes*, was to exercise control over any tendencies that existed on the part of local library authorities and the architects they appointed to waste space in buildings and to embellish them with superfluous ornament or decoration.

The plans for Evanston were drawn up before formal control of design plans was instituted by Carnegie. However, this does not mean to say that the Evanston design, as well as others produced before 1908, can be automatically categorized as overblown, extravagant, or deficient in functional characteristics—a criticism that is often leveled at the first generation of Carnegie library buildings. On the contrary, the Evanston building contained a great many features that were in alignment with the new thinking on efficiency in library design that had been emerging since the end of the 19th century (Poole, 1881; Soule, 1912).

What immediately threatens to obscure the fact that Evanston was the product of a period of significant experimentation and innovation in library design is the building's classical style, which for today's observer often implies a stuffy and elitist mission. However, focusing on style misses the critical architectural contribution that library buildings like Evanston made to the development of user-centered library architecture. Although it was in the interwar period that the transition to modernism and the rise of a functionalist principle became highly visible, a palpable sense of the modern can be detected before World War I. The beginnings of the modern movement were essentially a fin-de-siècle phenomenon and were inclusive of the trend in the Edwardian period—notwithstanding the flourishing of architectural eclecticism at the time—toward a strong revival in monumental classicism (Summerson, 1989: 214, 218, 237).

Evocative of the civic culture of the ancient polis, the Evanston building's prominent "municipal

landmark" location and classical style symbolized the importance attached to public education and culture. This reverential material statement in support of modernity continued to be expressed inside the building, with its interior components comprising open stacks; generous children's accommodation; elegant mahogany-clad reading and reference rooms; a historical records room that chimed with the democratic spirit of the republic; a space for lectures and community meetings; and a spacious delivery/entrance hall, top-lit by a large skylight accentuating the library's openness, and flanked by catalogue book-display cabinets, marking the institution's commitment to public knowledge.

Evidence taken from designs like that at Evanston shows that the Carnegie program, far from perpetrating an epochal architectural disaster, contributed to a significant era of transition in library design (Prizeman, 2012; Van Slyck, 1995). The Carnegie library in Evanston points not to the production of architectural follies, but to significant advances in library design, contradicting the discourse that Carnegie libraries represented an episode of elitist overindulgence in wasteful aesthetics at the expense of functional library economy.

Conclusion

Throughout the course of its life span of half a century, Evanston's Carnegie library was one of the town's most cherished and revered buildings. Its demise, along with that of others, encourages us to reflect on the changing popularity of Carnegie libraries as public buildings in relation to their potential for ongoing or future use (Prizeman et al., 2018; Shelf Life, 2020)—a potential that is increased by revising any negative images that may persist regarding their original design.

Celebrating the legacy of Carnegie public library buildings—providing it is possible to separate their material form from their funder's reputation as one of the most brutal employers of the USA's Gilded Age—can work to enhance today's image of their origin and thus help heighten expectations for their future. Reassessing the reputation of the original Carnegie library built form adds weight to the argument that, where technically and economically feasible, meaningful efforts should be made to conserve them—that is, to renew their fabric either for a continuation of library service or for repurposing.

It goes without saying, of course, that many libraries, hampered by built-in technical deficiencies and irrespective of the general progressivism inherent in the Carnegie library built form, have outlasted their usefulness and consequently perished. However, in recent years, support has been expressed for the great potential of public library buildings of the formative era that are now threatened with closure. There is clearly a growing heritage-conservation zeitgeist surrounding the retention of such historical cultural infrastructure. The prolific nature of Carnegie libraries, alongside burgeoning positive attitudes toward sustainability and recycling, has caused them to become familiar illustrations of a growing mentality that enthusiastically welcomes the notion and practice of heritage preservation. Extant Carnegie library buildings, subject to evaluation using modern architectural techniques and to rigorous historical documentation and assessment, surely have a bright future.

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What we talk about when we talk about information literacy

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Abstract

Information literacy skills are requisite to fulfilling one's potential and are highly connected to a good quality of life. However, the ways in which information literacy is discussed within the academic canon are largely unexplored, particularly as these conversations take place through different cultural lenses. The ways in which such cultures are grouped often rely on traditional methods of geographic clustering that are increasingly complicated by the disparate internal nature of societies. Using text analysis of a large bibliometric data set, this research is an attempt to examine how scholars around the world discuss information literacy in their publications. The authors pulled 3658 records with the exact term "information literacy" from the Scopus database. This data was analyzed for the most frequently employed words and phrases, and grouped by country. The authors then further grouped the countries by their levels of literacy, Human Development Index ranking, the average number of citations per article, and a metric created by the authors that assessed each country's progress in regard to the Sustainable Development Goals and population health. The results include a discussion of the differences in the ways that scholars from different cultures discuss information literacy, and a number of data visualizations to highlight differences in the data.

Keywords

Information literacy, information instruction, services, user populations, global perspectives, libraries, information, library and information science, bibliometrics, informetrics, webometrics, information systems, information retrieval, society, culture, development

Introduction

As demonstrated by research, it is clear that good information literacy skills are necessary in order to fulfil one's potential. Information literacy has been linked with maintaining good health, understanding literature related to current culture, and evaluating quality online information (Leung, 2010). It is also a fundamental component of civic participation and engagement (Lee, 2013). Poor information literacy has the capacity to negatively influence a person's career prospects, education, finances, and health (Lloyd et al., 2016), while positive information literacy is consistently linked to better health information acquisition and outcomes (Leung, 2010). Generally, levels of information literacy have been highly corroborated in scholarship across various cultures as having a relationship with quality of life (Avilés et al., 2016; Leung and Lee, 2012; Ukachi, 2015).

Despite its significance for factors regarding quality of life, there seems to be limited cross-cultural discussion on the manifestation of information literacy as a concept and practice in varied geographic contexts. In order to have a meaningful dialogue across international lines, the global scholarship on information literacy must be examined. This article attempts to do just that by using a bibliometric approach to shed light on how information literacy

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is regarded as a concept internationally. Ten years of Scopus database records—2010 through 2019—with the exact term "information literacy" in the title, abstract, or keywords were extracted and cleaned for a result of 3658 records. The data was grouped geographically, and a text analysis approach was utilized to extract the most common words and phrases from the titles and abstracts. The results were grouped with the most common keywords from each country. In an attempt to provide alternative ways to examine cultural contexts, the countries were then arranged according to various indicators selected by the authors. These included the Human Development Index (HDI), literacy level, the average number of citations per article produced in these findings, and a metric created by the authors that assessed each country's progress or change over approximately 20 years in regard to the Sustainable Development Goals (SDGs)—a statistic that is thoroughly described in the methods section.

The result of this approach is a number of data visualizations that display the most common terms to describe information literacy in different groupings of geographic regions, as well as a discussion of the themes present in each grouping. By seeing how researchers from different groupings of countries describe their scholarship on information literacy, it is the authors' hope that a deeper understanding of the term and its related practices can be developed. This work was also conducted during a cultural shift regarding how we think of, categorize, and interact with—and similarly resource and prioritize—differences in race, culture, and diversity within and across geographic lines. This work suggests, at an essential cultural moment, a reconsideration of the nature and conception of information literacy and understanding of geographic variation.

Background

Credit for coining the term "information literacy" is typically given to Paul Zurkowski (1974: 6) and stems from a line in a report he wrote to the National Commission on Libraries and Information Science in which he stated: "People trained in the application of information resources to their work can be called information literates." What is more significant in this report, however, is the way in which Zurkowski talks about information—not as a thing that exists as a separate entity but instead as an interaction of concepts and ideas with the mind of the user. In one regard, this is a step toward information-as-process instead of information-as-thing (Buckland, 1991). This also sets the standard for information literacy being an active pursuit, which is a progression of thought that has persisted. In a recent publication by Darin Freeburg (2017: 974), he states: "Conceptualizations of information literacy have shifted from a focus on identifying universal standards for finding information, to outlining dynamic skills, subjectivities, and creation processes that develop this information." It is this ability to pursue information-as-process through executing these dynamic skills that is the hallmark of individual success in an information-saturated society.

While the significance of information literacy ability has been made apparent through scholarship, the ways in which information literacy is discussed within the academic canon are not as clear. When scholars talk about information literacy, what do they talk about? Is it the same dialogue in different geographic clusters? There seems to be some thought within the scholarly community that information literacy and topics surrounding it are not globally synonymous. Virkus (2003) discusses the emergence of information literacy as a movement in the USA and, separately, Australia. She then draws comparisons with conceptions of information literacy in Europe. This is one of two articles uncovered in this research that examine information literacy specifically in a European context. The other looks only at the sociopolitical perspective and analyzes policy surrounding information literacy on the continent with the purpose of grouping by policy axes (Basili, 2011). Within Virkus's (2003: 3–4) article, there is mention of "information literacy developments in Canada, China, Japan, Mexico, Namibia, New Zealand, Singapore and South Africa." Another work tries to define information literacy specifically for the UK (Armstrong et al., 2005). Other articles attempt to dial in an official conception of what information literacy is without regard to geographic differences in the conception of the term (Owusu-Ansah, 2005; Špiranec and Banek Zorica, 2010). Yet another approach has been to acknowledge that there are scholars from different countries weighing in on the conceptualization of information literacy but then discuss their work as a homogenous group with no cultural distinctions (Rader, 2002). However, after exploring these examples, very little literature can be found that examines information literacy through the lens of different cultural contexts.

How would these cultural contexts be grouped? An additional issue that is highlighted in this research is how exactly to look at geographic clustering. Traditionally, scholars group country data by regions of the world or the income level of the society. Other metrics may be used for very specific reasons related

to a distinct line of inquiry. However, there is an increasing consensus of thought that such groupings of countries are unhelpful (Alonso et al., 2015). For example, a geographic region such as Western Europe or Southeast Asia can be ambiguous and difficult to define (Aguilera et al., 2007). This line of thought is upheld by Kyambalesa and Houngnikpo (2016) in their comprehensive discussion regarding the challenges of grouping African countries, as one example. To add complexity to such efforts, Fantom and Serajuddin (2016) discuss how World Bank income groups have changed significantly as the global economic landscape has altered, and that this classification system may be outdated. They contest that in individual countries there are many economies that may be disparate from each other, and so classifying a nation as middle-low income, for example, is painting with too wide a brush. Alonso et al. (2015) agree, stating that the internal economic situations of "developing" countries are much more diverse than when the original classification system was created; they list several other proposals for classification of countries such as per capita income, country indebtedness, state of governance, and the HDI, which is used in this study and assesses countries based on life expectancy, education, and per capita income.

The HDI was created to provide a metric that assesses people and their capabilities within a society. It examines the aptitude for a long and healthy life, including such metrics as life expectancy, education, and gross national income (United Nations Development Programme, 2020). It is a simplistic measure that provides one and is not inclusive of all aspects that are fundamental to a well-working society (Klugman et al., 2011). The HDI has come under fire for being too focused on economic growth at a weight that is disproportionate to the benefits of minor economic improvement. Likewise, the benefits of extra schooling are weighted disproportionately to the economic returns of that schooling (Ravallion, 2010). Despite these criticisms, the HDI is seen as a valuable assessment of geographic regions that constitutes a departure from the traditional means of measurement (Klugman et al., 2011).

Other metrics that were chosen for this work also quantify quality of life. The SDGs were adopted in 2015 by all United Nations member states and are intended to provide "a shared blueprint for peace and prosperity for people and the planet" (United Nations Department of Economic and Social Affairs, 2020). The goals evaluate measures relating to quality of life and the success of nations with regard to economic, health, civic, and environmental well-being. Each goal has a number of specific metrics that it assesses. For example, SDG1 is "End poverty in all its forms everywhere" and examines the number of people living on less than US$1.25 a day; the percentage of people of all ages living in poverty in all its dimensions according to national definitions; and the nationally offered social programs that provide aid. SDG2, "End hunger," looks at data the measures the number of stunted and wasted children who evidence acute undernourishment (United Nations Department of Economic and Social Affairs, 2020).

It is also worth mentioning that the SDGs were derived as successors to the Millennium Development Goals (MDGs), which were implemented by the United Nations in 2000 (World Health Organization, 2017). The SDGs are a continuation of and build on the progress attained by the MDGs. Looking holistically at the metrics of the SDGs, they examine nearly identical metrics to the MDGs, though ordered differently.

In conducting this study, the authors hope to answer the following questions: Are there differences in how scholars discuss information literacy across varied groupings of countries? Are there more compelling ways to group countries in order to have a deeper understanding of the academic dialogue happening internationally? And can a large corpus of academic writing give insight into how scholarship changes in relation to various indicators of well-being and scholarship in each grouping?

Methods

The following is a detailed presentation of the procedures of this study. Included in this is an explanation of the data retrieval from the Scopus database, the text mining process, and the application of ranking indices for the countries included in the research.

In order to retrieve as many records as possible, the Scopus database was selected because it proved to be the most comprehensive database available to the authors. At the time this research was being conducted, Scopus contained 24,600 serial publications and over 75 million records. Using the exact phrase search "information literacy" in titles, abstracts, and keyword fields, and limiting the result categories to journal articles and conference papers written in English (as the authors only speak English), the holdings of Scopus were searched for the years 2010 through 2019. The search produced 4364 results. Of these results, 706 were deleted because they did not have the author, abstract, index keywords, or geographic affiliations available. This still left a large sample of 3658 records. These records were then exported and combined into an Excel spreadsheet. The spreadsheet

included columns for the following data fields: title, abstract, year, keywords, citation counts, correspondence address, and institutional affiliation of the authors. After an initial cleaning of the data, the authors assigned a country of origin to each individual record based, first, on the correspondence address listed. If this particular piece of information was not available, the institutional affiliation was used instead. Within these robust results, it was found that scholarship from 93 countries was represented.

One of the obvious limitations of this method was that only articles in English were examined. This excluded 284 documents, including 136 in Spanish, 59 in Portuguese, 30 in Chinese, 30 in German, and 29 in other languages. Also, 95 countries were originally included in the data set. Two of these countries did not report to the World Bank and therefore had to be excluded from further analysis.

To understand the context of information-literacy-related research, this project utilized a text analysis approach to examine the titles and abstracts of the 3658 articles contributed by authors affiliated with 93 countries and territories. The necessary preprocessing and normalization of these texts was conducted prior to the text analysis, including the removal of stop words and lemmatization.

As a means to begin the process of cleaning the text, stop words were removed for the final analysis. Stop words are generally defined as being the most common words in a language (in our case, English). These words are removed before text processing because they are usually distracting and non-informative, and cost additional memory overhead during the text analysis process. There are multiple possible lists of stop words but, in this case, the stop words list of the Python Natural Language Toolkit, version 3.4, was utilized due to its popularity in the text analysis community.

Following the removal of stop words, with regard to further cleaning the text for proper analysis, lemmatization, another preprocessing step, was utilized. Lemmatization is the procedure of removing inflectional endings and returning to the base of a word, known as a "lemma" (Korenius et al., 2004). More specifically, this project employed the lemmatization procedure to group together the different inflected forms of a word so that they could be analyzed as a single term. It used the Python Natural Language Toolkit to transform all plurals to singular forms, as well as replace past-tense verbs with their present-tense counterparts. For example, "is," "are," "am," "were," and "was" were all transformed to their root verb "be" for analysis.

Once all of the noise was removed and the text was normalized, the n-gram technique was applied. The n-gram approach is a common technology for extracting key phrases based on their frequencies of occurrence in a bag of words. More specifically, an n-gram is a contiguous sequence of n items from a given sequence of text (Suen, 1979). Given a sentence, a list of n-grams can be constructed by finding pairs of words that occur next to each other (Dunning, 1994). This project used the n-gram approach in order to extract critical phrases from the text. This was based on the consideration that words co-occurring frequently are more likely to be a phrase of contextual meaning than those that co-occur infrequently. Additionally, the more frequently these phrases appear in the text, the more likely they are to play an important role. For this project, the text was explored with *n* ranging from 2 to 5. The Python Natural Language Toolkit was used to analyze the n-gram of the text.

After gathering all of the n-grams, the data was analyzed for relevancy. As a result, many of the n-grams proved to be irrelevant and were thus discarded. For example, the removed n-grams included "category have user," "develop new," "number have paper," and "consistently have data." These were all concordances that appeared with high frequency in the pool of data but were devoid of meaning for the purpose of this analysis. Both researchers examined the common concordances and agreed regarding which phrases were meaningful and which were considered noise. The phrase "information literacy" as it appeared on its own was also discarded because it was in every record as per the inclusion criteria. When "information literacy" appeared in concordance with other words, it was examined for relevance. The most common words and concordant phrases that were coherent, meaningful phrases were copied into an Excel spreadsheet and grouped by each of the 93 countries.

Keywords were also analyzed as part of this research, but were not subjected to the concordant phrase extraction described above, which was only used on titles and abstracts. Some keywords did happen to appear repeatedly as concordant phrases and were noted in the research. However, they were extracted from the data using different processes and were analyzed differently depending on how they were found in the data and therefore included by the authors of the scholarly works.

After identifying the meaningful concordant phrases, all the keywords were separated into individual cells in Excel and grouped by country. The keywords for each country were organized alphabetically into single rows to simplify the data analysis. The

results of these steps were 93 single rows in an Excel spreadsheet listing the country first, then all of the most common words and meaningful concordant phrases, followed by the keywords represented in the data set.

Once the data had been cleaned, ranking indices for the countries were determined and systematically developed. First, data was downloaded from the World Bank, UNESCO, and United Nations Development Programme's Human Development Reports websites. For each country represented in the Scopus data, data that represented specific indicators of the SDGs was extracted. The authors specifically chose the first five SDGs to address in this research. These are: "End poverty in all its forms everywhere" (SDG1); "End hunger, achieve food security and improved nutrition and promote sustainable agriculture" (SDG2); "Ensure healthy lives and promote well-being for all at all ages" (SDG3); "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (SDG4); and "Achieve gender equality and empower all women and girls" (SDG5) (United Nations Department of Economic and Social Affairs, 2019). In order to address current progress in relation to these goals, the following variables from 2000 and the most recent year's data available were extracted from the World Bank's data repository: the poverty headcount ratio (SDG1); undernourishment and the percentage of stunted children (SGD2); maternal mortality, under-five mortality, neonatal mortality, and the percentage of prevalence of HIV in the adult population (SGD3); the gross percentage of children enrolled in primary school (SGD4); and gender parity and fertility (SDG5) (World Bank, 2019a, 2009b, 2009c, 2009d, 2009e, 2009f, 2009g, 2009h, 2009i, 2009j). In some cases, the data from 2000 could not be isolated. When this occurred, the data from 1999 or 2001 was used instead. No data that was more than four years old was used for the most recent variables. Most of the data represented in this study was from 2017, as 2018 was not yet available for all of the variables. However, if it was available—for example, such as for the under-five mortality variable—it was used.

Admittedly, the data from the year 2000 predates the SDGs, which were created in 2012 and implemented in 2015. However, as stated in the background section, the SDGs were derived as successors to the MDGs, which were implemented by the United Nations in 2000 (World Health Organization, 2017). The first five SDGs were addressed by the first six MDGs, with similar metrics assessed as indicators. Therefore, the areas of progress that this research is attempting to examine have been prioritized by the United Nations for the entire period that the data represents. The authors chose to examine the first five SDGs instead of the MDGs simply because they represent the current terminology being used in this domain.

The percentage of improvement was calculated for each variable based on the difference between the earlier data and the later data. As an example of this, Romania had an under-five mortality rate of 21.9 per 1000 live births in 2000. This improved to 7.3 per 1000 live births in 2017 (World Bank, 2019d). This would be a 66.67% improvement. Based on the new variable of percentage of improvement over the approximate 16- to 17-year period, a rank order was applied to each country. The countries were ordered and given a number from 1 to 93 depending on where they fell in relationship to each other with regard to progress on each individual variable. The country that had the largest improvement in perinatal mortality would receive a 1; the country that had the lowest improvement would receive a 93. Once each country had a ranking for each variable, these rankings were averaged to give the country a specific ranking of overall progress. This ranking—henceforth referred to as the "progress" ranking—is unique to this research and will be used as another way to group the countries in the Scopus data set as showing high or low progress according to this metric.

The progress statistic created in this research was an experiment and is to be considered only as such. In designing this metric, which was an interesting and enjoyable endeavor, it must be remembered that countries that have the greatest disparities can also make the greatest gains, and therefore do not necessarily produce progress that is as progressive as a country—like Demark, for example—that had incredibly high quality-of-life metrics at the beginning of the evaluated time period. The first iteration of this work averaged the rate of change into a progress number. However, the results were heavily skewed by exactly the issue just mentioned—a country with a maternal mortality rate of 800 per 100,000 that decreased its rate by 30% would have a shockingly higher number than a country that went from 11 to 8 per 100,000. That is why rank order was assessed instead. While countries with larger initial disparities to adjust were still favored in the numbers, the stabilization of the figures into simple rankings made the differences less extreme. The purpose of the measure, of course, was to assess exactly this kind of progress, in which that decline of 30% should have a high ranking—without completely leveling out the success of a country with lower measures to begin with. This is described here in the methods in such detail because it

is a new attempt at methodology, in addition to the findings it creates.

Additionally, the other data that was collected in order to rank each country included their HDI (United Nations Development Programme, 2019), the literacy rate of the country (UNESCO Institute for Statistics, 2019), and the citation count from the data set in Scopus. In order to clarify this last variable, the citation count was averaged across the number of articles represented for each country. For example, Spain had 131 records represented in the data with 658 citations, which gave an average of 5.02 citations per article. The numeric variables, HDI, literacy level, and average citation counts were used to provide a rank order for each country.

The result of these steps was an Excel spreadsheet, which had simple numeric rankings for each country that could be aggregated into the highest and lowest ranked countries for each variable. Once the countries with the highest and lowest rankings for each variable were determined, the Scopus word data was extracted for each group. The extracted data was then ordered by the most frequently used words and phrases for each grouping. Once identified, the results of these groupings were compared between sets and examined for common themes, which are discussed in the results section. The USA was removed from the data set because the sheer number of keywords (16,898) skewed the results.

Finally, the most frequently found groups of words and the word counts were uploaded to Tableau 2019.3 in order to create descriptive and captivating data visualizations. These visualizations are also displayed in the results section of this article.

Findings and discussion

Table 1 shows each indicator, the countries with the highest and lowest values from the Scopus data set for that indicator, and the resultant most common terminology used in each data set with word counts. For the purposes of creating Table 1, duplicates across the indicators were removed, and the final lists represent unique values. Only the top-15 words are displayed for each grouping, though many more were examined for content depending on the size of the data set.

For the countries separated by HDI, the high HDI countries have the themes of research, methodology, and education. The words "assessment," "controlled study," "major clinical study," "questionnaire," and "surveys" all appeared frequently in this grouping. Additionally, terminology associated with education—such as "students," "education," "teaching," "e-learning," "curricula," "secondary schools," "blended learning," and "distance education"—was also found to be frequently occurring. Typical words associated with information science, such as "information seeking," "information dissemination," "information use," "knowledge management," and both "information sources" and "information systems," were also present and ranked high.

The most striking difference in the terminology represented from the countries with the lowest HDI rankings in the Scopus sample was the noticeably higher prioritization of words associated with health and geographic locations. For example, in the first 50 most common words from both samples, the countries with the highest HDI ratings listed three words associated with health and four countries. The countries with the lowest HDI rankings listed nine words associated with health and seven geographic locations. However, those numbers only demonstrate part of the significance of these findings. The words associated with health and geographic locations were much higher in frequency with respect to the sample for the lower HDI countries than they were for the higher HDI countries.

The terms representative of health for the lower HDI group included words such as "maternal mortality," "perinatal mortality," "pregnancy," "dystocia," and "uterine rupture," which are all terms associated with reproductive and maternal health. There was also the inclusion of words associated with chronic conditions such as "cholesterol," "albuminuria," and "hypertension."

Additionally, terms associated with education were also highly present in this grouping, although only the terms "education" and "library" appeared in the top 10. "Postgraduate students," "university libraries," "librarian," and "undergraduates" were all listed in the top-40 words and phrases from this data set. Figure 1 shows a tree graph displaying a comparison of the top words and phrases from each HDI grouping.

As is shown in Figure 1, the countries divided by highest and lowest literacy levels had many similarities in the data. This is exemplified by the data showing how both low and high literacy groupings had a strong emphasis on words associated with education and teaching.

However, the most frequently used words and phrases from the countries with the highest literacy levels had a more technical focus than the data from the countries with the lowest literacy levels. For example, the words "e-learning," "engineering education," "computer science," "information technology," and "microelectronics" all appeared in the top-40 words and phrases from the countries with high

Table 1. Listings of countries, most common unique terms, and counts per indicator.

HDI					
Top 10	Count	Most common language	Most common language	Count	Bottom 10
Norway	47	Higher education	Pakistan	29	Kenya
Switzerland	30	Australia	Nigeria	21	Zambia
Australia	28	Health literacy	Postgraduate students	9	Nepal
Ireland	26	Information seeking	University libraries	9	Pakistan
Germany	25	Questionnaire	Information literacy skills	7	Tanzania
Iceland	24	E-learning	Developing countries	6	Zimbabwe
Sweden	23	Assessment	Health	6	Nigeria
Singapore	22	Norway	Awareness	5	Uganda
The Netherlands	22	Priority journal	Ethiopia	5	Benin
Denmark	21	Curricula	Malaria	5	Ethiopia
	20	Social media	Medical	5	
	18	Controlled study	Risk factor	5	
	18	Surveys	Africa	4	
	16	Information dissemination	Albuminuria	4	
	16	Major clinical study	Attitude to health	4	
Literacy					
Top 10	**Count**	**Most common language**	**Most common language**	**Count**	**Bottom 10**
Latvia	50	Information science	Internet	12	Ghana
Cuba	31	Higher education	University libraries	11	Bangladesh
Estonia	17	Information management	Information literacy skills	9	India
Kazakhstan	17	Surveys	Postgraduate students	9	Morocco
Lithuania	16	Academic libraries	Information-seeking behavior	8	Nepal
Poland	15	Information behavior	Questionnaire	8	Zambia
Ukraine	14	Information culture	Risk factor	8	Nigeria
Russia	13	E-learning	Skill	8	Pakistan
Slovenia	12	Sustainable development	Ghana	7	Ethiopia
Croatia	11	Digital literacy	Electronic resources	6	Benin
	11	Information technology	Information technology	6	
	10	Computer science	Educational status	6	
	10	Curricula	Information resource	6	
	10	Information retrieval	Information retrieval	5	
	10	Information use	Information literacy skill	5	
Citations per article					
Top 10	**Count**	**Most common language**	**Most common language**	**Count**	**Bottom 10**
Bangladesh	26	Teaching	Knowledge management	4	Trinidad and Tobago
Israel	15	Academic libraries	Security	4	Morocco
Switzerland	15	Digital literacy	Access	3	Costa Rica
Australia	14	Information management	Competence	3	Jordan
New Zealand	13	Attitude to health	Data	3	Peru
Singapore	13	Digital game-based learning	Developing countries	3	Fiji
Hungary	11	Health knowledge	Competitiveness	2	Zimbabwe
Iceland	11	Motivation	Library	3	Ecuador
The Netherlands	10	Computer science	Decision making	2	Tunisia
Chile	10	Information use	Environmental scanning	2	Romania
	9	Access to information	Knowledge construction	2	
	9	Computers	Military education	2	
	9	Decision making	Public key infrastructure	2	
	9	Digital libraries	Social exclusion	2	
	9	Information retrieval	Spatial data	2	

(continued)

Table 1. (continued)

Progress Top 10	Count	Most common language	Most common language	Count	Bottom 10
Sri Lanka	26	Health literacy	Engineering education	26	France
Thailand	25	Psychology	Higher education	21	Israel
Benin	23	Information behavior	Curricula	20	Oman
Turkey	18	E-learning	Educational computing	18	Lithuania
Morocco	17	Academic libraries	Innovation	14	Lebanon
India	17	Information management	Information services	13	Kuwait
Ghana	17	Professional competence	University libraries	13	Germany
Nepal	17	Qualitative research	Information society	12	UK
China	17	Social media	Computer science	10	Cuba
Ethiopia	16	Curriculum	Information-seeking behavior	9	Bangladesh
	16	Information dissemination	Personnel training	8	
	16	Information retrieval	Teaching model	8	
	16	Media literacy	Information dissemination	7	
	15	Digital literacy	Library instruction	7	
	14	Information culture	Teacher	7	

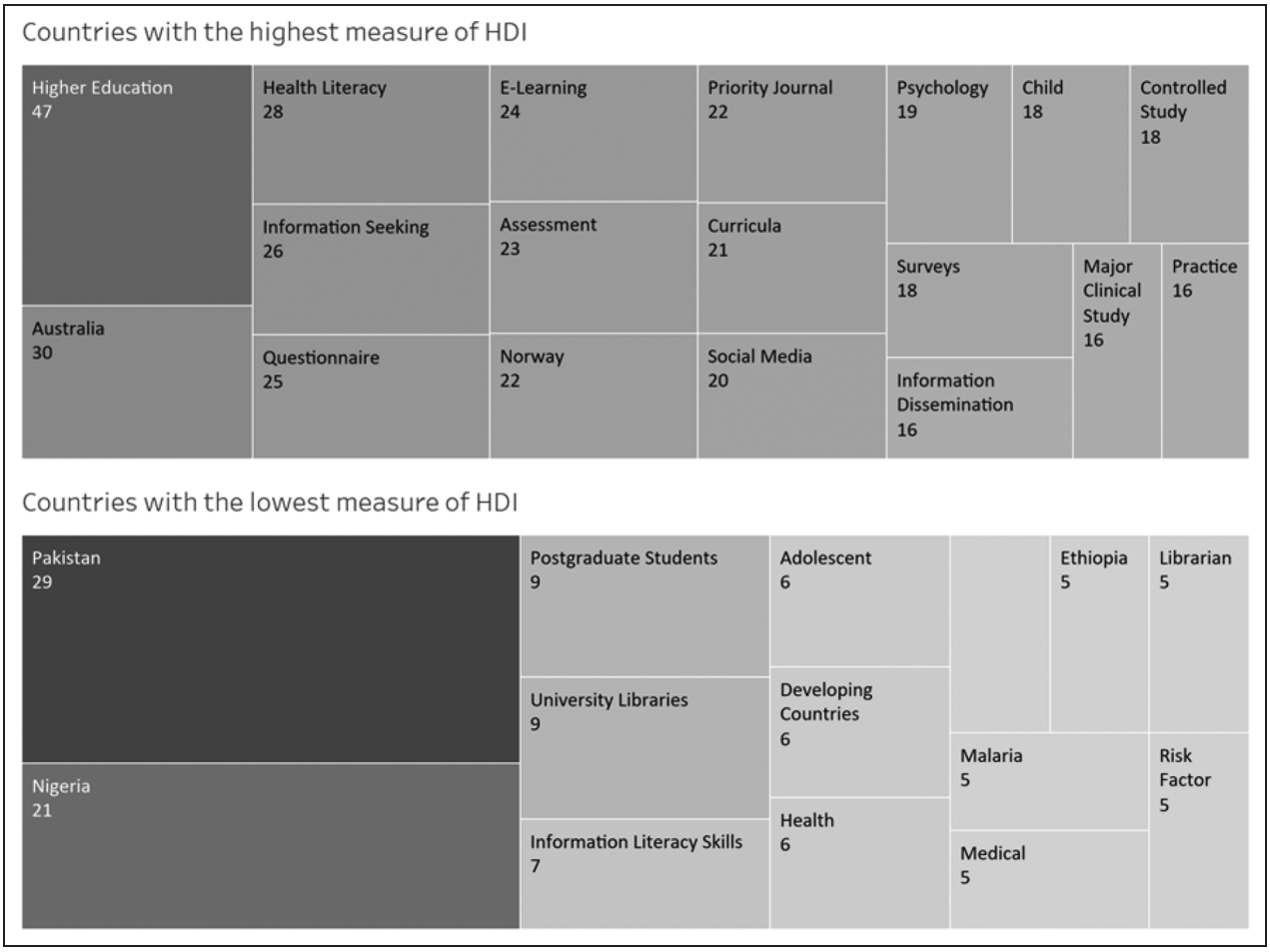

Figure 1. Comparison of the top words and phrases from countries with high and low HDI measures.

literacy levels. In fact, for the top-40 words and phrases for this group, 16 can be associated with technology or data science. "Digital divide," "information and communications technology use," "development," "international cooperation," and "sustainable development" were each ranked highly in the data for countries with higher literacy levels, suggesting a possible focus on literature exploring problems related to

Figure 2. Wordles displaying the most frequent terms from countries with the highest and lowest literacy levels.

societies that traditionally suffer from digital-divide-related issues.

While the countries with lower literacy levels did have some technical terms represented in the data, the most frequently used terms were instead focused on education and research. The terms "postgraduate students," "undergraduates," "educational status," "teaching," and "higher education" were all among the top-30 words in the data, as well as terms such as "questionnaire," "risk factor," "major clinical study," and "cross-sectional study." The emphasis on words associated with information science and information seeking was more present in the word data from the countries with lower literacy levels than those with higher literacy levels. Unsurprisingly, "information-seeking behavior," "information science," "information retrieval," and "information literacy skill" were all among the top-30 terms. Words associated with health were represented in both data sets, but with much lower rankings than for HDI. Figure 2 represents a word cloud providing a visual image of some of the most common words from each grouping. The size of a word is directly related to how frequently the word was used. For example, in countries with the highest information literacy levels, the term "information science" was used more frequently than the term "information technology."

Ordering the countries by citations per article provided the most dramatic split of output between the number of articles that were included in each grouping. For example, the progress metric, which will be discussed next, calculated output from 10 countries that included 376 articles against output from 10 countries that included 317 articles. For literacy, the comparative groups were 163 articles against 191. For HDI, being the second largest difference, the total number of articles was 118 against 381. However, for the variable of average citations per article, the countries with the highest average citations included 267 articles versus 20 articles for the countries with the least number of average citations per article. This is in keeping with research which has found that the higher the scholarly output for a country, the more frequently the output from that country is cited (Pasterkamp et al., 2007).

That being said, the countries with the least number of citations per article still provided terms that were more frequently used. In this data were words that did not appear in other data sets—probably because this grouping provided an opportunity to highlight words and terms from some of the lesser-represented countries. Among these were terms such as "knowledge management," "security," "competitiveness," "military education," and "social inclusion," as well as "social exclusion." It is difficult to state a theme with data that appears twice among 20 articles because there simply is not a large enough corpus to assign consensus. What may be most of note related to this grouping is instead the incredible difference in scholarly output. This paucity seems to be

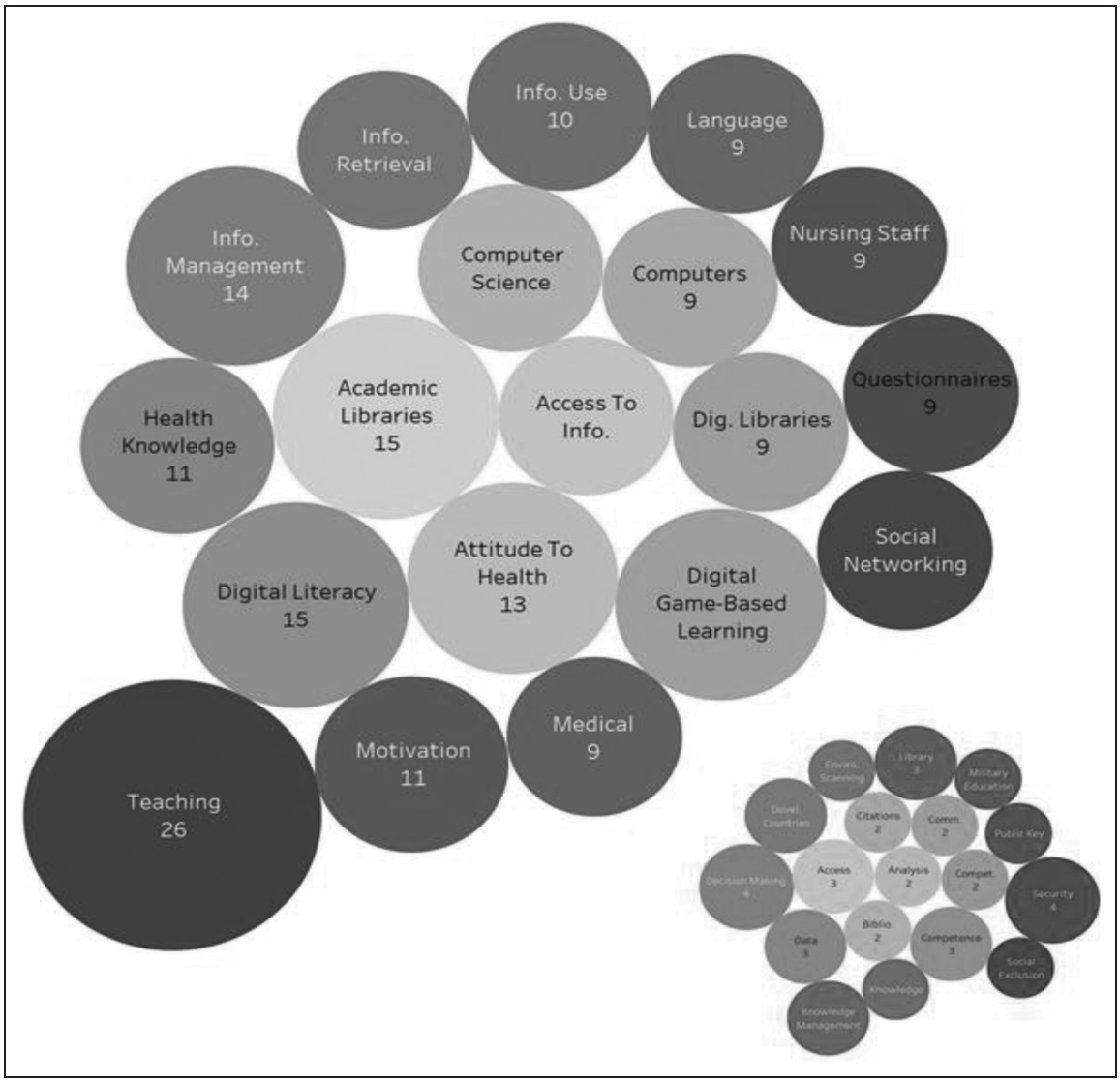

Figure 3. Word bubbles intended to show the scale of terms used between the citation groupings.

unrelated to other factors examined in this work. The countries examined in this sample fall across the spectrum of being classified by the World Bank as high, upper-middle, and lower-middle income. With the exception of Morocco, they fall around the median quartile for literacy level. Additionally, they are in the lower mid-range of the progress statistic and HDI, with the exception of Zimbabwe. Their one common factor is that none of the articles produced in this sample, including six articles from Romania, have been cited at all according to the Scopus database.

The grouping of countries with the most citations per article provided data that seemed to indicate foci on education and health. Some of the more prolific of the countries that appeared in this data set were also present in the data set for countries with the highest HDI, and because of this, many of the results matched. Like the countries with the highest HDI, words traditionally associated with information science were present and highly ranked, such as "information seeking," "information management," "information dissemination," "information use," and "access to information." Education-related terms were also found with similar frequencies, including "education," "teaching," "students," "academic libraries," "assessment," and "comprehension." However, unlike the grouping of data from countries with higher literacy, words associated with health were more frequent and more highly ranked. These included "attitude to health," "health knowledge," "medical," "nursing staff," "health education," and "medical education"—all of which appeared in the 40 most frequently listed terms.

In order to display the striking contrast between the word groupings from each data set, a circle chart is displayed in Figure 3. The smaller set is very difficult to read, but it is the contrast in the sizes of the two sets that is meaningful in this figure.

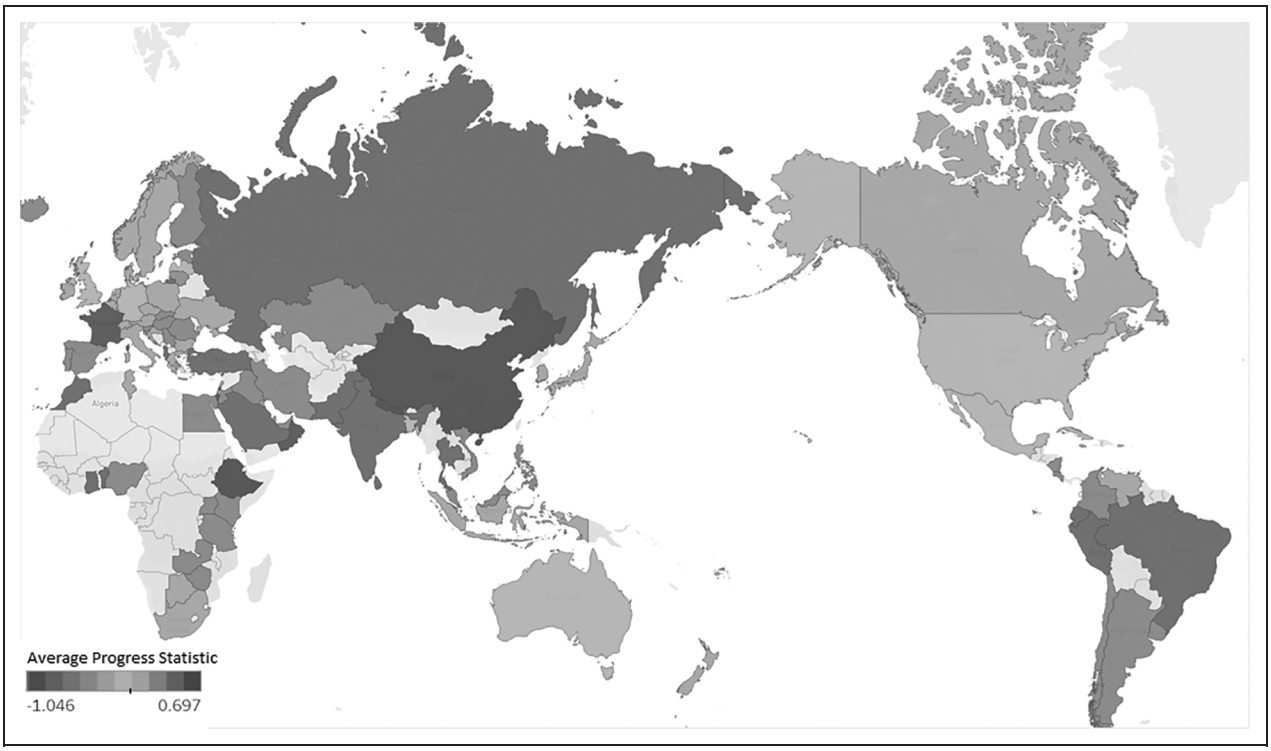

Figure 4. Word map displaying the progress statistic.

For the last comparative grouping, the countries were ranked according to the progress statistic described in the methodology section. As the results of this statistic accounted only for the percentage increase or decrease in specific metrics that were deemed indicative of the first five SDGs, the countries that are represented are strikingly dissimilar to the other ranking systems used in this research. For example, France, Germany, and the UK actually had negative progress statistics due to declines in areas such as gender parity, school enrollment, and neonatal mortality. The USA, before it was excluded from the data, also had a negative progress statistic.

However, countries with traditionally lower indicators of progress, such as HDI, have had high levels of reduction in some of these areas—especially if their numbers were low to start with. Using Ethiopia as a case study, it has reduced neonatal mortality by 42%, maternal mortality and under-five mortality by 61% each, and HIV infections by 58%, and increased gender parity by 88%. These significant gains, along with other improvements across the board, gave it the highest ranking of progress according to SDG indicators over the last 17 years, despite the fact that many of Ethiopia's current mortality rates are significantly higher than the high-income countries that ranked toward the bottom of this metric.

To be clear, the progress metric created in this research is not meant to capture the most successful countries in terms of the SDGs. There are many ways to rank the world's healthiest and least healthy societies, and they often produce similar lists. Instead, this ranking system is intended to display countries showing demonstrable effort in improving significant indicators of quality of life—even if those countries still have years of progress to work toward. The world map in Figure 4 has each country represented in this data set shaded in. Countries that are blue have a positive progress score. Countries that are green have a negative ranking. The darkness of each country is reflective of the distance from zero of their ranking.

With this in mind, the purpose of this research is not to assign labels to groups of countries, but instead to see how scholars from these groups discuss information literacy in their work.

With each variable, one grouping of countries had a much higher focus on education than the others. With this particular grouping, the countries with the lowest progress statistics listed terms associated with education for almost every one of the 20 most highly ranked terms. The exceptions to words associated with education are still arguably in the same vein, as "innovation," "information services," and "information dissemination" can absolutely be linked to education, and particularly to higher education. As the most frequently used word list expanded past 20, terms synonymous with research were present. "Cross-sectional study," "citation analysis," "factor

Figure 5. A comparison of terms used by scholars from higher and lower progress countries.

analysis," and "reliability" were among the frequently used terms.

The high-progress countries were less thematic. The resultant list of highly ranked words in this grouping centered around health, information science, and research. It was somewhat surprising that in a corpus of literature discussing information literacy, "health literacy" was the most frequently used term, followed by "psychology," which had not previously been present in the highly ranked data. In fact, for this grouping, the outliers that had not been resultant in the other analysis may be the most significant results. While the other group lists frequently repeated data, this grouping produced the most unique results. Some of these were "professional competence," "qualitative research," "consumer health information," "collaboration," "critical thinking," and "evidence-based practice."

Regardless of the words that were unique to this particular list or those that showed frequent crossover with the other lists, the data as a whole was most typically representative of some aspect of health, education, or research. This was interesting as these are the countries that have demonstrated the most progress with health- and education-related indicators of well-being in the data set. Figure 5 provides a visual display of the data for these groupings.

Conclusion

In examining international scholarship on information literacy, it is important to understand how scholars from different cultural backgrounds describe their academic production. The goal of this research was to find different ways to synthesize academic literature related to information literacy and, in doing so, determine alternative ways to look at how countries can be grouped in respect to a large data set organized geographically. It was the hope of the authors that by analyzing a large corpus of literature spanning 10

years of scholarly production, themes would emerge in the words, phrases, and keywords that were most frequently represented across different geographic spaces. It was also the goal of this project to forgo traditional country groupings, such as regions of the world or country income level, and find alternative ways of examining the data according to various societal indicators. This research is well in line with current trends in information science and librarianship which seek to promote international cooperation and understanding in an effort to find collaborative responses to global problems (Lor, 2019). The authors have conducted this research with these goals in mind in their belief that reaching understanding between cultures is the first step in working toward collaborative progress, and in agreement with the belief that the mission of information professionals is to improve society by facilitating knowledge creation (Lankes, 2016).

These goals have been met with varied success. There were few striking dissimilarities. The themes of education, health, technology, and research were present in the majority of the groupings, with the differences lying in the concentration of these themes between the data sets. Some unique themes did emerge, such as the emphasis on specific chronic and reproductive health issues in the grouping of countries with a lower HDI. Additionally, the unique terminology of the countries with the least average citation counts was of interest, as it pertained to considerations present in low-income countries such as access and infrastructure. While the data set for this grouping was not large enough to draw strong conclusions, the results that are present indicate that further examination may be merited.

It was also of interest to note that the countries with the lowest literacy rates, the lowest progress statistics, and the lowest HDI all had a high focus on education. The grouping of high HDI countries and the countries with the highest average citation counts also had highly repetitive terms associated with education. While, perhaps unsurprisingly, education was prioritized to some degree by nearly every data set, there was an uneven split as to whether it was more frequently repeated within data sets that represented higher or lower indicators of quality of life.

This phenomenon was also true, to a lesser extent, with health terms. Health-related language was the most highly ranked of the lowest HDI countries and was present, though poorly represented, in the data set produced by the grouping of countries with the lowest literacy levels. However, health flipped to be highly present in the data sets produced by the countries with the highest progress statistics and the highest average citation counts.

Finally, the method of grouping countries by different indicators provided an alternative way to look at the terminology used by scholars, as did the progress statistic introduced in this research. It is often traditional to examine scholarly output by regional categories or terms like “developing” or “low-income” versus “developed” or “high-income” countries. Instead, this research examined literature based on different indicators of quality of life and societal health in an effort to see, once arranged in such a manner, if the work produced by academics in these groupings can provide insight into what scholars in different societies are discussing when they talk about information literacy. In segregating the literature in these different ways, it was demonstrated that there are in fact differences in scholarship produced by countries with high HDI versus low HDI, high literacy versus low literacy, and those that have made marked progress with the SDGs versus those that have made no progress or whose progress has even declined. The metric of citations per article did not produce enough data to conclusively designate themes. However, this does align with previous research on the relationship between scholarly output and citation counts.

Limitations

Admittedly, there are substantial limitations to this work. One is the data sets that were used. For example, 21 countries do not report their levels of literacy and could not be analyzed for that particular grouping. The World Bank data, while the best available to the authors, also has its own set of limitations regarding quality. Some of the data sets that were downloaded were incomplete, and because some data is self-reported by each country, occasionally some numbers appeared to be inflated and unlikely to be accurate given other public information about the well-being of the citizens of that particular nation. In these circumstances, the authors deferred to the expertise of the World Bank and used the numbers provided. Additionally, the authors only looked at scholarship written in English, which omits any research published on this topic in other languages. This was necessary owing to the limitations of the authors’ ability, but was still limiting. It is also worth noting that articles that are written in good English are more likely to be accepted for publication. Worthwhile research that is not written clearly and with grammatical accuracy is more likely to be rejected.

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Acceptance of social network sites by university librarians

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Abstract

Libraries are being revolutionized by technological advancements which open up avenues to embed innovative library services. It is imperative for librarians to be in par with new technologies such as social network sites, to prove their worth in this competitive digital world. This study aims to explore factors affecting the acceptance of social network sites by university librarians by applying the technology acceptance model. The findings revealed that perceived usefulness and perceived ease of use were significant predictors of acceptance of social network sites. Trust was found to exert a significant indirect effect on the librarians' intention to use social network sites. This study contributes to the theoretical novelty of the intersecting field of library science, social network sites and the technology acceptance model, which has received less attention in the literature. Also, this study attempts to fill the gap in the adoption literature, where librarians are rarely acknowledged as users, while supporting the validation of the technology acceptance model in a developing-country context. Overall, the proposed research model explained 58.4% ($R^2 = 0.584$) of variance in the dependent variable of behavioural intention.

Keywords

Technology acceptance model, social network sites, university libraries, librarians, acceptance, behavioural intention

Introduction

The proliferation of information and communication technology has enabled libraries to embed blends of innovations for enhancing user services. Social media, including social network sites (SNS), are emerging technologies that have significantly influenced libraries around the globe (Sahoo and Sharma, 2015). SNS are

> web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (Boyd and Ellison, 2007: 211)

The effective application of SNS facilitates libraries to reap potential benefits, such as the provision of interactive, user-centric services, library marketing, library collaboration and networking. Moreover, SNS foster workplace productivity via enhancing employee cooperation, which supports knowledge transfer (Bennett et al., 2010).

Despite the various organizational benefits arising from them, SNS remain undervalued by many organizations (Bennett et al., 2010), while some organizations have implemented policies to restrict the use of SNS in the workplace (Brooks, 2013). Regardless of the widespread deployment of SNS, there is a high level of resistance to accepting such technologies in certain countries, specifically in developing countries (Chitumbu, 2015; Fasola, 2015). Yet it is vital that libraries in developing countries fully exploit modern technologies such as SNS in order to gain favourable benefits.

In the information landscape, the value and potential of libraries is constantly being questioned

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(Mishra, 2008). Libraries and, in particular, university libraries must initiate the use of new social technologies in order to prove themselves equally relevant and worthy as other information providers. University libraries should keep abreast with the dramatic changes in technology, and thus the social presence of libraries via SNS appears to be crucial. At present, the role of the librarian is changing, necessitating a librarian to provide services for end users within the digital environment. SNS provide an innovative approach for libraries to increase their visibility and reach modern tech-savvy users in their preferred environment, breaking down the walls of the traditional library system (Dickson and Holley, 2010; Fasola, 2015).

However, limited research has been conducted on the adoption motives of librarians with regard to SNS. Also, literature on the application of the technology acceptance model (TAM) in the context of developing countries is scarce. Therefore, the main objective of the study is to predict the drivers of librarians' intentions to accept SNS in the work context. SNS acceptance was assessed by means of an extended TAM, whereby the dimensions of perceived enjoyment, trust and subjective norm were integrated into the classic TAM (Venkatesh and Davis, 1996). This study will shed light on the validity of TAM in a developing-country context and also crystallize the effect of trust, which has received less attention in the adoption literature.

Literature review

TAM was initially formulated to explain the behaviour of computer use. Thus, external factors should be incorporated into TAM to effectively explain user adoption of emerging technologies such as SNS (Ernst et al., 2013; Rauniar et al., 2014; Sledgianowski and Kulviwat, 2009). This extensive literature review aids in identifying appropriate external factors that should be incorporated into the classic TAM to develop the research model of the current study. Moreover, this literature review provides theoretical as well as empirical evidence in support of selecting TAM as the most suitable theoretical framework to serve the purpose of the study.

Researchers have proposed various models and theoretical frameworks to better understand user acceptance of new technologies. These include the theory of reasoned action (Fishbein and Ajzen, 1975), TAM (Davis, 1989; Davis et al., 1989), the theory of planned behaviour (Ajzen, 1991), social cognitive theory (Bandura, 1986), the information systems success model (DeLone and McLean, 1992), the innovation diffusion theory (Rogers, 1995) and TAM 2 (Venkatesh and Davis, 2000). TAM is a well-established model that is extensively and frequently applied in research within the information systems domain (Jeong, 2011). Kim (2006: 1716) asserts that TAM is 'the most robust, parsimonious, and influential' model among user-acceptance theories. TAM is popular because of its simplicity and easy applicability in different contexts. Also, TAM offers a quick and cost-effective way of capturing information on user perceptions towards a technology (Han, 2003).

Leong et al. (2018) extended TAM to examine the determinants of students' behavioural intention to use mobile SNS for their learning purposes. The model was tested using data collected from 600 university students in Malaysia through a structured questionnaire. The findings revealed that perceived task technology was a significant predictor of users' intention and perceived usefulness (PU). However, the moderating impact of users' experience on intention was not supported in the study. In a related study, Naqvi et al. (2019) explored the influence of privacy concerns and demographic factors on the intention to use social networking sites by applying TAM. The data was gathered by surveying a convenience sample of 838 university students. The results indicated that perceived privacy, demographic factors and PU significantly influenced user intention. Furthermore, it was revealed that age was not a moderator between perceived ease of use (PEOU) and PU. In another study, Zabadi et al. (2018) investigated the predictors of customers' intention to purchase online via SNS. A conceptual model was framed using TAM and the theory of reasoned action. The model was empirically tested using graduate and undergraduate students in Jordon. It was found that trust exerted the greatest influence on the students' behavioural intention, followed by PU.

Rauniar et al. (2014) re-established the original TAM findings in their attempt to examine user adoption of Facebook. The authors used a web-based survey to gather data from 398 Facebook users, and extended TAM by adding the factors of critical mass, perceived playfulness and trustworthiness. In another study, through a survey conducted among 495 university students in the USA, Curran and Lennon (2011) found that the principal TAM components of PU and PEOU were non-significant determinants of user attitudes and intentions towards using social networks. The authors observed that enjoyment was the strongest predictor of attitude. Also, the findings exhibited that social influence exerted a significant impact on attitude and a significant but negative impact on user

intention to continue using social networks. Several other researchers have also attempted to study the impact of social influence on SNS acceptance by enhancing TAM, integrating variables such as subjective norm, critical mass (Qin et al., 2011; Sledgianowski and Kulviwat, 2009) and perceived social capital (Choi and Chung, 2012).

Dixit and Prakash (2018) conducted a survey in the context of India and rendered empirical evidence in support of TAM being an effective model to predict users' intention towards using social networking sites. Various other researchers have also provided empirical evidence in support of TAM being an effective model to predict and explain user acceptance of SNS (Howell, 2016; Lorenzo-Romero et al., 2011; Pinho and Soares, 2011; Shin and Kim, 2008; Taghavinezhad et al., 2015; Willis, 2008). Moreover, Weerasinghe and Hindagolla (2018) conducted a literature review and illustrated that TAM has been successfully applied via its extension and modification to explain user acceptance of SNS.

Few researchers have attempted to study the perspectives of employees towards SNS acceptance (Fasola, 2015; Glass and Li, 2013; Moqbel, 2012). In his attempt to gain insight into the acceptance of SNS by US employees, Moqbel (2012) observed that PEOU and perceived enjoyment were significant determinants of the users' intention to use SNS. In a similar study, Glass and Li (2013) surveyed 97 Master's in Business Administration students at a private US university who were also engaged in full-time work. In this study, more than half of the participants indicated that they utilized instant messaging, Facebook or both in the workplace for business-related or personal purposes. Applying TAM 2 as a theoretical framework, Fasola (2015) attempted to understand librarians' acceptance of Facebook and Twitter in promoting library services. Data was gathered via a survey and interview sessions carried out among 81 librarians who participated in a Nigerian conference. It was found that most of the librarians expressed positive perceptions and high acceptance of using Facebook and Twitter to promote library services.

Research model and hypotheses

TAM (Davis, 1989; Davis et al., 1989) is applied as a theoretical framework because of the importance of having a validated theoretical base to explain the underlying relationships among the relevant factors. TAM is a robust model and validated to be parsimonious with high explanatory power of the variance in users' technology acceptance in a wide variety of contexts (Park et al., 2009).

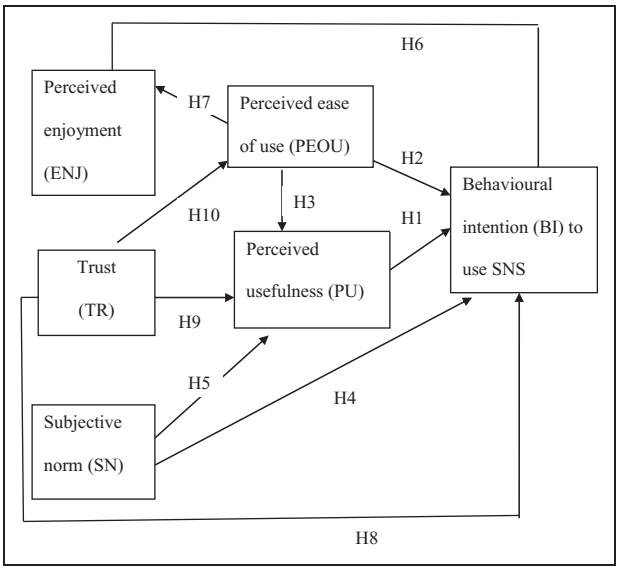

Figure 1. The proposed research model.

In this study, 'behavioural intention' is used as an indicator of user acceptance, which is in conformity with many previous studies in the SNS context (Choi and Chung, 2012; Howell, 2016; Moqbel, 2012; Pinho and Soares, 2011; Qin et al., 2011; Shin and Kim, 2008). Figure 1 illustrates the proposed research model.

PU, an extrinsic motivation for a user, is 'the degree to which a person believes that using a particular technology will enhance their performance' (Davis, 1989: 320). In the context of SNS, users frequently interact with other users and, across these interactions, will recognize their PU by developing strong interpersonal bonds. Hence, the behavioural intention to use SNS will be increased (Pinho and Soares, 2011). The technology-adoption literature amply demonstrates evidence in support of a direct relationship between PU and intention to use (Alarcón-del-Amo et al., 2012; Ernst et al., 2013; Kuo and Lee, 2009; Lee et al., 2003; Shin and Kim, 2008; Venkatesh, 2000). Thus, the following hypothesis is proposed: *Hypothesis 1 (H1): The PU of SNS will have a significant positive effect on the behavioural intention to use them*.

PEOU is defined as 'the degree to which a person believes that using a particular system would be free of effort' (Davis, 1989: 320). For users to accept SNS, they must feel that these sites are easy to use. A considerable number of prior studies have verified that PEOU is an important predictor of the behavioural intention to use a technology (Alarcón-del-Amo et al., 2014; Choi and Chung, 2012; Davis, 1989; Lorenzo-Romero et al., 2011; Moqbel, 2012; Shin, 2008; Sledgianowski and Kulviwat, 2009; Willis, 2008). Therefore, the following hypothesis is

proposed: *Hypothesis 2 (H2): The PEOU of SNS will have a significant positive effect on the behavioural intention to use them*.

Furthermore, TAM posits that PEOU has an effect on behavioural intention indirectly via PU (Davis, 1989). Venkatesh (2000: 343) indicates that 'PU will be influenced by PEOU, because the easier a technology is to use, the more useful it can be'. Several studies confirm the causal link between PEOU and PU (Alarcón-del-Amo et al., 2014; Choi and Chung, 2012; Karahanna and Straub, 1999; Pinho and Soares, 2011; Qin et al., 2011; Venkatesh and Davis, 2000). Thus, the following hypothesis is proposed: *Hypothesis 3 (H3): The PEOU of SNS will have a significant positive effect on the PU of using them*.

Fishbein and Ajzen (1975: 302) define 'subjective norm' as a 'person's perception that most people who are important to him [*stet*] think he should or should not perform the behavior in question'. Prior empirical studies have shown that social influence plays a key role in users' adoption of various technologies, such as blogs (Hsu and Lin, 2008), electronic messaging (Rice et al., 1990), online games (Hsu and Lu, 2004) and instant messaging (Premkumar et al., 2008). Taylor and Todd (1995) found that subjective norm was a strong predictor of user intention. Wirtz and Göttel (2016) clarified that 'subject norm' is one of the most predominant TAM constructs in the social media context. Brooks (2013) stressed that any study involving social media use should consider the 'social aspect'. The subjective norm construct has been taken into consideration by various researchers in the realm of SNS (Choi and Chung, 2012; Glass and Li, 2013; Kim, 2011; Qin et al., 2011; Willis, 2008).

Further, Davis et al. (1989) indicated that social influences can affect behaviour through PU via the theoretical mechanisms of internalization and identification. According to TAM 2 (Venkatesh and Davis, 2000), social influence has a direct impact on PU regardless of the system being voluntary or mandatory. In the current study, the use of SNS in the workplace was voluntary. It can be assumed that subjective norm, which is a variable of social influence, would have a significant direct effect on PU. Qin et al. (2011) also provided evidence to support this notion. Therefore, the following hypotheses are proposed: *Hypothesis 4 (H4): Subjective norm will have a significant positive effect on the behavioural intention to use SNS* and *Hypothesis 5 (H5): Subjective norm will have a significant positive effect on the PU of SNS*.

Perceived enjoyment is defined as 'the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated' (Davis et al., 1992: 1113). Perceived enjoyment as an intrinsic motivational factor has been recognized as exerting a significant influence on technology acceptance, mainly for hedonic systems (Davis et al., 1992; Koufaris, 2002). Rosen and Sherman (2006) stated that SNS are a form of hedonic technology, and they pointed out that any research model attempting to explain SNS adoption must incorporate the variable of perceived enjoyment.

In the context of SNS, several researchers have tested the influence of enjoyment on SNS adoption (Curran and Lennon, 2011; Ernst et al., 2013; Hu et al., 2011; Kim, 2011; Moqbel, 2012; Shin and Kim, 2008). Furthermore, a number of previous studies have demonstrated that PEOU has a significant positive effect on perceived enjoyment (Davis et al., 1992; Ernst et al., 2013; Gu et al., 2010; Hu et al., 2011; Moqbel, 2012; Teo et al., 1999; Van der Heijden, 2004). Based on the evidence, the following hypotheses are proposed: *Hypothesis 6 (H6): Perceived enjoyment will have a significant positive effect on the behavioural intention to use SNS* and *Hypothesis 7 (H7): The PEOU of SNS will have a significant positive effect on the perceived enjoyment of using them.*

Trust is an effective tool; it reduces uncertainty and risks while producing a sense of safety (Lin, 2011). User trust in Internet-based technologies is perceived to play an important role in users' intention to accept technology (Gao and Bai, 2014). According to Gefen et al. (2003: 308): 'trust is the expectation that other individuals or companies with whom one interacts will not take undue advantage of a dependence upon them'. Even though users believe that a new technology is easy to use and useful, if they have low trust towards that technology, it may slow or prevent the adoption of the new technology (Howell, 2016). Several researchers have integrated the construct of 'trust' into their investigations on user acceptance of electronic services (Alsajjan and Dennis, 2010; Gefen et al., 2003; McKnight et al., 2002; Pavlou, 2003; Suh and Han, 2003).

Also, in an online environment, trust is a predictor of PU because it guarantees that users will get their anticipated utility from the interface of the Web, depending on the site and the users behind the site (Gefen et al., 2003). The effect of trust has been examined by researchers who have concluded that trust influences PU (Gao and Bai, 2014; Ha and Stoel, 2009; Pavlou, 2003; Shin, 2008) as well as PEOU (Gefen et al., 2003; Pavlou, 2003; Shin, 2008). In the SNS context, Lorenzo-Romero et al. (2011) and Alarcón-del-Amo et al. (2014) have identified that trust is an important predictor of both the PU and

Table 1. Measurement items for the major constructs in the model.

Construct	Item indicator	Description	Source (content validity)
Perceived usefulness (PU)	PU1	Using SNS improves my performance at work	Davis (1989); Venkatesh and Davis (1996, 2000)
	PU2	Using SNS in the workplace increases my productivity	
	PU3	Using SNS enhances my effectiveness in the workplace	
	PU4	I find SNS to be useful in the workplace	
Perceived ease of use (PEOU)	PEOU1	My interaction with SNS is clear and understandable	Agarwal and Prasad (1999); Davis (1989)
	PEOU2	I find SNS flexible to interact with	
	PEOU3	It is easy for me to become skilful at using SNS	
	PEOU4	Overall, I believe that SNS are easy to use	
Subjective norm (SN)	SN1	My co-workers think I should use SNS in the workplace	Glass and Li (2013)
	SN2	People who are important to me think I should use SNS in the workplace	
	SN3	People who influence me think I should use SNS in the workplace	
Perceived enjoyment (ENJ)	ENJ1	I enjoy keeping up with people using SNS	Curran and Lennon (2011)
	ENJ2	It is fun to be involved with SNS	
	ENJ3	I enjoy being part of SNS	
	ENJ4	I find SNS to be entertaining	
Trust (TR)	TR1	I think that SNS carry out their commitments	Howell (2016)
	TR2	SNS are characterized by frankness and clarity as to the services they offer to the user	
	TR3	SNS are worthy of trust	
	TR4	Overall, SNS inspire me with confidence	
	TR5	I think that the design of SNS takes into account the desires and needs of their users	
Behavioural intention (BI)	BI1	I intend to use SNS more for library marketing	Kripanont (2007)
	BI2	I intend to use SNS more to provide user services	
	BI3	I intend to use SNS more for personal tasks	
	BI4	I intend to use SNS more for enhancing personal knowledge	
	BI5	Overall, I intend to use SNS in my workplace in the future	

PEOU belief variables. In line with the aforementioned evidence, the following hypotheses are proposed: *Hypothesis 8 (H8): Trust will have a significant positive effect on the behavioural intention to use SNS*; *Hypothesis 9 (H9): Trust towards SNS will have a significant positive effect on the PU of SNS*; and *Hypothesis 10 (H10): Trust towards SNS will have a significant positive effect on the PEOU of SNS.*

Methodology

The study followed a quantitative approach using a survey strategy. The study population comprised of all university librarians – including librarians, deputy librarians, senior assistant librarians and assistant librarians – employed in the 15 state universities accredited with the University Grants Commission in Sri Lanka. The size of this population was 124. Sampling techniques were not applied since the entire study population was used in the study.

The main research tool of this study was a self-designed questionnaire, prepared in English, which consisted of two parts. The first part was structured in nominal/ordinal scales to obtain the demographic characteristics of the subjects. The second section related to the measurement of factors which captured the feelings and intentions of the respondents towards SNS use in the workplace. This part was structured using theoretical constructs that have been previously validated in TAM-based studies (Table 1). Table 1 shows the measurement items that were adapted for each construct in the model. A multiple-item seven-point Likert scale was used to measure the constructs.

A pilot survey was conducted among a random sample ($n = 40$) of university librarians to ensure the reliability and validity of the measurement items. Refinements were made based on the feedback from the pilot survey. Some items (namely, SN1 and TR5) were found to have low loading values on their appropriate factors and hence were dropped from the instrument.

The finalized questionnaire was administered to the study population over a two-month (April–May 2017) period using both offline and online means, including a web survey, posted questionnaires and personally administered questionnaires. The data analysis was carried out using the Statistical Package for the Social Sciences (SPSS), version 23. The model was tested using path analysis, whereas factor analysis was performed through the principal component method.

Results

Demographic characteristics

One hundred and sixteen questionnaires were returned, producing a response rate of 93%. Of these respondents, 60% were female and 40% were male. More than 70% of the population belonged in the 31–50 age category. With respect to their current academic position, the highest percentage (40%) of respondents held a Grade 2 senior assistant librarian designation. Further, the majority of the respondents (74%) had graduated at the Master's level. Regarding the respondents' work experience as a university librarian, 33% reported that they had more than 15 years of experience, while 27% had 6–10 years of experience. Table 2 shows the university librarians' experience in using SNS in the workplace, indicating that the respondents who had used SNS in the workplace for 1–5 years were in the majority (44.8%).

Table 2. Experience of university librarians in using SNS in the workplace.

Years of SNS use in the workplace	Number of cases	%
Never used	25	21.6
< 1	7	6.1
1–5	52	44.8
6–10	28	24.1
> 10	4	3.4

Reliability and validity assessment

Table 3 presents the reliability of the constructs. All the Cronbach's α values of the construct items exceeded the acceptable level of .7 (Peter, 1979; Sekaran, 2000), demonstrating the high internal consistency of the measures (Table 3). The results indicated that all the item-to-total correlation values exceeded .5 and all the inter-item correlation values exceeded .3, agreeing with the recommendations made by Robinson et al. (1991), and thus verifying that the questionnaire was a reliable measurement tool.

The convergent validity of the measures was assessed by performing factor analysis employing the principal component method with varimax rotation using SPSS (version 23). As shown in Table 4, for all of the constructs in the proposed model, the items measuring the same construct loaded onto a single factor. The total loading of variance explained by the six variables was approximately 83%. The factor loading values of most of the construct items exceeded .6, complying with the recommendations of Dillon and Goldstein (1985). Yet all the factor loadings of the survey items exceeded the acceptable level of .5, as recommended by Hair et al. (1995). These results demonstrate the convergent validity of the survey instrument. Overall, the reliability and validity assessment indicated that the survey instrument was a reliable and valid measurement tool.

Results of the causal model

A path analysis, based on a series of multiple regression analyses with the ordinary least squares method in SPSS, was used to test the hypothesized relationships among the variables in the proposed research model. The results of the hypothesis testing are shown in Table 5.

It was evident from the results that the paths for Hypotheses 1 and 2 were significant (Hypothesis 1: $\beta = .368$, $t = 4.487$, $p < .05$; Hypothesis 2: $\beta = .421$, $t = 5.674$, $p < .05$). This verifies that there exist

Table 3. Summary of Cronbach's α, inter-item correlation and item-to-total correlation values.

Measurement items	Number of items	Cronbach's α	Reliability results	Inter-item correlation	Item-to-total correlation
Perceived usefulness (PU)	4	.951	Good	.708–.943	.806–.949
Perceived ease of use (PEOU)	4	.904	Good	.618–.792	.704–.826
Subjective norm (SN)	2	.910	Good	.835	.835
Perceived enjoyment (ENJ)	4	.963	Good	.836–.902	.888–.929
Trust (TR)	4	.892	Good	.614–.762	.720–.816
Behavioural intention (BI)	5	.898	Good	.491–.853	.703–.800

Table 4. Factor loadings of the survey items.[a]

	Component					
	1	2	3	4	5	6
PU2	.867					
PU3	.855					
PU1	.839					
PU4	.774					
ENJ2		.914				
ENJ4		.869				
ENJ3		.865				
ENJ1		.845				
PEOU1			.864			
PEOU4			.851			
PEOU2			.844			
PEOU3			.658			
TR1				.829		
TR3				.804		
TR2				.801		
TR4				.739		
BI1					.883	
BI2					.825	
BI4					.576	
BI5					.583	
BI3					.587	
SN3						.898
SN2						.854

Extraction method: principal component analysis.
Rotation method: varimax with Kaiser normalization.
[a]Rotation converged in six iterations.

Table 5. Results of hypothesis testing.

Hypothesis	Path	Standard coefficient (β)	Result
H1	PU → BI	.368	Accepted ($p < .05$)
H2	PEOU → BI	.421	Accepted ($p < .05$)
H3	PEOU → PU	.298	Accepted ($p < .05$)
H4	SN → BI	.036	Not accepted ($p > .05$)
H5	SN → PU	.145	Not accepted ($p > .05$)
H6	ENJ → BI	.129	Not accepted ($p > .05$)
H7	PEOU → ENJ	.492	Accepted ($p < .05$)
H8	TR → BI	−.13	Not accepted ($p > .05$)
H9	TR → PU	.393	Accepted ($p < .05$)
H10	TR → PEOU	.349	Accepted ($p < .05$)

significant causal links between PU and behavioural intention, as well as between PEOU and behavioural intention, agreeing with many prior TAM-related studies. Further, it was revealed that PEOU ($\beta = .421$) exerted a stronger effect on behavioural intention than PU ($\beta = .368$). The path from PEOU to PU was also significant ($\beta = .298$, $t = 3.881$, $p < .05$), supporting Hypothesis 3.

Hypothesis 4 assumed that subjective norm would be a direct determinant of behavioural intention. Yet the results indicated that the path for Hypothesis 4 was not significant ($\beta = .036$, $t = 0.485$, $p > .05$). Hypothesis 5 proposed that subjective norm would have a positive effect on PU. Yet, contradicting this assumption, it was revealed that the proposed path was not significant ($\beta = .145$, $t = 1.748$, $p > .05$). Hypothesis 6 tested the effect of perceived enjoyment on behavioural intention. Contrary to expectations, it was found that the path for Hypothesis 6 was not significant ($\beta = .129$, $t = 1.651$, $p > .05$). However, Hypothesis 7, which assumed that PEOU would be a positive predictor of perceived enjoyment, was supported ($\beta = .492$, $t = 6.028$, $p < .05$).

Hypotheses 8 to 10 tested the effects of trust. Hypothesis 8 proposed that trust would have a significant positive effect on behavioural intention. The path for Hypothesis 8 was not significant ($\beta = -.13$, $t = -0.155$, $p > .05$), contrary to expectations. In addition, the hypotheses about trust assumed that the variable would be a positive predictor of PU (Hypothesis 9) and PEOU (Hypothesis 10). Both the proposed paths were significant in the hypothesized direction (Hypothesis 9: $\beta = .393$, $t = 4.551$, $p < .05$; Hypothesis 10: $\beta = .349$, $t = 3.980$, $p < .05$), supporting Hypotheses 9 and 10.

Further, the indirect effects of trust were examined. The total indirect effect of trust (mediated by PEOU $= \beta = .349*.421 = .147$, $p < .05$ + mediated by PU $= \beta = .393*.368 = .145$, $p < .05$ + mediated by both PU and PEOU $= \beta = .349*.298*.368 = .038$, $p < .05$) on behavioural intention was significant ($\beta = .330$, $p < .05$). These results implied that even though trust did not directly influence behavioural intention, it exerted a significant indirect effect on behavioural intention via PEOU and PU.

It was also found that $R^2 = 0.584$, which suggests that all five predictors (PU, PEOU, perceived enjoyment, subjective norm and trust) in the model together explained the 58.4% of variance in the users' behavioural intention (dependent variable) to use SNS. Figure 2 displays the final validated research model of the study.

Discussion

In accordance with the original TAM, it was found that PEOU and PU were salient predictors of users'

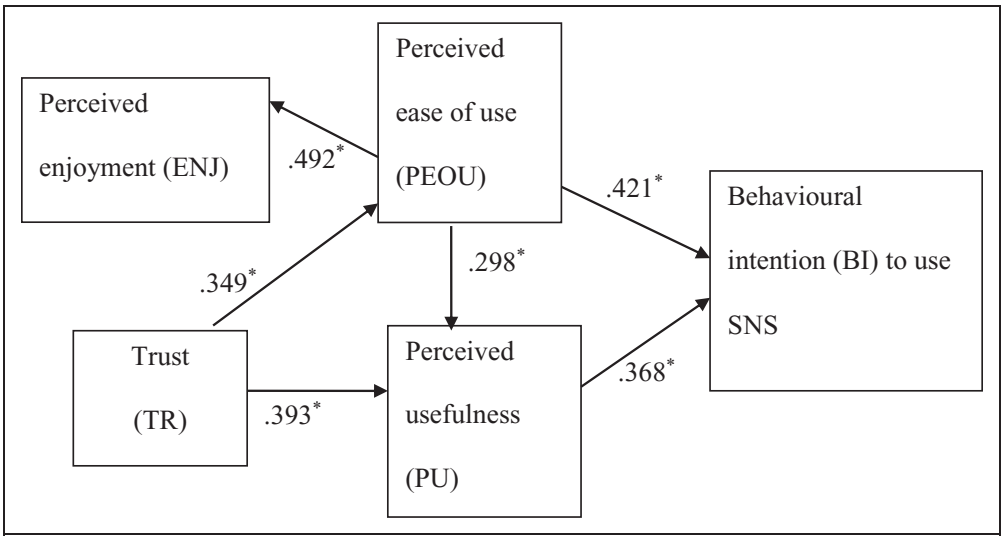

Figure 2. Validated research model (*$p < .05$).

intention to use SNS in the workplace context. These results indicate that university librarians formed intentions to use SNS in the workplace because they believed that SNS were useful for them and these sites were easy to use. Furthermore, PEOU was revealed to be a stronger predictor of behavioural intention than PU. The explanation for this finding could be attributed to the fact that 'easy to use technologies are more likely to be used than those that are difficult to use, regardless of how useful they are perceived to be' (Willis, 2008: 16). Moreover, users will not acknowledge the use of websites where a lot of effort is required to locate their features and navigate through the sites (Pillai and Mukherjee, 2011).

It was also revealed that PEOU was positively associated with the PU of SNS, suggesting that 'increased ease of use is likely to improve user perceptions of usefulness' (Kim, 2006: 1716). Furthermore, when a system is easy to use, less effort will be required to use it, and the effort saved could be allocated to achieve other tasks, contributing to better performance (Davis, 1989). The established causal links between PEOU, PU and behavioural intention in TAM were verified in this study.

It was expected that subjective norm would play a vital role in the determination of SNS acceptance due to the social nature of SNS. Yet, contrary to expectations, it was revealed that subjective norm was not a significant determinant of SNS acceptance. This result contradicts the results of several prior studies which found subjective norm to be a significant determinant of intention (Glass and Li, 2013; Hsu and Lin, 2008; Hsu and Lu, 2004; Premkumar et al., 2008; Rice et al., 1990). In the SNS context, Qin et al. (2011) also found that subjective norm significantly influenced PU, which in turn had an effect on user intentions. But Qin et al. (2011) studied user acceptance of SNS for personal use in a non-organizational setting. This differs from the current research context, in which SNS usage in an organizational setting was examined. Therefore, results may depend on the research setting. The results imply that university librarians will not be influenced to use SNS in the workplace through social pressure from peers or people important to them. Also, the majority of the participants in the current study had experience in using SNS, and users with experience in using a system are less likely to be influenced by social pressure (Venkatesh and Davis, 2000; Willis, 2008).

Even though SNS are more associated with hedonic aspects, providing more fun and enjoyment for users, the component of perceived enjoyment was found to be a non-significant predictor of SNS acceptance, corroborating the results of Shin and Kim (2008). Yet several other researchers have observed perceived enjoyment to be a strong predictor of intention to use SNS (Kim, 2011; Moqbel, 2012). The current study was conducted in a workplace context. The respondents may therefore have considered SNS as a utilitarian (productivity-oriented) system rather than showing concern for their hedonic nature. A utilitarian system has more utility value and increases a 'user's task performance while encouraging efficiency' (Van der Heijden, 2004: 696). It appears that the university librarians believed that SNS would help them to achieve expected tasks by increasing their work productivity and performance. Hence, in the workplace context, it is evident that perceived enjoyment loses its power to PU in the adoption of SNS.

However, PEOU was found to exert a significant positive influence on perceived enjoyment, conforming several prior studies (Davis et al., 1992; Hu et al., 2011; Moqbel, 2012). This suggests that easy-to-use systems are more likely to be perceived as enjoyable. PEOU is inversely associated with the perceived complexity of SNS use, so it could have an impact on perceived enjoyment, since technologies that are difficult to use are less likely to be perceived as enjoyable (Teo et al., 1999).

Trust was revealed to have no direct impact on behavioural intention. Similarly, Howell (2016) found that there was a negative and insignificant correlation between trust and behavioural intention. However, Slegianowski and Kulviwat (2009) obtained different results in their study, in which trust was identified as having a significant positive effect on the intention to use SNS. Trust in a website is built through users' belief that proper safety mechanisms are included in the site (Gefen et al., 2003). In this study, trust was not a direct determinant of users' intention, and the reason may be that university librarians tend to think that using SNS – specifically Facebook – entails risks and no proper safety measures are incorporated within these sites.

However, trust was revealed to exert a significant positive effect on both PU and PEOU, agreeing with the studies of Lorenzo-Romero et al. (2011) and Alarcón-del-Amo et al. (2014). The results imply that the more users trust SNS, the greater will be the belief in the ease of use and usefulness of the sites. The more a person trusts a site, the less time and effort will be allocated to browsing and understanding the privacy settings, policies or terms of the site, and consequently the person will perceive that the site is easy to use (Shin, 2008). On the other hand, trust assures that a user will gain the expected utility from SNS; hence, trust is a predictor of the PU of SNS (Gefen et al., 2003).

Furthermore, trust exerted a significant indirect influence on behavioural intention through PEOU and PU. This indicates that trust is also an important factor in determining user acceptance of SNS use. Forming perceptions of trust about SNS in librarians will improve their perceptions of the ease of use and usefulness of SNS, which in turn will positively affect their intention to use SNS.

The five determinants of the proposed model accounted for 58.4% of variance in the dependent variable ($R^2 = 0.584$) of behavioural intention to use SNS. This demonstrates that the proposed model provides a good explanation for the acceptance of SNS in the workplace by Sri Lankan university librarians. The overall findings demonstrate the appropriateness of using TAM to explain the behavioural intention of Sri Lankan university librarians to use SNS in the workplace.

Conclusion

The findings indicate that PU and PEOU were the most influential factors in the acceptance of SNS by Sri Lankan university librarians. Also, it was seen that, in the workplace context, perceived enjoyment lost its power to PU in SNS adoption. Trust was a strong factor in determining SNS acceptance. Based on the results, it is recommended that the motivational factors of PU, PEOU and trust should be taken into account by library management and practitioners, as well as SNS developers, in designing interventions to implement and enhance the effective use of SNS in the workplace by university librarians.

The study provides empirical evidence to support TAM's already established relationships between the constructs of PU, PEOU and behavioural intention. These findings are consistent with those of a considerable number of prior studies in the TAM literature. It was also revealed that trust significantly influenced intention indirectly via PEOU and PU. The component of trust has received less attention in the user-acceptance literature in comparison to the components of PU and PEOU. However, this study supports the idea that trust plays a crucial role in the formation of user intentions to use SNS. This study provides insights into the applicability of TAM in a developing-country context, as well as providing empirical evidence to support the validity of TAM across different cultural contexts.

This study will aid university librarians to assess their level of SNS acceptance, identify factors that cause them to lag behind in the use of SNS, and take measures to increase the effective use of SNS in the workplace. This will lead to librarians increasing their work productivity and their contribution to fulfilling the goals of their library.

According to the findings of the study, the motivational factors of PU, PEOU and trust were the key drivers of SNS acceptance. Library management and practitioners should take into account these drivers when designing interventions, including training and marketing to enhance and implement SNS in university libraries effectively and efficiently. The findings of this study could be used by top library management to motivate targeted user groups who are less inclined to use SNS in their work. Awareness programmes must be conducted to educate librarians, elaborating the usefulness and ease of use of SNS, and outlining the simplicity and user-friendliness of these

technologies, as well as the productive benefits offered by SNS to libraries. It is vital for university libraries to grasp the potential of the concept of SNS in order to remain competitive among information providers in this digital era.

Furthermore, in an online environment, safety and privacy issues are of vital concern (Alarcón-del-Amo et al., 2014); hence, trust plays an imperative role in influencing university librarians to use SNS in the workplace. Library management should implement well-planned and well-administered strategies and policies for the use of SNS in the workplace in order to ensure a safe online environment for users. It is hoped that the major findings of this study will help university librarians to gain more knowledge about the experiences of using SNS in the workplace, which will aid in preparing them to be in par with changes in their profession.

This study was limited to a single country (Sri Lanka) and restricted to university-sector libraries. Also, the study employed a cross-sectional survey strategy for data collection. Thus, changes in user beliefs over time were not acquired via the study. Furthermore, this study used self-reported data to measure acceptance. Lee et al. (2003) highlighted that the use of self-reported usage is a limitation of TAM-based studies, where these studies rely heavily on a subjective measure of usage instead of measuring the actual usage.

This study could be replicated by taking into account a wider sample, spanning all universities (including those in the private sector) and higher education institutions in Sri Lanka. As a future research direction, this study could be repeated using samples from other countries and performing cross-cultural comparative analysis associated with SNS acceptance. Also, a similar type of study could be performed by applying a longitudinal approach for data collection in order to capture the changes in user intentions over time. In future research, it could be possible to improve the results by extending the model in this study to form a more complex model by incorporating other factors, as well as moderators (e.g. age, gender), in order to better understand user acceptance of SNS.

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Social media use and information-sharing behaviour of university students

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Abstract

Social media has evolved over the last decade as a key driver for sharing and acquiring information in various domains of life. The increasing popularity of social media raises a number of questions regarding the extent of its use and the types of information shared. This study is designed to answer these questions by investigating university students' use of social media in terms of commonly used social media platforms, frequency of use and the types of information shared. It also looks at differences of opinion based on gender, academic discipline and programme of study. The study is based on a cross-sectional survey; a structured questionnaire was developed and data was collected from 400 students at four universities in Faisalabad, Pakistan. The findings indicate that the majority of the students were frequent users of social media and visited platforms daily or several times a day. WhatsApp, Facebook and YouTube were the most widely used social media platforms. Male students tended to use social media more frequently than their female counterparts. This study will serve as a guideline for further research as it addresses an untouched area from a local perspective and reports original research.

Keywords

Social media, use, social networking sites, university students, Pakistan, information sharing

Introduction

Social media is commonly defined as a group of online media that facilitates social interaction and diffusion of information in the form of user-generated contents. Conceptually and technologically built on Web 2.0, social media is the love child of the World Wide Web. Different forms of social media are all-pervasive, such as micro-blogging, wikis, chat applications, social networking, social gaming and social bookmarking. Facebook, YouTube, WhatsApp, Facebook Messenger, WeChat and Instagram are some of the most popular social networking sites (SNSs) worldwide (Statista, 2020). Free web space, building profiles, uploading contents, chatting and creating pages are the prominent features of social media, which allow users to publish contents directly. The contents include texts, images, pictures, audio and videos (Kim et al., 2010). Social media blurs the traditional line between media and the audience by providing platforms for common interaction and participation, thus upgrading user status from receiver to creator (Kim, et al., 2010; Lee and Ma, 2012). It also stands apart from traditional media by facilitating real-time two-way communication from many to many without any external control (Chen et al., 2018). It provides worldwide connectivity that is open to social interaction, contribution and participation through posts, comments, reviews and feedback.

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Forty-six percent (3.6 billion) of the world's population are now social media users, and its penetration is constantly increasing worldwide (Statista, 2020). Despite controversy around privacy, hacking and fake news, among other things, the world continues to embrace social media. Global digital growth shows no sign of slowing, with a million new people going online every day. This growth is clearly fuelling social media use (We Are Social, 2019).

The social media landscape is also expanding in Pakistan, with a 17% penetration rate as of January 2020. Almost 76.38 million people are Internet users in the country, and 37 million are active users of social media. Interestingly, the majority (72%) are aged between 18 and 34 (Datareportal.com, 2020). Facebook, Facebook Messenger, Instagram and Twitter are the most popular SNSs used by the people of Pakistan (Statcounter, 2020).

The popularity and growth of social media has significantly transformed the way people access information and interact with the world. It has become a new way of life (Osatuyi, 2013). Its ease of use and low cost, the minimal technical skills involved and the lack of physical boundaries of time and space have made it hugely popular among young adults aged 18 to 34 (Hruska and Maresova, 2020).

The majority of university students use social media to connect with others and share their lives, feelings and experiences (Isah and Ogundele, 2020; Osatuyi, 2013). They credit social media as a key tool for connecting and maintaining relationships, being creative and learning more about the world (Akakandelwa and Walubita, 2017). It helps them to interact with people from diverse backgrounds (e.g. religious groups with different cultural, political, racial and ethnic affiliations) and access and share information about social, economic and political happenings, events and developments. Such expanded exposure makes them feel part of the global community (Koranteng and Wiafe, 2019; Pew Research Center, 2019).

The use of social media by university students for information sharing is an interesting topic of research for the academic community. Globally, studies have been carried out to gain understanding regarding the extent of social media use and the information-sharing practices of students (Eid and Al-Jabri, 2016; Eke et al., 2014; Isah and Ogundele, 2020; Kim et al., 2015; Sutherland et al., 2018). Although research from developing countries on this topic is appearing, it is still at an embryonic stage. There is a need to advance this discussion further by contributing more literature on the topic. Moreover, less empirical literature is found from the local perspective of Pakistan, despite the popularity of social media among young adults. Equipped with knowledge of the social media usage patterns among students, institutions can develop policies directed at harnessing the use of social media as an additional means of learning in the university's curriculum and training. The present study intends to explore university students' patterns of using social media and the types of information they share on such platforms. University students were chosen as the study participants because they belong to the age group that represents the majority of social media users in Pakistan.

Literature review

A substantial body of literature has examined university students' use of social media by exploring the ways they are involved in it. Some studies are general in nature, covering multiple social media platforms and activities; some are focused on a specific service (e.g. Facebook or Twitter) and/or uses (e.g. information sharing or academic learning). It has been reported that the use of social media promotes active learning (Seifert, 2016), more engagement in academic work (Junco et al., 2011), collaboration and sharing of knowledge (Seifert, 2016), and effective and frequent communication with peers (Burke and Kraut, 2014). However, these findings are not coherent in the literature.

A study in the USA reported that students from higher education institutions were active users of SNSs and, on average, used seven different social media platforms simultaneously (Pew Research Center, 2019). This implies that social media platforms served different purposes and students used them to meet their various interests. These interests ranged from networking and entertainment to professional tasks and academic assignments.

The topic of information and knowledge sharing in social media environments has attracted great attention. A number of studies have explored the role of social media in promoting information sharing among university students. However, the literature is divided: some studies argue for a relationship between the use of SNSs, engagement and information or knowledge sharing, while other recent studies disagree. A study by Meishar-Tal and Pieterse (2017) indicated that SNS users predominantly engaged in the consumption and sharing of relevant information on their networks. Self-promotion and ego-boosting, the acquisition of professional knowledge, belonging to a peer community and interaction with peers were the major motives to visit SNSs. These findings, however, contradict the findings of the study by Parsons et al. (2011). They argued that the quality of information

shared on SNSs is often limited and, as a result, the amount of time spent on these sites is wasted time, which discourages engagement and knowledge sharing.

A study by Junco (2012) with 2368 college students examined the relationship between frequency of Facebook use, participation in Facebook activities and student engagement. The results indicated that students who spent more time on Facebook also spent more time on campus activities. In general, Facebook activities were found to be a strong predictor of students' campus engagement. The findings of the study imply that Facebook use, though not detrimental to academic outcomes, can lead to ways that are advantageous to students in terms of socialization and networking. Another experimental study, measuring the effect of Twitter on college students' engagement and grades, found that it was beneficial for the test-group students, with an increase in engagement scores, positive effects on grades and more interpersonal connections (Junco et al., 2011). An exploratory survey by Osatuyi (2013) investigated the use of social media technologies for sharing information and found that users shared sensitive, sensational, political and casual information through such platforms and used different cues to indicate the credibility of the shared information. Akbari et al. (2012) investigated students' attitudes towards the use of social networks for learning English. The majority of the participants considered Facebook to be useful for communication and sharing knowledge. Eid and Al-Jabri (2016) examined the impact of using SNSs on knowledge sharing and learning among university students in Saudi Arabia. The use of SNSs included: (1) chatting and online discussion; (2) content creation; (3) file sharing; and (4) enjoyment and entertainment. The findings revealed a positive relationship between SNS use and both knowledge sharing and students' learning. Another study, by Al-Sharqi and Hashim (2016), supported the benefits of social media in learning by exploring university students' perceptions. The results indicated that a moderate majority of the students were using social media tools in their learning. Conversely, a recent study by Koranteng et al. (2018) came up with different findings. They investigated the impact of SNS use on students' engagement and found that SNSs did not significantly impact knowledge sharing in academia, and therefore had a less significant impact on students' engagement.

Several studies found that the majority of university students from developing countries used social media but only a minority used it for academic purposes. They were very much involved in socialization, fun and entertainment over such platforms (Akakandelwa and Walubita, 2017; Bakare et al., 2015; Koranteng and Wiafe, 2019; Sharma et al., 2015). A study conducted by Hussain (2012) examined the trend of using social media among university students in Pakistan. The students were found to be involved in social media, and Facebook was the most popular service. They used social media for socialization, exchanging academic activities and sharing their experiences. Another study, of university students in Nigeria, found that social media was used less for educational pursuits and more for fun and entertainment. These students were found to be engaged in cybercrimes and exposed to pornography (Ezeah et al., 2013). A survey carried out in Bhopal, India, by Sharma et al. (2015) revealed that students used social media for various purposes, such as blogging, chatting, searching for jobs, expanding their social circle and gaming. The majority were using social media for gaming and chatting.

Bakare et al. (2015) conducted an empirical study on the use of social media tools as a medium for information sharing among students and academic staff at the Federal University of Agriculture, Abeokuta, Nigeria. Data was collected from 250 academic staff and 1200 students through a questionnaire. The findings revealed that social media was used more by the students than the academic staff. The academic staff mainly used social media for research purposes, whereas the students used it mainly to keep in touch with friends and download applications. An exploratory study with 245 students from the University of Zambia found that they were actively engaged in social media more for social information than for academic purposes (Akakandelwa and Walubita, 2017). Although various studies have investigated the possibilities of using SNSs for information sharing, the findings are not coherent. The current study is an attempt to add a developing country's perspective in this regard.

Research questions and limitations of the study

This study attempted to answer the following research questions:

1. To what extent is social media used for information sharing by university students?
2. Which social media services are used by students for information sharing?
3. What types of information do students share through social media?
4. What are the differences in social media use and types of information shared among

students based on their gender, academic disciplines and programmes of study?

With regard to its limitations, the study covered only those students who were users of social media and was limited to universities in Faisalabad, Pakistan.

Research setting

Faisalabad, previously known as Lyallpur, is the third most populous city in Pakistan. Historically, it was one of the first planned cities in the subcontinent, with an area of 5856 square kilometres (Punjab Portal, 2020). There are 2332 schools and seven public and private-sector universities.[1] The literacy rate of the city is approximately 60%, with a split of 69% for males and 46% for females – figures that are higher than the national average. It has emerged as a major agricultural and industrial hub, and is referred to as the 'Manchester of Pakistan' (Faisalabad Chamber of Commerce and Industry, 2018). Faisalabad is among the top cities in Pakistan in terms of Internet, smartphone and data service users (Haq, 2013).

Methods and procedure

The study is based on a cross-sectional paper-and-pencil survey; a structured questionnaire was developed by consulting the relevant literature. Particular help was obtained from the studies conducted by Akakandelwa and Walubita (2017), Alhazmi and Rahman (2013), Eke et al. (2014) and Osatuyi (2013). The questionnaire was divided into four parts. The first part covered the extent of use of social media by enquiring about the length of experience and frequency of use. The second part listed the social media services currently used by the students. A list of popular social media services (such as Facebook, Twitter, WhatsApp and YouTube) was provided with an option 'Other, please specify' and the request to tick all that applied. The third section identified the type of information shared by the students through these services on a 5-point scale from 1 = *least frequently* to 5 = *most frequently*. Sample items included: 'Personal information like your photos, relationships, home town, university'; 'Information related to academic activities like assignments, group projects, date sheets and class schedules, and group discussion with classmates'; and 'Fun and entertainment information'. The final section covered the demographic information of the respondents, including gender, programme and discipline of study.

A draft questionnaire with a covering letter was sent to six experts for content validity, and the necessary amendments were made in response to their feedback. To check the reliability of the data collection instrument, pilot testing was conducted. The questionnaire was piloted with 45 students who were not part of the actual population. The Cronbach's α value was .772, which indicates an acceptable level of reliability.

Table 1. Total number of students enrolled in the universities.

University	Number of students
University of Agriculture Faisalabad	20,000
National Textile University	2500
Government College University Faisalabad	30,000
University of Faisalabad	2949
Total	55,449

The target population of the study was students from four universities in Faisalabad (see Table 1).

These universities offer programmes at the Bachelor, Master's, Master of Philosophy and PhD levels and 100 students were selected from all of the programmes at each university. The quota sampling technique was used to select the exact required numbers or quotas of individuals from each university. Quota sampling is a method where the researcher divides the survey population into mutually exclusive subgroups. These subgroups are selected with respect to certain known features, traits or interests (Connaway and Powell, 2010).

Before data collection, the researchers obtained permission from higher authorities (the registrars and heads of department) at the respective universities. The students' participation was voluntary. The principal author distributed and collected the questionnaires in person, in printed form, to ensure the maximum response rate and to guide the participants in the case of ambiguity while filling out the questionnaires. Initially, 262 questionnaires were returned; after reminders, the remaining questionnaires were received, with a 100% response rate. The data was processed with confidentiality and anonymity, and was analysed using SPSS, version 22. Descriptive and inferential statistics were applied to answer the research questions.

Findings

Demographic information of the students

The respondents' demographic information regarding gender, level of programme and discipline of study was requested. The data reveals that the ratio of female to male respondents was 66% to 34%; a

Table 2. Demographic information of the respondents ($N = 400$).

Gender	Frequency	%
Male	135	33.8
Female	265	66.3
Programme of study		
Bachelor of Science, Master of Arts, Master of Science	289	72.3
Master of Science, Master of Philosophy, PhD	111	27.7
Discipline of study		
Natural sciences	91	22.8
Applied sciences and engineering	188	47.0
Social sciences	57	14.3
Arts and humanities	64	16.0

majority of the respondents (289, 72.3%) were enrolled in Bachelor of Science and Master's programmes, whereas less (111, 27.8%) were in research programmes (i.e. Master of Philosophy and PhD). In Pakistan, the number of postgraduate students in universities is comparatively low due to the limited number of places allotted to these programmes by higher authorities. Finally, the demographic information with regard to discipline of study indicates that 188 (47%) students were from the applied sciences and engineering, 91 (23%) from the natural sciences, 64 (16%) from the arts and humanities, and 57 (14.3%) from the social sciences (see Table 2). The demographic profile shows the diversity of the respondents associated with different disciplines and programmes of study.

Use of social media

The respondents were asked to indicate how frequently they used and how long they had been associated with social media. The results show that a majority of the respondents (276, 69%) were frequent users and visited social media platforms daily or several times a day. Some of the respondents remained constantly online, while a few rarely used such services (see Table 3).

Mostly, the respondents used social media on a daily basis, while a good number of students (132, 33%) visited social media sites several times a day. Furthermore, 36 users reported that they remained constantly online. Overall, 78% of the students visited social media platforms daily or several times a day. This finding indicates regular and frequent use of social media among students. A low number of students reported weekly or monthly usage of social media.

Table 3. Frequency of use of social media.

Frequency of use of social media	Frequency	%
Rarely	20	5.0
Monthly	17	4.3
Weekly	51	12.8
Daily	144	36.0
Several times a day	132	33.0
Constantly online	36	9.0
Total	400	100.0

Table 4. Length of association of students with social media.

Statement	*N*	*M*	*SD*
Length of association with social media	398	3.56	1.225
Valid *N* (list-wise)	398		

The analysis of how long the students had been using social media is presented in Table 4. The mean score of 3.56 is close to four to five years of association with social media. It shows that although social media emerged one and a half decades ago, these platforms gained popularity among university students in Pakistan only during recent times.

Social media services used

The purpose of this section of the questionnaire was to identify the most preferred and popular social media services among the students. A number of social media services were listed and the respondents were asked to select those that they preferred. The opinions of the respondents with regard to their preferred social media networks are presented in Table 5. According to the findings, WhatsApp was the most widely used social media application with 90.5% usage, followed by Facebook with 85%. YouTube (76.8%) held third position among the options provided. Both Instagram and Google+ were equally popular platforms as the same number of students (54%) reported the use of each. Although many students mentioned using Twitter and Snapchat (32% and 27%, respectively), they were found to be less popular compared with the other above-mentioned services. LinkedIn, blogs and Myspace were ranked even lower for social networking among the respondents.

In the category of 'Other', the respondents were asked to mention the use of any other social media services not provided in the list. From the total population, 46 respondents selected this category and mentioned 11 other platforms, including imo, Skype, Musical.ly, Messenger, ResearchGate, Pinterest,

Table 5. Social media services used.

Rank	Social media tools used	Frequency	%
1	WhatsApp	362	90.5
2	Facebook	340	85.0
3	YouTube	307	76.8
4	Instagram	217	54.3
4	Google+	217	54.3
5	Twitter	126	31.5
6	Snapchat	106	26.5
7	LinkedIn	73	18.3
8	Blogs	34	8.5
9	Myspace	24	6.0

Table 6. Types of information shared on social media.

Rank	Types of information	*M*	*SD*
1	Fun and entertainment	2.97	1.198
2	Religious	2.96	1.226
3	Academic	2.88	1.112
4	General news	2.76	1.249
4	Health	2.76	1.314
5	Personal thoughts and opinions	2.69	1.233
6	Sports and games news	2.65	1.331
7	Political	2.49	1.351
8	Personal	2.08	1.122

LINE, Viber, BIGO LIVE, VK and WordPress. With 16 students reporting its use, imo was the most mentioned.

Types of information shared on social media

The students were asked to specify the types of information they usually shared through social media sites. The possible options were provided on a 5-point Likert-type scale from least frequent to most frequent. Table 6 presents the analysis of each statement.

Analysis of the data shows that none of the statements got a mean score above 3.00. However, fun and entertainment ($M = 2.97$), along with religious information ($M = 2.96$), got a mean score close to 3.00, which indicates that the students frequently shared these types of information on social media networks. Academic information held third position with a mean score of 2.88. It is noteworthy that the students seemed less interested in sharing political information. Personal information was found to be the least shared category, with a mean score of 2.08. Overall, the students mostly shared information about fun and entertainment, followed by religious and academic information, with a slight difference in their mean scores.

Table 7. Relationship of personal and academic variables with the use of social media.

Variables	*M*	Statistics	Significance *p*
Gender			
Male	4.33	$t = 2.24$	.026
Female	4.05		
Programme of study			
Bachelor of Science, Master of Arts, Master of Science	4.27	$t = 3.097$	.002
Master of Science, Master of Philosophy, PhD	3.82		
Disciplines of study			
Applied sciences and engineering	4.29	$F = 2.722$	.044
Natural sciences	4.16		
Social sciences	3.98		
Arts and humanities	3.84		

The students were asked to specify the types of information they shared other than those in the list provided. Forty-five students mentioned other types of information, including poetry, information related to artificial intelligence, space news, quotations, artwork, personal activities and photographs.

Differences in the use of social media based on personal and academic variables

Inferential statistics were used to explore the differences in the usage patterns of social media with selected personal and academic variables. The results are presented in Table 7.

Gender. An independent-samples *t*-test was applied to examine the gender differences in the usage patterns of social media. The analysis reveals a significant difference in this regard ($p = .026$), which indicates that male and female students' use of social media was different. The high mean score of the male students ($M = 4.33$) denotes that they used social media more frequently than their female counterparts.

Programmes of study. The results of an independent-samples *t*-test again show a significant difference in the use of social media among the students based on their programme of study at a .05 level of significance. The mean value of the postgraduate students ($M = 3.82$) is quite low compared with that of the undergraduate students ($M = 4.27$). This indicates that the undergraduate students made more use of social media compared to the postgraduate students.

Table 8. Gender-based differences in the types of information shared.

Variables	*M*		*t*	Significance *p*
	Male	Female		
Personal information	2.54	1.84	5.77	.000
Academic information	3.11	2.77	2.93	.004
Fun and entertainment information	3.03	2.94	0.711	.477
General news	2.93	2.67	2.00	.046
Political information	2.84	2.32	3.64	.000
Sports and games news	2.93	2.52	2.94	.003
Religious information	2.92	2.98	−0.514	.607
Personal thoughts and opinions	2.78	2.63	1.13	.257
Health information	2.60	2.84	−1.70	.089

Academic disciplines. One-way analysis of variance (ANOVA) was applied to determine the differences in the use of social media based on the disciplines of study. The ANOVA (Table 7) shows that there was a significant difference in the use of social media based on study disciplines. Students from the disciplines of applied sciences and engineering and the natural sciences were more frequent users of social media.

Once the result of the ANOVA was significant, post hoc multiple comparisons (least significant difference) were applied to determine the differences among all the possible groups. A significant difference was found between the disciplines of applied sciences and engineering and arts and humanities, with p value .009 which is significant. The mean value of the applied sciences and engineering group ($M = 4.29$) is quite a bit higher than that of arts and humanities ($M = 3.84$). Based on this calculation, it can be safely claimed that the students from these two groups had significantly different behaviour in their use of social media. Students from applied sciences and engineering were more frequent users of social media services than students of arts and humanities. A less significant difference was observed among the other disciplines. Overall, the findings of this study suggest that students from applied sciences and engineering were more frequent users of social media compared to students from other disciplines.

Personal and academic differences in the types of information shared on social media

Inferential statistics were used to explore the differences in the types of information shared on social media with selected personal and academic variables of the students. The results are presented in Table 8.

Gender. An independent-samples *t*-test was applied to examine the gender differences. The analysis reveals a significant difference in certain types of information shared, including personal ($p = .000$), academic ($p = .004$), political ($p = .000$) and general ($p = .046$), as well as sports and games news ($p = .003$). This indicates a difference of behaviour between the male and female students when sharing such types of information. The male students tended to share personal, academic and political information more frequently than their female counterparts. They also frequently shared general and specific news, including news about sports and games. There is no difference in the means for the other categories of information, such as fun and entertainment, religious information, health information and personal opinions.

Programmes of study. An independent-samples *t*-test was applied to determine the differences in the types of information shared based on the programmes of study. The analysis does not reveal any significant differences on this basis.

Academic disciplines. The ANOVA on the basis of academic disciplines (Table 9) also shows a significant difference in certain types of information shared. A significant difference among the academic disciplines was found regarding general news ($p = .018$), personal thoughts and opinions ($p = .004$) and health information ($p = .008$). However, for other types of information, no statistically significant difference was found.

Post hoc multiple comparisons showed that the social sciences group was different, at a .05 level of significance, from the other three groups in terms of sharing general news. The high mean ($M = 3.18$) shows that these students shared general news more frequently than the students from other disciplines.

Table 9. Difference in the types of information shared based on academic disciplines.

Types of information shared	*M*				*F*	Significance *p*
	Natural sciences	Applied sciences and engineering	Social sciences	Arts and humanities		
Personal information	1.87	2.18	2.05	2.11	1.622	.184
Academic information	2.66	2.96	3.11	2.78	2.523	.057
Fun and entertainment information	2.98	3.02	3.04	2.76	0.781	.505
General news	2.59	2.79	3.18	2.54	3.389	.018
Political information	2.28	2.47	2.84	2.56	2.106	.099
Sports and games news	2.49	2.82	2.46	2.55	1.987	.115
Religious information	2.93	2.96	2.96	3.00	0.036	.991
Personal thoughts and opinions	2.32	2.72	3.04	2.79	4.537	.004
Health information	2.63	2.86	3.09	2.34	4.035	.008

The students from the natural sciences group were different in their behaviour when sharing personal thoughts and opinions. The low mean value ($M = 2.32$) indicates that they were less inclined to share their personal thoughts and opinions on social media compared with the others. Furthermore, the students from the social sciences group differed significantly with regard to sharing health-related information from the natural sciences and the arts and humanities groups, but not from the applied sciences group. The high mean value ($M = 3.09$) shows that they shared health information more frequently than the students from the other two groups. The mean difference between the social sciences and the applied sciences groups was not statistically significant, suggesting no difference. However, a significant difference was noted between the applied sciences and the arts and humanities groups. The indicates that the students from applied sciences ($M = 2.86$) shared health-related information more frequently than the students from arts and humanities ($M = 2.34$).

Discussion

This study has revealed some interesting findings; some are similar to international trends while others deviate from them. The results indicate that the students were using various social media platforms. WhatsApp was the most commonly and frequently used, followed by Facebook and YouTube. Twitter and Snapchat were found to be preferred less among the university students in Pakistan. As far as the popularity of a particular single platform is concerned, the literature is divided. A number of studies have declared Facebook to be the most popular and widely used SNS (Alhazmi and Rahman, 2013), while others claim this title for WhatsApp, particularly in developing countries (Akakandelwa and Walubita, 2017; Hussain, 2012). Smith and Anderson (2018) found that YouTube was the most widely used social media site, followed by Facebook. In the USA, Facebook and YouTube were the most widely used social media sites among adults for two consecutive years (2018–2019). However, Facebook use among young adults (aged 18–24) has declined in recent years, while, most notably, Instagram and Snapchat are gaining a strong following (Smith et al., 2019). This indicates that digital natives (the z generation) are more inclined to share digital videos and photographs, as both these applications provide filters and editing features. A recent study by AlFaris et al. (2018) determined that WhatsApp, YouTube and Twitter are the most popular social media services among students. Overall, Facebook, WhatsApp, YouTube and Twitter are the top-rated sites in the literature across the globe. It is worth mentioning that Facebook, WhatsApp and Instagram are owned by the same company (i.e. Facebook Inc.).

The majority of the students in this study visited social media platforms on a daily basis or several times a day. Previous studies have also established the frequent use of social media among students both in developed and developing countries (Bakare et al., 2015; Hruska and Maresova, 2020; Hussain, 2012; Smith and Anderson, 2018). Akakandelwa and Walubita (2017) found that most students in Zambia checked their social media before doing something else and spent 30 to 60 minutes each day doing this. In the USA, the majority of adults are active users of various social media and visit these sites daily or several times a day (Hruska and Maresova, 2020). The findings imply that the students were actively engaged in certain social media platforms, and that social media has become an integral part of their lives.

It is high time for academia to view social media as more than a mere distraction. Social media can be used in academic settings to promote student engagement and facilitate better learning outcomes. Universities should develop policies directed at harnessing the use of social media as an additional means of learning. A study by Sutherland et al. (2018) revealed that university social media profiles helped students to feel part of their academic community.

The findings of the present study reveal that the students mainly used social media to share information related to fun and entertainment. They were also engaged in sharing other types of information, ranging from religious to academic information. Previous studies have reported similar trends, where social media was largely used for leisure, entertainment, socialization, fun and gaming (Ezeah et al., 2013; Sharma et al., 2015). 'Viewing photos, commenting on content and checking in to see what others are doing' were the three most popular activities of students on Facebook mentioned by Junco (2012: 5). There is a trend of sharing, watching or commenting on religious beliefs on social media, as religion is a part of people's personal lives. In the USA, many people reportedly share something about their religious faith on SNSs or have witnessed someone else doing so (Pew Research Center, 2019). A study by McClure (2016) claimed that social media is changing how adults think about their faith; they seem to be less committed to one religion. McClure (2016) concluded that broader exposure through social media has led to increased acceptance of syncretistic beliefs and practices.

Sharing academic information on social media, rather than being detrimental to academic outcomes, can create a culture of engagement among students, teachers and peers. It can facilitate speedy connectivity and collaboration between and among teachers and students. Academic content can be created, shared and discussed through social media platforms, which, in turn, can foster wider and more diverse community connectivity. However, issues of the information technology infrastructure, and the training of faculty members and students, need to be addressed for the systematic integration of social media technology into academic activities and the overall learning process. As the literature suggests, the availability and accessibility of technology is one issue, while the awareness and skills of academic staff and students to integrate it in the learning process is another. Such integration will obviously require training to enhance technological skills. Here, libraries and librarians can play their role by organizing information and digital literacy sessions. Moreover, university libraries should engage on social media in order to connect diverse community groups and move beyond the traditional walls of the library.

The impact of social media on politics is all too obvious. It has played a predominant role in shaping the course of major political events across the globe, such as the US presidential election of 2016 and the Arab Spring (Gascó et al., 2017). It has enabled greater interaction of the public with the political landscape. It is quite surprising that the students in the present study showed a low tendency to share political information. It may imply that they were less aware of, concerned with or interested in the political affairs of their country compared to students in developed countries.

Differences in the use of information and types of information shared were also found based on personal and academic variables. The male students tended to use social media more frequently than their female counterparts. They also tended to share personal, academic and political information more frequently. Overall, the findings indicate that male students were the dominant users of social media. This contradicts the findings for developed countries such as the USA, where more females (78%) than males (65%) used social media (Pew Research Center, 2019). The reason may be due to sociocultural norms or attitudes prevailing in the local environment about the status and role of women in society, which may discourage them from using social media. Empirical studies have clearly shown that women in the developing world have a significantly lower technology participation rate than men. They often suffer more gender-related discrimination than their counterparts in developed countries due to the entrenched social, cultural and belief system about their role in society (Antonio and Tuffley, 2014).

Other studies have also found that men and women differed significantly in their use of social media and sharing of information. Males were more addicted to social media, spent more time using social media platforms, and were more open to sharing their personal information than females (AlFaris et al., 2018; Alnjadat et al., 2019; Lin and Wang, 2020; Mazman and Usluel, 2011). Moreover, prior research has demonstrated that female students were reluctant in sharing personal information on social media due to privacy and security risks (Rafique, 2017). They perhaps do not feel secure – Sharma et al. (2015) found that students considered social media less secure for sharing personal information. This implies that the effect of privacy risks on attitudes towards information sharing is stronger for women than men. Likewise, a study of social media use and cyber-bullying in Belize

identified that females were more likely to prevent certain people from accessing their social media content (Kasahara et al., 2019).

It was found that undergraduate students made more use of social media compared to postgraduate students. In previous studies, it has been discovered that undergraduate students used more social media and spent more time on such platforms (Eke et al., 2014). Perhaps they can spare more time compared to students in research programmes, which require intensive work.

A significant difference was also found among academic disciplines regarding the use of information and certain types of information shared on social media. Overall, the findings of the current study suggest that the students from applied sciences used more social media than students from other disciplines. The reason may be due to their field of study, which requires greater interaction with scientific innovations and trends. The findings of previous studies also remind us that students from the fields of science and technology are heavy users of social media. The students from the social sciences shared general news more frequently than those from other disciplines. The students from natural sciences were less inclined to share their personal thoughts and opinions. Further studies may explore the reasons for such differences among students' information-sharing behaviours across disciplines.

Conclusion

The use of social media is growing exponentially among students. The present study illuminates how frequently students used which social media platforms and what types of information they shared. The study clearly indicates that students are actively engaged in various social media services and share a wide variety of information in multiple formats (i.e. photographs, videos, text). Social media has very much become an integral part of their lives. It is high time for academia to view social media as more than a mere distraction. Social media should be used in academic settings to promote student engagement and facilitate better learning outcomes. Universities should develop policies directed at harnessing the use of social media as an additional means of learning, instead of deterring students' engagement with social media.

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Note

1. See the Higher Education Commission, Pakistan website at: https://www.hec.gov.pk/

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Saudi scholars' perceptions and use of open government data portals at Shaqra University, Saudi Arabia

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Abstract

This article reports the findings of a study on open data usage among Saudi scholars. It investigates the sample's perceptions of open data and open data portals. The study reported the factors affecting the participants' decision to use open data and aimed to understand Saudi researchers' practices and perceptions related to the use and sharing of open data. It adopted a quantitative approach and a questionnaire was distributed to and collected from 190 Saudi academic staff to measure their perceptions, their open data usage, the benefits of open data, and the factors that significantly impacted their open data utilization. The findings reveal that 42.1% of Saudi researchers used government open data portals and regularly visited open data portals provided by the university and the government mainly for research purposes. The results also indicate that open data portals enabled Saudi researchers to obtain useful data for their research while giving them the tools to visualize and understand the data.

Keywords

Open data, data portals, data sharing, open data portals, Saudi researchers, Shaqra University

Introduction

Open data has a great potential to increase transparency, expedite research, enable researchers to break data-accessibility barriers and open new research possibilities for researchers. For many years, the terms of open data and open government data have been discussed in the literature. 'Open data' refers to data that is accessible to everyone, without barriers or restrictions, whereas 'open government data' is defined as 'non-privacy-restricted and non-confidential data which is produced with public money and is made available without any restrictions on its usage or distribution' (Janssen et al., 2012: 258). Kassen (2013: 508) refers to 'open government data' as 'a web-portal launched at the federal or local level aimed at making certain types of governmental data sets publicly accessible via the internet in a machine-readable format'. Studies have demonstrated that open data initiatives mainly aim to make data publicly available to all citizens, achieve transparency, support research and improve citizens' engagement in research (Saxena, 2018b; Van Schalkwyk et al., 2014).

Existing studies have focused on open data policies, initiatives and challenges in many countries, but not in developing countries and particularly Middle Eastern countries, which are still in the nascent stages of adopting open data practices and policies (Saxena, 2018b). These studies have covered many aspects, such as national policies of open data (Nugroho et al., 2015), users' acceptance of open data (Talukder et al., 2019), open data and quality management (Saxena, 2019b), and models of open data (Sieber and Johnson, 2015).

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The literature on open data in the Middle East demonstrates that interest in this area increased in late 2016 and early 2017. A study by Saxena (2017b), who investigated open data in Gulf countries, reveals that the adoption of public open data was still in its early stages and had not yet matured. The study reveals that open data policies in these countries were also not fully mature, and the implementation of open data required the development of robust strategies by governments. Studies have found that the open data portals in the United Arab Emirates, Egypt, Oman and Bahrain still have many issues that hinder the reuse of this data (Katbi, 2020; Saxena, 2019a, 2020), whereas the open data available in Lebanon's, Egypt's and Jordan's portals contains bad data that is not useful for stakeholders and is incomplete and outdated (Saxena, 2018a, 2018b). The literature reveals that the utilization of open data by researchers in the Middle East and Gulf countries needs to be investigated (Katbi, 2020; Saxena, 2016, 2017b, 2018a, 2019a).

Published studies dealing with open data in various countries in the Middle East have yielded similar outputs as almost all Arab countries are moving to the adoption of open data. However, all these efforts have lacked robust strategies and transparent policies that guarantee their sustainability (Saxena, 2018a, 2018b). These studies (e.g. Katbi, 2020; Saxena, 2018b, 2020) also reveal that despite the efforts made to adopt open data, barriers have prevented the adoption of these initiatives. The Omani government's open data portal, eOman, has been found to be one of the mature open data portals in the Arab region as it provides data within all Omani sectors. Moreover, it has been found to be a potential platform for the integration of open data and big data. However, Oman still needs to build a human infrastructure to maintain these services (Saxena, 2016). A noteworthy data-sharing initiative was established in Qatar in 2014. Qatar published its open data policy and data management policy in 2014, making it one of the leading countries in the region in adopting open data and data management practices (Mandikiana et al., 2019).

The increased level of information shared through open data portals indicates the need to explore scholars' perceptions of this data and the usefulness of open data for different research disciplines. In the Middle East, the use of government open data portals by academics has not been investigated as most studies have focused only on the assessment of open data portals. The current study is motivated by the scarcity of literature covering the adoption and usability of open government data portals in the Middle East. In addition, it explores, explains and characterizes Saudi scholars' perceptions and adoption of open data available on the Internet.

Study objectives

The key objective of this study was to explore the state of open data and the adoption of open data by Saudi researchers working at Shaqra University, Saudi Arabia. To achieve this key objective, the following subobjectives were formulated:

- To explore Saudi scholars' awareness of open data;
- To investigate the expected benefits that researchers from Saudi universities can obtain from the use of open data;
- To evaluate the use of open data by researchers in Saudi Arabia;
- To explore Saudi scholars' perceptions of the use of open data in research;
- To identify the barriers and challenges that may affect the use of open data in research.

The literature

To find related literature, the researchers consulted Arabic and English full-text databases. The Dar-Almandumah database was consulted to find Arabic literature covering the topic of open data, whereas Google Scholar, Emerald, SAGE and Wiley were searched to find related literature in English.

By exploring the literature related to open data, it was found that open data has attracted the interest of researchers and practitioners from various research fields. Open data provides an excellent opportunity for the advancement of research in numerous fields. As a result, researchers have attempted to explore the use of open data for clinical purposes (Navar et al., 2016), research (Schmidt et al., 2016), and economic and sociological issues (Liu et al., 2015), as well as the policies of open data (Nugroho et al., 2015). However, the adoption and utilization of open government data was found to be dominant among the studies exploring open data (e.g. Gascó-Hernández et al., 2018; Reggi and Dawes, 2016; Wang and Lo, 2016).

Open government data has been discussed in many contexts. However, researchers have found that open government data is mainly used in five activities: searching and finding, which are represented by activities such as browsing, querying and exploring data sets; the analysis of open government data; the visualization of the data; interaction about open government data; and quality analysis by assessing the quality of the data sets (Zuiderwijk et al., 2016).

Janssen (2012) identified five forces that drive open government data: transparency and accountability, participatory governance, innovation, economic growth, and internal value for the public sector.

However, despite the enumerated possibilities of open data, many challenges have been found to hinder the utilization and adoption of its policies. For instance, even though open data is established to achieve transparency, researchers have found that the utilization of open data does not necessarily lead to transparency (Hogan et al., 2017; Matheus and Janssen, 2015; Zuiderwijk and Janssen, 2014b). Another challenge is misleading data, as it has been found that not all uploaded data is necessarily usable or credible (Ohemeng and Ofosu-Adarkwa, 2015; Saxena and Muhammad, 2018).

Open data policies have been investigated in many studies to learn from mature initiatives, find weaknesses or even compare different policies (Bates, 2014; Evans and Campos, 2013; Jung and Park, 2015). Interestingly, Zuiderwijk and Janssen (2014a) developed a framework that can be implemented to obtain a better understanding of the common and differentiating elements in open data policies. Moreover, the framework attempts to identify the factors that affect the variation in existing policies. Factors such as the environment and context, policy content, performance indicators and public values are included in the framework as they were found to be the most dominant factors affecting open data policies. Another model, developed by Zeleti et al. (2016), aimed to explore the economic value of open government data. The model successfully identified business model patterns and emerging core value disciplines for open data businesses.

The Arabic literature on open data

By browsing the Arabic literature on the topic, a limited number of studies investigating open data were found. An early study, conducted by Abu-Rida (2017), explores the adoption of open data by the Egyptian government. The study concludes that open data in Egypt is still in its nascent stage and a new open data portal needs to be created which can serve users' needs. The study also found a lack of awareness of the nature of open data in Egypt, indicating the pressing need to promote open data among Egyptian researchers so that they can benefit from it. Farrag (2019) explores the current practices of Saudi universities in managing open data, especially research data. The study concludes that Saudi universities are interested in providing administrative statistical data but not research data. The study also found that this trend is prevalent in Saudi Arabia at the national level, particularly the open government data portal and the Ministry of Education website's data page. A conceptual proposal to establish a repository for research data and enable Saudi researchers to use open data is provided by this study.

A recent study by Albalushi (2019) investigates the relationship between open data and the knowledge economy, and their impact on innovation in Oman. The study concludes that open data supports innovation in technical colleges in Oman. However, awareness of open data and how to benefit from it was found to be lacking. It is also concluded that the open data available to Omani researchers is not sufficient; thus, the government should endeavour to make data available to the public. Similarly, Asiri and Al-Suraihi (2019) conducted a study on the current practices of the Gulf Cooperation Council in making open data available through e-government portals. The study concludes that the United Arab Emirates portal was the first complete portal, followed by those of Oman, Bahrain and Saudi Arabia, and Kuwait. In addition, the study indicates the need to increase the awareness of open data users and for governments to pay more attention to open data portals as such portals are still in their early stages. Furthermore, the data shared through these portals also needs to be improved.

An earlier study by Al-Saadani (2015) aimed to analyse and compare open government data initiatives in Arab countries and countries with a leadership role in this field, such as the USA and the UK, as well as to propose a systematic vision. The study results suggest that USA and UK implemented open data initiatives in a national portal using open-source software and The Comprehensive Knowledge Archive Network (CKAN) software. Al-Saadani (2015) claims that the open data portals of Arab countries are still in their nascent stages. Notably, this study also suggests that Arab governments should implement open data policies to achieve more transparency.

A report was also found that was published by the United Nations Economic and Social Commission for West Asia (2018) about the promotion of open governments in the Arab region. The report covers open data initiatives in numerous countries and three examples of open data initiatives in Arab countries – namely, Jordan, Tunisia and Morocco. The report reveals that these three countries have demonstrated a willingness to move towards open government. This willingness has been reflected in the establishment of the necessary legal framework for open government by including its concepts in a new constitution and issuing many basic laws and public literature related to open data. The three countries have also developed

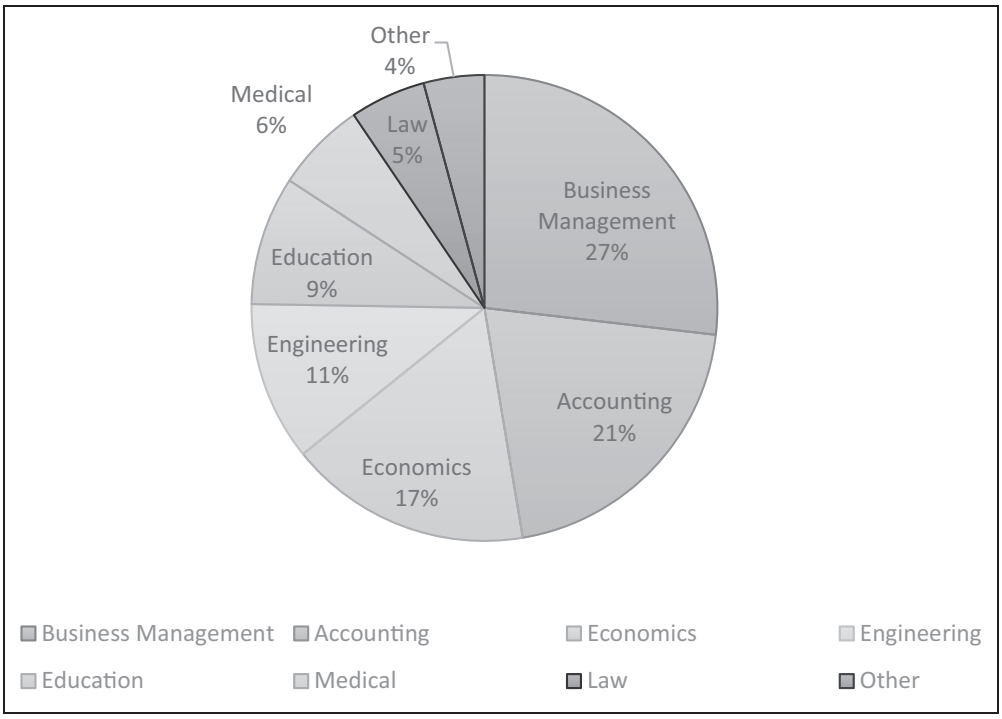

Figure 1. Sample distribution.

ambitious plans to move to open government, especially to enhance integrity and fight corruption.

Methodology

A quantitative research approach was employed in this study to map the use of open data by Saudi scholars. A paper questionnaire was distributed among a random sample of researchers affiliated with Shaqra University who regularly visited the university's main library from September 2019 to January 2020. The literature on the topic was used to formulate the questions. The questionnaire was produced in the Arabic language. The authors conducted a pilot study on four respondents to test the questionnaire and confirm its reliability and validity. Later, a total of 350 paper copies of the questionnaire were distributed among the visitors to the library, who were Saudi staff and researchers working at the university during that period. The researchers attempted to include all of the scientific disciplines at the university in the sample. However, as the questionnaire was distributed in the library, the academic disciplines were not equally represented. The researchers retrieved 190 valid questionnaires (54%) representing eight main disciplines (see Figure 1). Although the researchers collected many responses, distributing the questionnaire within the library limited the data collection to the academic staff who frequently used the library facilities. Hence, the results may not accurately reflect the opinions of the academic staff affiliated with the university. It is important to mention that a paper questionnaire was utilized because it was thought that more answers can be obtained by using this format.

In addition to the cover page explaining the term 'open data' and the purpose of the study, the questionnaire consisted of six sections: the sample's demographic data and their awareness of open data portals; their perceptions of open data portals; accessibility; benefits; actual use; and factors affecting the participants' use of open data portals. The data obtained from the questionnaire was stored and analysed using SPSS software, version 24.

Table 1 presents the demographic characteristics of the study sample. The participants were informed of the questionnaire's purpose, and they agreed to be asked questions with regard to open data adoption and use. Table 1 demonstrates that the number of males (86.3%) was higher than the number of females (13.7%) in the study. The number of male participants was higher as there are fewer female staff at the university and they are only allowed to visit the library one day per week. The sample's age distribution leaned towards participants aged under 30 (58.4%), whereas the number of participants in the 31–40 age group was 38, which accounts for 20% of the sample. Noticeably, there were only two participants aged over 60. It should be noted that the number of Bachelor's degree holders – 'demonstrators' – was around 50% of the sample, as the university employs many graduates in the position

Table 1. Demographic information of the respondents ($N = 190$).

Position	Frequency	%
Demonstrator	93	48.9
Assistant Lecturer	38	20.0
Assistant Professor	28	14.7
Associate Professor	17	8.9
Professor	14	7.4
Total	190	100
Gender		
Male	164	86.3
Female	26	13.7
Total	190	100
Age		
< 30	111	58.4
31–40	38	20.0
41–50	23	21.1
51–60	16	12.1
60+	2	1.0
Total	190	100

of demonstrator. Demonstrators are responsible for teaching the practical parts of courses and, to be promoted, they need to conduct research, which explains why they frequently visit the library. The authors decided not to use weighting approaches as a small sample size would reduce the accuracy of the results. It was noted that most of the staff who visit the main library are early career researchers who need to use databases provided by the library or receive training in library services, which influenced the distribution of the sample as they made up more than half of the participants.

Findings and discussion

The analysis of the data obtained from the questionnaires revealed that the sample was aware of open data portals as the university promotes the use of the university's portal among the staff. However, the level of use of these portals and the awareness of other open data portals varied. Figure 2 demonstrates how the sample learned about open data portals in Saudi Arabia and the Arab region.

Figure 2 shows that colleagues and friends were the most important contributors to knowledge of the existence of open data sites, with 42.6%. Social networking sites ranked second and the university's website ranked third, with 35.2% and 12.1%, respectively. This may be a result of the lack of awareness among many staff of the existence of information about open data on the university website. Furthermore, daily newspapers and magazines ranked fourth, with 5.2%.

Table 2. Outlets used to access open data ($N = 190$).

	Distribution of respondents	
Outlets	Frequency	%
Newsletters, government publications or institutional announcements	80	42.1
Search engines, directories, social media, blogs, direct requests to data providers	47	24.7
Data cited in previous studies	33	17.4
Archives/repository search/web search	21	11.1
Other	9	4.7
Total	190	100

The results indicate that the sample's awareness of open data portals and open government data was mainly from communicating with colleagues and friends, which shows the important role of informal communication in promoting open data. Social media and the extensive efforts made by the Saudi government and universities to encourage researchers to use open data also played an important role. Newsletters sent by the university to staff, containing the latest updates, and media promotion of Vision 2030 also contributed to raising the awareness of open data. Saudi 2030 vision is a strategic vision that aims to reduce Saudi Arabia's dependence on oil, increase the utilization of other resources, and develop public sectors such as education and health. Interestingly, a study by Harper and Kim (2018) reveals that the availability of open data portals or repositories and pressure from third parties had no relationship with the behavioural intentions among researchers to adopt open data. This means that a willingness to use open data or share data is a result of the researcher's belief that the use of open data is essential for their research.

To understand the usage patterns of open data, the sample was asked how they accessed open data and which information outlets provided them with open data. Table 2 presents the main methods adopted by the participants to locate the open data available to them.

From Table 2, it is clear that government publications and institutional announcements (42.1%) were the sample's primary means of locating open data. Unsurprisingly, search engines, directories, social media, blogs and direct requests to data providers (24.7%) ranked second. The staff depend more on government publications to learn about open data than search engines due to the lack of awareness of open data, making government publications and institutional announcements more valuable for obtaining information about open data. Data cited in the

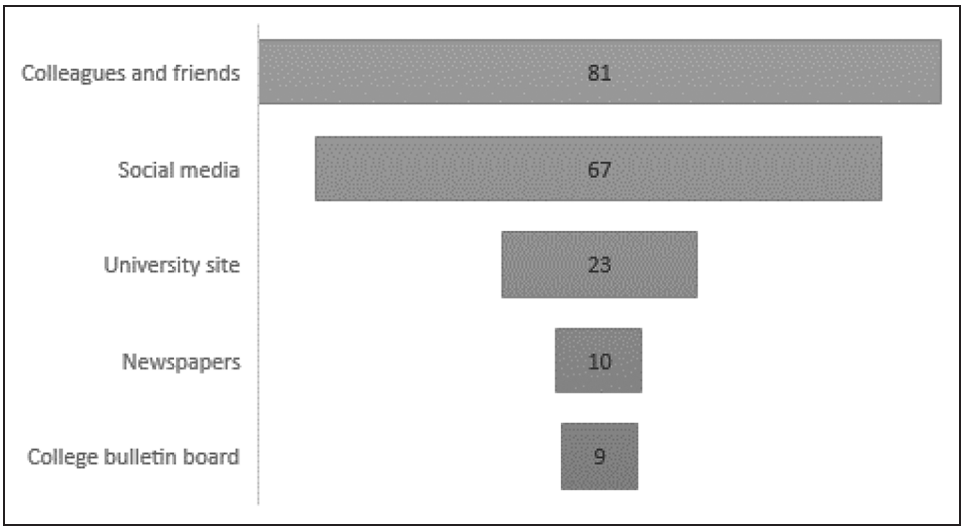

Figure 2. Open data promotion channels. Number here are frequencies.

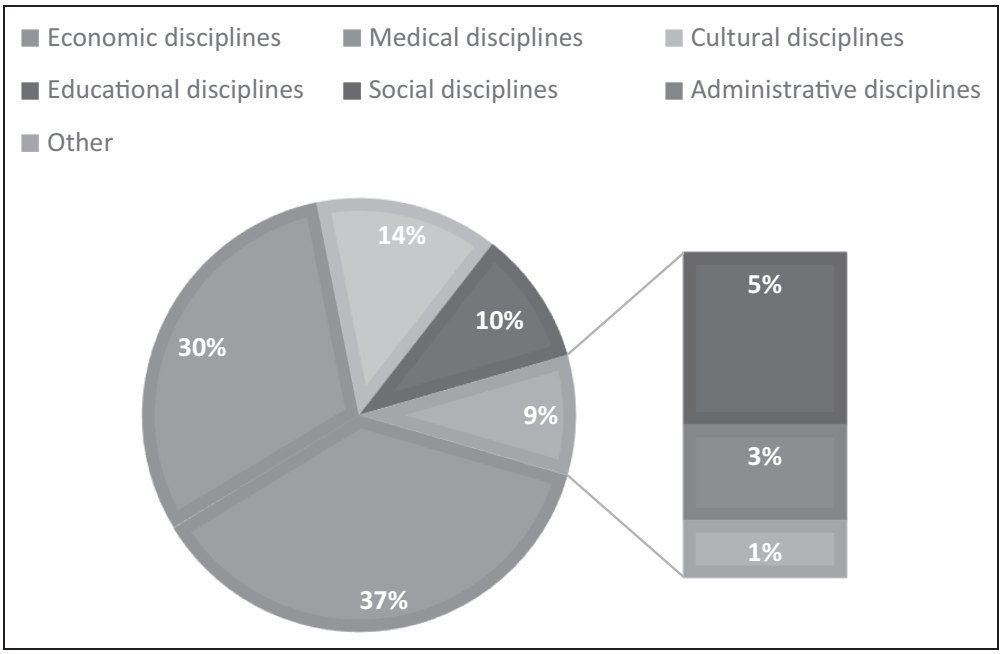

Figure 3. Open data usage by field ($N = 190$).

published literature (17.4%) ranked third. Finally, other methods (4.7%) for gaining access to open data that were not identified in the questionnaire ranked fourth.

It can be seen from Figure 3 that the economic disciplines were those that used open data the most, with 70 participants representing approximately 37% of the respondents. The medical disciplines ranked second, with 30% of the respondents; the cultural disciplines ranked third with 14%; and the educational disciplines ranked fourth with 10% of the sample. Lastly, the social and administrative disciplines were represented by 5% and 3% of the total sample, respectively. These results are understandable as they were obtained from a large cohort of researchers focusing on economics in the university and because 'the country's primary industry is based on mining and oil extraction', as 90% of the country's revenue is from oil (Nurunnabi, 2017: 536).

Users' perceptions of open data portals

To understand the participants' perceptions of open data portals, they were asked to select statements they agreed with from four categories: accessibility, benefits, actual use and challenges. The accessibility statements varied to cover the cost, usage rights, sharing data, licensing and restrictions.

Table 3 demonstrates that the overall mean for the 'accessibility' dimension was 3.78. The statement

Table 3. Participants' perceptions regarding the accessibility of open data portals.

Statements		*M*	*SD*
1.	Do not require any cost to use	4.70	0.569
2.	There are tools available to visualize and display data	4.68	0.622
3.	Ease of access	4.47	0.704
4.	Clearly state information about the data rights-holder	4.33	0.885
5.	Ability to reuse and republish data	3.98	0.712
6.	Available under open data license	3.92	0.894
7.	Available information with high quality	3.86	0.902
8.	The metadata used gives enough information about the data	3.80	0.904
9.	The ability to protect or limit access to some data (confidential or sensitive)	3.79	0.945
10.	Usage restrictions/terms of use/license information are clearly stated	3.71	0.956
11.	Provide tools to represent and display data	3.62	0.977
Overall mean		3.78	

Table 4. Participants' perceptions regarding the benefits of open data portals.

Statements		*M*	*SD*
1.	Promote technology transfer and transparency	4.45	0.669
2.	Conduct scientific research	4.44	0.700
3.	Provide unrestricted data	4.40	0.704
4.	The data publisher is responsible for regularly updating and maintaining them	4.38	0.710
5.	Open data can be accessed by DOI	4.36	0.712
6.	Provide links to studies that have used open data	4.33	0.714
7.	Information on tools and data representation methods is available	4.26	0.885
8.	The database that provides this data is reliable	4.21	0.894
9.	The potential value of the data for scientific research and scientific publishing purposes	4.16	0.902
10.	Community outreach and research activities	4.11	0.945
11.	Support scientific research to solve societal problems	4.06	0.956
Overall mean		4.33	

'Do not require any cost to use' was ranked highest with a mean of 4.70, while the lowest mean was for the statements regarding usage restrictions, which had a mean of 3.71, and the representation of the data, with a mean of 3.62. It is believed that these results are due to the ease of access to open data and the absence of accessibility problems, even though there are many faculty members, especially those who are not skilled in using open data portals and find it difficult to access the data in these portals. Interestingly, the current results are in agreement with those of Saxena (2016, 2017a), who indicates that there are many open data initiatives in the Middle East that aim to make data more accessible for researchers, and that governments promote these initiatives to increase the use of such data. However, researchers in many Arab countries find it difficult to use open data for several reasons, such as the type of data and the lack of tools that enable the visualization and understanding of the data.

Table 4 demonstrates that the statement regarding promoting technology transfer and increasing transparency had the highest mean (4.45), whereas the statements regarding conducting research, providing unrestricted data and 'The data publisher is responsible for regularly updating and maintaining them' ranked second, third and fourth, respectively. Noticeably, 'The potential value of the data for scientific research and scientific publishing purposes', community outreach, and supporting research ranked last, as their means varied between 4.16 and 4.06. Thus, the Authors believe that the benefits that researchers can gain from the use of open data are from transparency, technology transfer and scientific research, as well as the researcher attributes that distinguish open data sites (Kucera and Chlapek, 2014; Yannoukakou and Araka, 2014; Zeleti et al., 2016).

Table 5 demonstrates that the study participants were regularly using open data in Saudi Arabia, with 'quality of the information' ranked in first place with a mean of 4.45. The participants also mentioned that open data was used for research and to obtain appreciation from their peers, with a mean of 3.89. The statement about using open data because of the

Table 5. Participants' perceptions regarding the actual use of open data portals.

Statements		*M*	*SD*
1.	I use open data because of the quality of the information	4.45	0.745
2.	I use open data because of the ease of use	4.40	0.725
3.	I use open data as it is useful for my research	4.39	0.643
4.	I use open data because of societal norms	4.31	0.800
5.	I use open data because of the university or research institution policy	4.12	0.856
6.	I use open data for research and to obtain peer recognition	3.89	1.043
7.	Open data speeds up scientific research and its applications	3.81	1.012
8.	I use open data because of personal commitments to scientific research	3.76	1.019
9.	I use open data because of the policy of the funder	3.75	1.021
Overall average		3.96	

Table 6. Factors affecting the use of open data portals.

Statements		*M*	*SD*
1.	Data quality varies	3.97	0.879
2.	The time lag between requesting and receiving data	3.93	0.997
3.	Institutional constraints	3.87	0.928
4.	Commercial use and misuse of data	3.83	1.092
5.	Loss of control over intellectual property	3.65	1.095
6.	Misinterpretation or misuse of data	3.46	1.099
7.	Loss of recognition of the original owner of the data	3.42	1.101
8.	Access and understanding terms of use/licenses	3.33	1.121
9.	Difficulty in clarifying property rights for a work that includes multiple contributors	3.27	1.218
10.	Concerns about legal liability for data or the release of data	3.18	1.226
11.	Difficulty accessing usable data	3.06	1.231
12.	Legal barriers (data privacy, national security, protection of confidentiality, intellectual property rights, etc.)	2.91	1.247
13.	The need for registration (e.g. on a website) to access data	2.81	1.249
14.	Understanding how to interpret and reuse data	2.68	1.251
15.	Difficulty citing data	2.54	1.264
Overall mean		3.21	

funder's policy was ranked last, with a mean of 3.75. The results indicate that researchers were using open data for several reasons: because of its accessibility, lack of restrictions, credibility and the transparency of the data.

Table 6 demonstrates that data quality was the participants' main concern, with a mean of 3.97, whereas the time taken to request and obtain data was the second concern for the participants, with a mean of 3.93. Data quality was more important for the sample as the data was being used for research; thus, it was important to ensure that the data was useful and produced reliable results. Noticeably, institutional obstacles ranked third, with a mean of 3.87, and 'commercial use and misuse of data' ranked fourth, with a mean of 3.83. Remarkably, concerns regarding legal responsibility for data or issuing data, difficulty accessing usable data, data privacy, the need for registration to access data and the difficulty of citing data were considered to be less important.

Conclusion

This article has aimed to provide an understanding of the state of open data use within a sample of researchers in Saudi Arabia. Although many sources of information are available, government data is essential for many researchers from different fields as this data represents a huge and valuable source of raw data that can be utilized for research purposes (Máchová and Lnenicka, 2017).

The current study's findings provide insight into Saudi scholars' perceptions of the Saudi government's open data. The results agree with the findings of studies conducted in the Middle East that open data in the Middle East is still in its nascent stages and needs more attention from governments (e.g. Farrag, 2019; Saxena, 2016, 2017a, 2017b, 2017c, 2018a, 2019a, 2020). The study has also provided information on how researchers benefit from open data, their opinions regarding the data available to them, and the

factors affecting their use of open data. No previous studies in Arabic or English have explored Arab users' perceptions, making the results of this study important for both governments and researchers.

It was found that economics data was used most by researchers because the business and economics schools are considered the largest schools in the university, making the number of researchers who utilize economics data for research purposes higher than in other disciplines. Conversely, the data on social sciences was utilized less by researchers. Another reason for this is that Saudi Arabia's Vision 2030 mainly focuses on the improvement of the country's economy through the diversification of income sources and reduction of the reliance on the oil industry as the main source of income. Thus, Saudi researchers seek to use open government data for this purpose as it is the country's main focus.

It is noted from the results that the characteristics of open data portals, such as their ability to provide a raw source of government information, transparency and lack of restrictions, make them valuable for researchers. Some researchers find these open portals to be a goldmine of valuable information that makes it possible to visit new and undiscovered areas. A study by Piwowar and Vision (2013) concludes that the benefits of making data open are reflected in its users and the producers of the data, as it encourages reuse of the data. However, these benefits do not apply to the data shared by institutions. It allows researchers to conduct research using institutional data, which will eventually have a positive effect on institutions sharing their data.

Many factors were found to affect the use of open data, and data quality was found to be one of the most important. In addition, the participants noted that data quality varied. This might be the case with some academic disciplines that need high-quality data, and the data obtained from the portals might not satisfy researchers' needs in some cases. The amount of time required to obtain the data was found to affect the sample's use of open data. Even though users can access most of the open data, some data sets are only available on request. Institutional constraints and data misinterpretation were also found to affect the sample's usage of open data. Trust has been discussed in the literature as a barrier to making data open to the public, as researchers are always concerned about how others will utilize open data (Fane et al., 2019). Studies investigating open data have found that many factors are associated with the sharing and use of open data and non-government data. Factors such as funding, publishing, and institutional and authorship environments have been found to significantly affect the use and sharing of data (Piwowar, 2011; Zuiderwijk and Janssen, 2014a).

Overall, educational institutions and universities should pay more attention to open data, establish programmes and curricula related to open data, link the theoretical and practical sides, certify graduates, and satisfy the growing need for this field in the labour market. Moreover, Saudi universities should consider and adopt an open data initiative as a national project, which will benefit and yield positive results in many fields – economic, social, educational, political, cultural, media and scientific. An open data initiative promotes various aspects, such as transparency and responsibility, supporting innovation, facilitating access to government data, and developing services and products provided by government agencies and institutions. Academic libraries should contribute to the open data movement by encouraging researchers to use open data, training them to use open data portals, and participating in shaping the country's policy of open data. Librarians should carry the responsibility of establishing the culture of open data, not only by using the government's open data, but also by encouraging the sharing of research data among the community so that more researchers can make use of such data.

While these findings may help understand how Saudi researchers feel and engage with open data, more studies need to address further issues that emerged during this study, such as the difference in the level of adoption of open data, the success of open data initiatives, and the quality of data shared through open data portals. Furthermore, the adoption of open data initiatives should be compared among different Arabic countries in order to capture and understand the differences among these countries and how researchers from each country perceive open data. Also, while the current study has not extended to the exploration of open data policies, some of the results indicate that Saudi researchers are encouraged by their institutions to use open data, thus suggesting the need for studies that investigate the policies of the government and higher education institutions with regard to open data.

Obstacles and limitations

The current study was conducted only with researchers affiliated to Shaqra University. While the study intended to examine Saudi researchers' perceptions and awareness of open data, the results are limited to researchers who only worked at Shaqra University. The authors of the current study could not distribute the questionnaire to other Saudi universities due to the

possibility of producing different results. Furthermore, females represented a low percentage (13.7%) of the participants, as the number of female staff is low at the university and they are only allowed to visit the main library one day per week, thus creating a bias in the results. Therefore, similar studies need to be conducted in more universities, especially those with a higher number of female staff.

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Article

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Developing future-ready school libraries through design thinking: A case study

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Abstract
School libraries around the world need to revitalise their spaces, collections and programming to continue to be relevant for teachers and students living and learning in an information-saturated technological global age. Efforts in the rethinking of library usage and design are most effective when they are contextualised and localised, based on user needs and country or school budgets. Design thinking is a useful approach for schools to understand the needs of their populations and design targeted improvements for their libraries' specific users. This article explains how one secondary school collaborated with university researchers to use design thinking to re-envision the role and functions of its school library. The evidence collected through the process was integrated into the redesign of an improved library for the students. This article provides a model for evidence-driven school library improvement projects.

Keywords
School libraries, design thinking, evidence-based practice, secondary school, Singapore

Introduction

In today's volatile, uncertain, complex and ambiguous (VUCA) world, many educational systems are re-evaluating traditional approaches to handling issues as new needs become more apparent. Individuals need to constantly update their skills and engage with various literacies and technologies not just to consume, but also to produce new ideas and resources, and participate in society as informed citizens (Schleicher, 2018; Schwab, 2016). Reflecting the educational emphasis in many countries, the Singapore education system focuses on the need for 21st-century competencies such as civic literacy, global awareness and cross-cultural skills, critical and inventive thinking, communication, collaboration and information skills (Ministry of Education, 2018). Furthermore, with the move towards online and blended learning resulting from the recent COVID-19 pandemic, there is a greater need to understand the use of

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technologies for learning (Robert, 2020). The school library, as a physical and online space, can support schools' efforts to ensure students acquire future-ready skills for a VUCA world. However, school libraries are situated in different contexts and serve different users. As such, it is necessary to ensure that improvements are tailored to each schooling context while taking into account general research and library science principles (Hughes, 2014).

This article explains how design thinking can serve as a useful guide for evidence-based (Todd, 2006, 2015) library improvement projects. Design thinking prioritises the user's needs, taking into account the different stakeholders involved in order to work together (Dym et al., 2005) to solve troublesome issues (Buchanan, 1992). By using design thinking as a strategy, school libraries can ensure that library improvement projects, whether on a small or large scale, can support genuine community needs. In using rapid prototyping as part of design thinking to rethink libraries, Meier and Miller (2016: 285) maintain that design thinking can allow libraries to be flexible and innovative in a system that requires 'tactical changes that improve services, workflows, and team structure for efficiency'. This is something that school libraries can benefit from, as student needs are constantly changing and school libraries risk becoming obsolete unless student needs are critically and systematically addressed. This article documents the design thinking process that was conducted at Cedar Girls' Secondary School as part of a university–school collaboration to improve the Cedar school library for its student users, providing an example of how design thinking can be conducted as part of an evidence-based process of school library revitalisation.[1]

Background

What do students require for future learning?

To identify appropriate elements for 21st-century success in today's VUCA world, future learning must meet new educational expectations, which cannot be achieved with outdated 20th-century resources and competencies (Wong and Wong, 2019). Instead, technology needs to play a key role in supporting future-ready learning. The increased range and speed of access to information is one of many reasons why technology is now a necessity rather than a luxury. Schwab's (2016) *The Fourth Industrial Revolution* addresses the extensive ways in which technology plays a part in our 21st-century lives via 'our consumption patterns, the time we devote to work and leisure, and how we develop our careers, cultivate our skills, meet people, and nurture relationships'.

In this post-typographic world of artificial intelligence and datafication, our students need to cultivate the developmental skills of 'curiosity, imagination, resilience and self-determination' (Schleicher, 2018: 2) to thrive. Twenty-first-century competencies have commonly been seen by governments and educators as essential future-ready skills. While there are various frameworks, the most commonly referenced future-ready dispositions include 'creativity, critical thinking, collaboration, communication, socio-emotional and lifelong learning' (Tan et al., 2017: 425). This list of values reflects an overall shift from hard skills, which have a higher propensity to become obsolete, to soft skills, such as collaboration, independent learning and cultural awareness, in order to achieve 21st-century excellence. The sentiment is that the VUCA world requires greater flexibility, resilience and adaptability for future work. Students who are inquirers (Kuhlthau, 2010) are equipped with the skills and knowledge to effectively navigate the web of information. Andrade (2016) encourages active learning through group-based tasks, which, according to Lombardi (2007), must also immerse students in authentic learning to prepare them for the VUCA world.

Thus, 21st-century competencies include the capacity to inquire, search for information and collaborate in order to participate productively across often permeable national, global and virtual boundaries. In considering the societal context and pedagogies that help students achieve excellence, educators and librarians can better identify what students require for future learning, and therefore provide improved spaces and services to meet those needs.

How can school libraries support future learning?

Future-ready school libraries need to become relevant and progressive learning hubs that can exist in the information age (McClintock Miller and Bass, 2019). Students' learning and achievement in schools are optimised when libraries are well designed, resourced and staffed (Dix et al., 2020; Hay and Foley, 2009; Lance, 2002; Todd and Kuhlthau, 2005), which is why schools need to constantly evaluate how their school libraries are meeting current learning needs. The application of new technologies in libraries should support and extend the development of future-ready learning, which includes the skills of reading, collaboration and research (Loh, 2018). Beyond installing devices such as computers,

e-readers and touch-screen readers in the library, librarians need to attend to how the functionalities of particular devices and technologies support learning, rather than merely installing what seems to be fashionable. Tech-savvy school librarians can effectively integrate technology where necessary to benefit student learning (Barack, 2015).

The promotion and support of reading skills and engagement remains a key function of school libraries. The Programme for International Student Assessment's 'Reading for Engagement' study (Kirsch et al., 2002) found that students' wide reading contributed to reading proficiency, and the school library can play a vital role by supporting students' access to physical and e-collections (Adkins and Brendler, 2015; Merga, 2019). Students are more likely to want to read when they have access to interesting and relevant material, whether in print or online (Jones and Brown, 2011), which is why school libraries must continue to attend to their book collections and reading programmes. However, research has found that while students are familiar with using technology, using technology for reading may not be their preference in every situation (Evans, 2017; Loh and Sun, 2019; Merga, 2014).

Additionally, libraries should support the development of future-ready skills such as collaboration and independent learning through technology. For instance, as schools move towards more collaborative approaches to learning with flipped classrooms and fully online lessons, technologies are necessary to facilitate group discussions – such as shared screens in small discussion rooms. As the COVID-19 school closures have shown, the use of technology is now a key component of student learning. Skills such as self-directed learning and online collaboration can also be supported through technology. Knowledge of learning management systems (Karplus, 2006), social media (Barack, 2015) and search engines are some of the necessary tools a librarian must learn to work with in order to engage with users. Information literacy has always been a key focus in school library research (Kuhlthau, 2010), but the educational conversation now needs to account for developments in digital technology and environments, and the roles of youth and learning in these fast-changing contexts (Dresang and Koh, 2009).

Design thinking and user needs for future learning

Design thinking, which allows for a thorough needs assessment, is one way to integrate the student-as-user perspective into the redesign of a school library for systematic evidence-based (Todd, 2006, 2015) improvement. In a compilation of works aimed at encouraging teachers to rethink their digital-age pedagogy, Laurillard (2013: xvi) urges teachers to consider learning 'through the lens of the learner' in order to get a glimpse of the learner's experience. In design thinking, the same logic applies to the researcher and the user: the former must consider the user experience when executing the design. Wong and Wong (2019) call this stage 'empathy', while Brown and Wyatt (2010) call it 'inspiration'. In this stage, researchers consider the users' motivation to use and experience the product/service. The design of future-ready school libraries should ensure that school library resources and services fulfil genuine user motivations at the ground level.

Design thinking essentially heightens sensitivities to the uniqueness of the problem and pays extra attention to the user experience. While there are many methods for design thinking, Wang and Hannafin (2005) suggest that contextualisation is key (Peer Group at the University of Georgia, 2006), as it emphasises the 'unique cultural context' (Brown and Wyatt, 2010: 32) of the user, situating the user's journey as critical in understanding the needs to be addressed. When mapped out, the user's journey is represented so that viewers can understand the 'various stages, steps, and touchpoints a user must pass through in order to complete a task' (Marquez et al., 2015: 136). Through cultural immersion and charting these journeys, the researcher is better equipped with knowledge to make well-informed decisions pertaining to user needs. In a study using design thinking to redesign a school library, Barrett (n.d.) found that all parties must fully comprehend the needs of the users and library functions to establish fully functional spaces for the user.

Writing about academic libraries, Meier and Miller (2016) refer to the design thinking strategy at the Hasso Plattner Institute of Design at Stanford as a way for libraries to approach change. The emphasis on users' needs and getting different stakeholders involved in order to work together (Dym et al., 2005) to solve troublesome issues (Buchanan, 1992) and the use of rapid prototyping to test out the suitability of proposed ideas, supports targeted and appropriate school library transformations. This collaboration between field experts and users ensures that the library design will provide the products/services required by students to encourage the development of their 21st-century competencies.

This article illustrates how one school used design thinking to unearth specific user needs in its schooling context, specifically in relation to the use of technology for the future-ready skills of reading,

collaboration, research and study. We explain how design thinking was used to rethink the role and functions of one secondary school library and redesign a new evidence-based library for the target users, providing a model of action for other schools and libraries. We focus specifically on the empathy stage of design thinking, demonstrating how evidence can be collected and used for idea generation and further action. Furthermore, what is unique about this study is that much of the data was gathered by students and has the perspectives of students at its core, rather than expressing the views of teacher-librarians or educators (Hughes, 2014).

The design thinking context

Between 2017 and 2019, the 'Building a Reading Culture' study, a baseline study of reading and school libraries, generated insight into the design of school library spaces, collections and programming to support future-ready learning within Singapore (Loh, 2018, 2020; Loh et al., 2017). Chin Ee Loh (Author 1) provided consultation for three secondary schools (including Cedar Girls' Secondary School) that were in the process of redesigning their school libraries, drawing from contemporary school library research and her study findings to inform the data collection and analysis, and integrate the findings into the redesign of the physical school library spaces. Chin Ee worked closely with Cedar Girls' Secondary School in 2019 to collect survey, observation and documentary data, and used the data to inform the redesign of the school library space, technology use and programming. Due to the COVID-19 situation in 2020, the library design and renovation work was halted and restarted only in January 2021. Instead of the initial target of mid 2020, the library renovation project deadline was shifted to the end of 2021.

Cedar Girls' Secondary School is an all-female secondary school (ages 13–16) that offers both the Express stream course (the four-year General Certificate of Education Ordinary Level programme) and six-year Integrated Programme (which culminates in the General Certificate of Education Advanced Level examination; Ministry of Education, 2020). The Integrated Programme caters for students with a strong academic performance in the Primary School Leaving Examination and aims to maximise students' academic potential. The school has a special focus on social innovation, featuring spaces and programmes to nurture a sense of involvement and agency in regard to societal matters. The school is also supportive of creating a collaborative culture.

Within the Singapore context, qualified librarians are not typically part of the school library ecosystem. Instead, a qualified teacher is appointed as a library coordinator. The Ministry of Education provides funding for the library system and library assistants, and an annual per capita book grant. At Cedar Girls' Secondary School, a school committee made up of teachers from different departments (referred to as the Library Task Force) was set up to spearhead the revitalisation of the school library. In addition, a group of four students – including Lisa Lim Yu Qi (Author 3), Qianwei Lim (Author 4) and Skyler Ng Ynn Zee (Author 5) – volunteered to form a social innovation team to examine library usage and the needs of students through a survey and informal interviews with their fellow students. These students volunteered to do the project outside of their school curriculum because of their genuine interest in improving the school library.

At the National Institute of Education, pre-service teachers are expected to participate in an 'Education Research' module of their choice as part of their learning. Elia Binte M Hamarian (Author 2), a pre-service teacher, joined the study midway through, and worked with Chin Ee to conduct user journeys to collect evidence on student learning, specifically in relation to reading and technology. All of the authors contributed to the data collection, data analysis and writing up of the research for this article.

The empathy stage: collecting evidence to inform design

Design thinking highlights empathy as an approach to holistically consider user needs and experience through cultural immersion and/or observation of the users' circumstances that affect their interaction with the product/service. While systematic, it is also flexible. Moreover, design thinking encourages collaboration among experts from various fields to ensure that the product/service can cater to the needs of the users. For ease of communication with the school and implementation, we referenced the five steps in the popular design thinking model of the Hasso Plattner Institute of Design at Stanford (2021) when implementing the different stages of design thinking. The five steps are: (1) empathise, (2) define, (3) ideate, (4) prototype and (5) test. This article documents the empathy process where data collection and analysis helped the students and researchers to understand the users' (students') needs and define the problem, which allowed students, teachers, school leaders, researchers and architects to brainstorm possible ideas for a redesign of the

library to be integrated into the library renovation project.

School-driven data collection: user survey and observation data by the social innovation team

The social innovation team volunteered to work on the library revitalisation study and collect data as part of the empathy process. There were two stages: in the first stage, the students visited various school and public libraries to understand different library roles and functions and gather ideas; in the second stage, the social innovation team designed and implemented a survey, which was sent via email to all Secondary 1 to 4 students with the main objective of finding out about their fellow students' likes and dislikes with regard to the current library, their vision of a dream library and the kinds of books they would like to see in the library. Out of the total school enrolment of 1186 students, 893 (i.e. 75% of the school enrolment) completed the survey. The social innovation team also spoke informally with their schoolmates about their findings and preferences to better understand the survey results.

The multiple-choice questions were adapted from a reading survey (Loh and Sun, 2018) and centred around the students' enjoyment of reading and opinions of the school library collection and space. The multiple-choice questions provided insights into trends and preferences. Open-ended questions were asked at the end of the survey to solicit the students' honest opinions and suggestions for improvements. The social innovation team also used an Excel spreadsheet to code the open-ended questions for emergent themes. Finally, they created a presentation of their findings to share with the Library Task Force and university researchers. Input from their survey was used to inform the redesign of the school library space.

A university researcher in the school: user-journey and interview data

Elia used user-journey maps and interviews as part of the empathy process of design thinking to complement the social innovation team's survey study. As an impartial observer and pre-service educator with understanding of the curriculum needs of schools, Elia was able to provide another perspective on the needs of the school and students. Two students were selected by the teachers as participants. Only two students were shadowed for two reasons. First, the nature of design thinking entails greater attention being directed to the idiosyncrasies of users' needs and experiences at the empathy stage. A general idea of the users' attitudes and needs was gained from the survey; however, there needed to be more attention paid to the particularities of the user profile. As such, a smaller number of participants was most useful to carefully assess the personas, pain points, challenges and decisions of each participant. We juxtaposed the analysis of this data against the informal observational data and survey data to draw more in-depth understandings of the students' responses to and use of technology. While not representative, it provided insight into actual usage to complement the large-scale survey data. This better defined the problem, resulting in higher-quality ideation. Second, due to the unexpected COVID-19 pandemic, which resulted in a school lockdown a few weeks after the user journeys, logistical issues were considered when deciding on the number of participants. To account for safety measures and minimal external contact with students, we agreed with the school to shadow only two participants.

Annie was a Year 3 library-goer and Paige was a Year 2 non-library-goer.[2] Both identified as readers. Data was collected from a single full-day observation of each student conducted in March 2020. As the period of data collection happened during the COVID-19 outbreak, the students were encouraged to leave school after lessons and all extracurricular activities were suspended. The library also limited the number of students it admitted. This new environment may have compromised the authentic depiction of both students' daily interactions with technology and the library.

The observations, intended for Elia to better understand the needs of the participants, occurred across all the spaces that the students visited, such as classrooms, the canteen and the library. The students were observed for their interactions with reading and technology, and possible opportunities for library support. Field notes were taken. Due to the participants' tight schedule, interviews were conducted whenever possible throughout the day. The interviews were done to clarify follow-up questions from the observations and to pose other background questions relevant to understanding the students' interaction with and perceptions of technology, libraries and reading.

The data was presented in the form of user-journey maps, which are infographics that provide insights into the user's experience. The maps also provide readers with a simplified understanding of the areas pertinent to the use of technology and opportunities for library support. The user maps, together with the interviews, were coded thematically for insights into student library and technology use and needs.

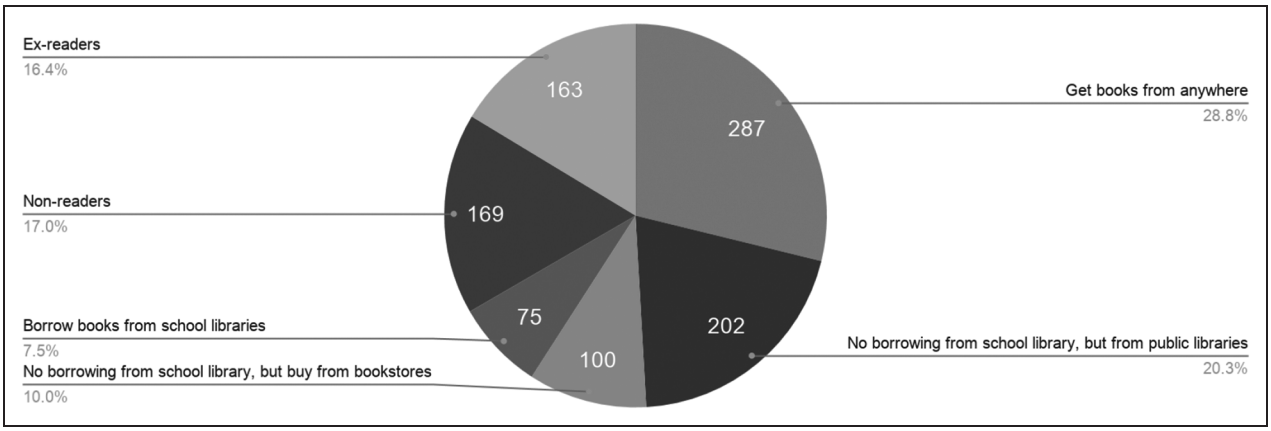

Figure 1. Reading habits of the students.

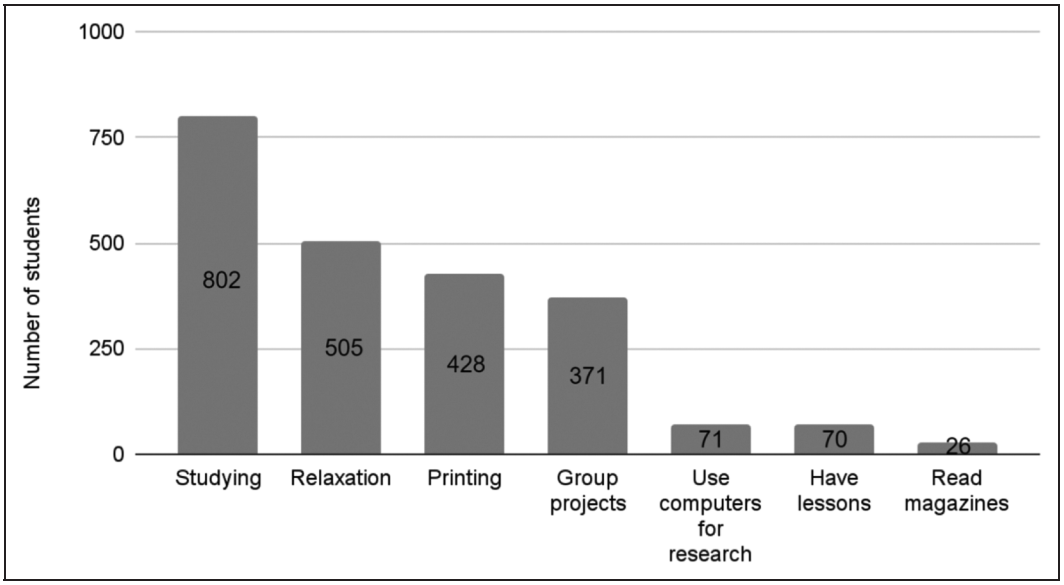

Figure 2. Preferred usage of library space.

Findings from the design thinking process

Survey findings

Lack of varied and popular books. The survey showed that 33.4% of the students considered themselves to be non-readers or ex-readers – that is, they used to read but did not do so anymore (Figure 1). For the students who read, they stated that they obtained books from places other than the school library. The reasons cited for this included the lack of variety, as well as the lack of new and popular titles. The groups of students who only borrowed books from the public library and only bought books from bookshops cited 'most recently published books' and 'popular books' as the two main reasons for using the public library and bookstores as their preferred sources for obtaining books. In addition, in a free-response question, 130 of the 202 respondents who only borrowed books from the public library explained that they chose to borrow books from the public library because it had a greater variety of books compared to the school library.

Common uses of the school library. Next, the survey showed that studying, relaxing and printing were the most common uses of the school library (Figure 2). Paradoxically, the library was a place for both work (studying) and play (relaxation). At the same time, the students made use of facilities such as the printers and the space for group projects. The informal interviews with the students found that they enjoyed the air conditioning in the library and found it conducive to studying. The printers in the library were also useful for last-minute projects. The students shared that they did not have home printers or that, if they had home printers, they often ran out of ink or broke down. The school printers were therefore a reliable source for them to print out

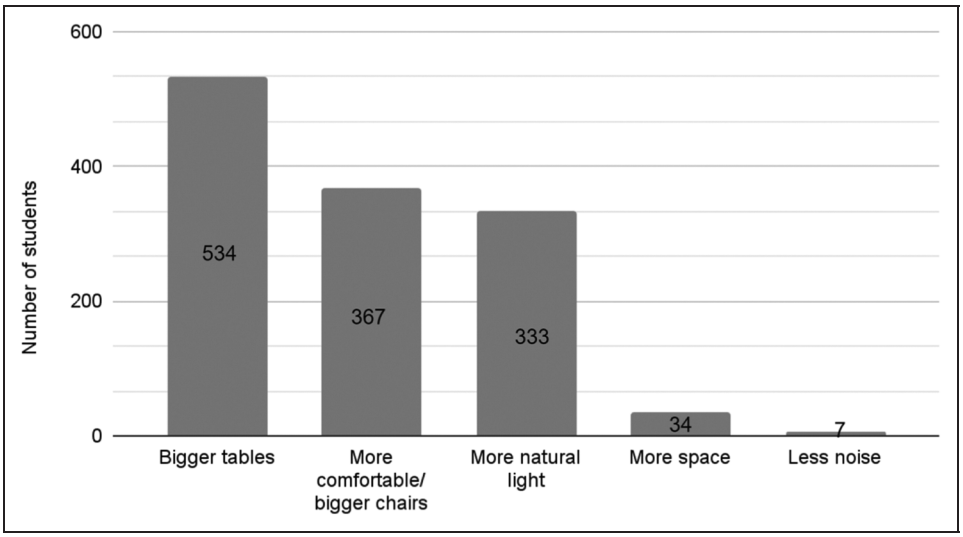

Figure 3. Study preferences.

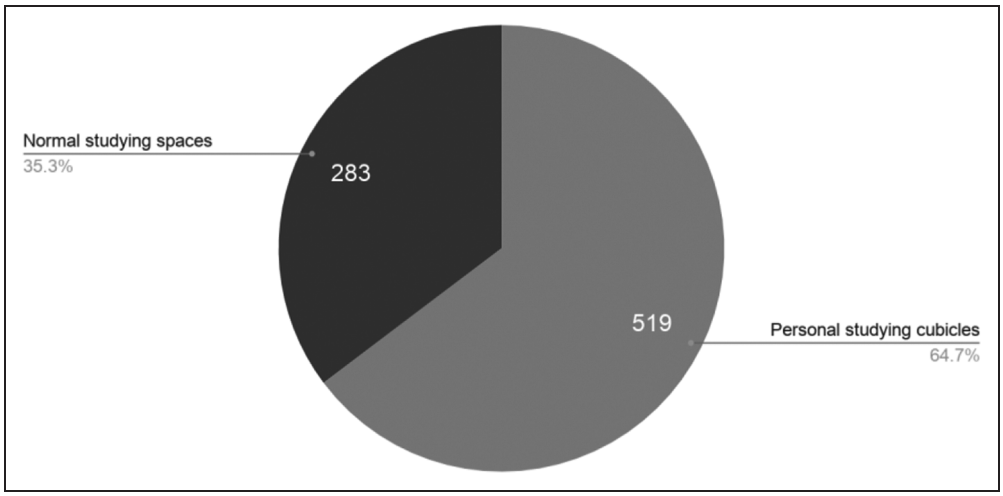

Figure 4. Preferred study environment.

notes they had created for self-study or assignment submissions.

For studying, the students preferred bigger tables, more natural light and more comfortable or bigger chairs (Figure 3). Given the academic pressures of being in a top girls' school, it was unsurprising that studying remained a top priority. However, the students were also likely to use the library for group projects, suggesting that collaboration was important in the work they were allocated. However, they did not really use the computers for research. It may be that many students used their own laptops or mobile phones for research, as the user-journey maps showed.

For studying, the students preferred personal study cubicles to normal study spaces (Figure 4), with 64.7% requesting personal study cubicles. The informal interviews also revealed that while the girls desired individual study spaces, they were happy to visit the library with their friends so that they had company while studying or relaxing.

The students were asked if they used the library to search for information, and the results showed that it was not a popular place for this activity (Figure 5). When doing research, 71.6% of the students reported that they did not go to the library to look for information. Based on the observations and informal interviews with the students, it was because the library, like most school libraries in Singapore, did not conduct information literacy or research lessons. As mentioned, most of the students used their own devices for research, whether during or outside class time.

Libraries and technology. Within the Singapore context, the National Library Board (2018) – the Singapore public library system – has made accessibility to e-

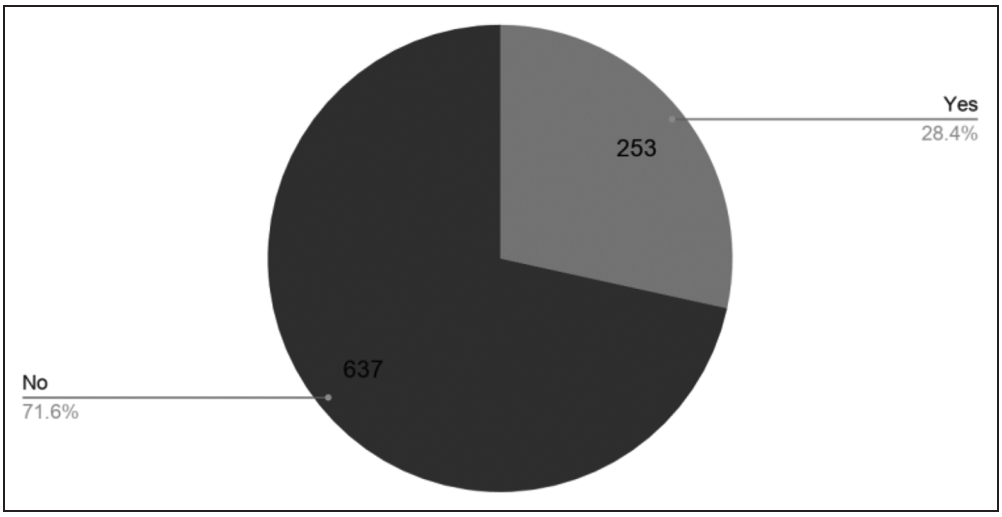

Figure 5. Responses to the question 'Do you use the library to look for information (e.g. when conducting research, etc.)?'

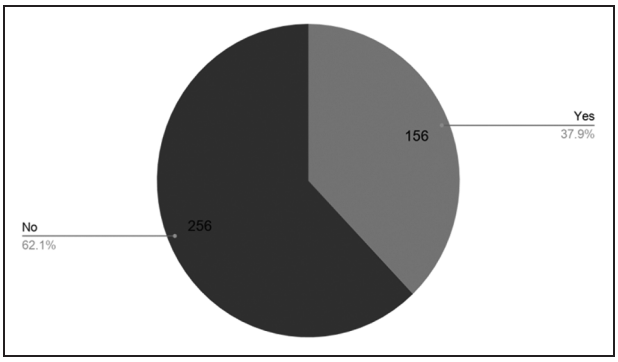

Figure 6. Responses to the question 'Do you have the National Library Board mobile app?'

resources available through its mobile application (app) since 2016. All Singapore students are entitled to free public library membership. Although 73.3% of the survey participants reported that they were National Library Board members, only 37.9% reported having the National Library Board mobile app, which allows for e-transactions and the loan of e-books (Figure 6).

User-journey findings

This section reports on the findings from the user-journey maps of the two students. Each student's data is presented as a timeline, focusing on significant interactions with technology and the library. Highlights from the follow-up interviews are used to supplement the findings from the observations and inform readers of the participants' perceptions of future libraries. User-journey maps were selected as the mode of presentation as they were helpful in tracking the users' day-to-day experiences with technology and the library. The maps also allowed for specific details to be highlighted as pain points or critical areas that affected the differences in the decisions and behaviours of the users, which helped the researchers to define the problem and to ideate meaningfully. We attended to both reading and uses of technology as significant areas that the school wanted to understand better. This set a clearer context for the researchers when ideating.

User-journey map: Annie, a Year 3 library-goer. Figure 7 shows Annie's activities on a Monday from 7.35 a.m. to 3.15 p.m.

The use of technology for online collaboration was significant in two lessons. From 8.00 a.m. to 10.45 a.m., Annie's English teacher used Google Docs to facilitate group work. Since the students could not gather together physically, they accessed the web-based word processor Google Docs from their desks and worked together online. The teacher could access all the groups, track each member's contribution and comment immediately. Online collaboration was also observed in Annie's social studies lesson, which was conducted in the computer lab. In groups of four, the students were instructed to independently research and present facets of good governance. Annie's group searched various sources, collecting articles, case studies and definitions. They used the Google search engine for their searches, then transferred their findings into a shared Google Docs file to filter the information by discussing the credibility of the articles found. They then transferred their presentation ideas onto Google Slides, the platform set by their teacher, and shared the presentation with their teacher to screen on the main projector. Some students seemed more concerned with the content and

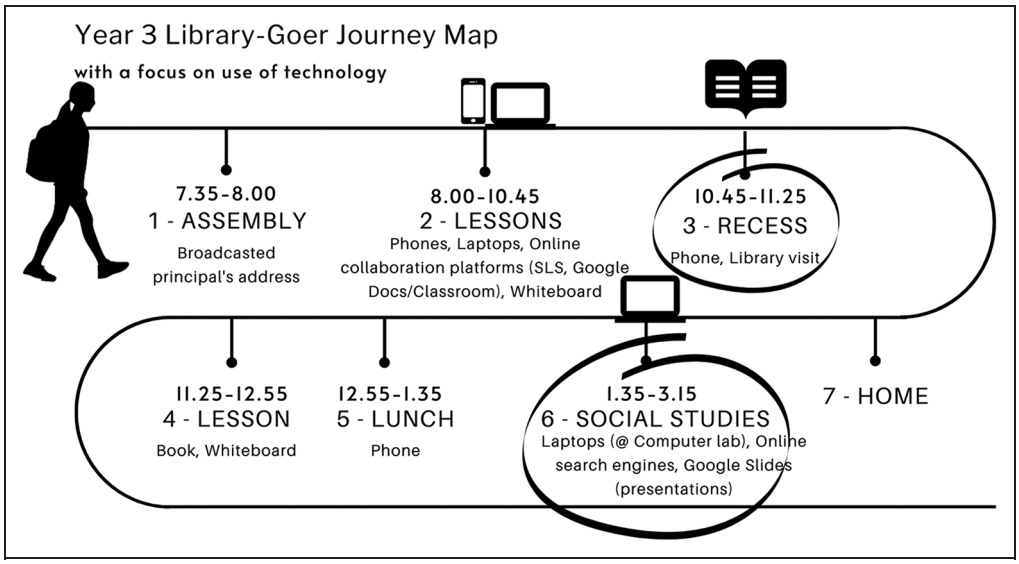

Figure 7. Annie's user-journey map, with a focus on the use of technology.

others with the aesthetics of the slides. A majority of the slides across the class had excessive amounts of text and only one group referenced their sources.

Another common form of technology used throughout the day was the whiteboard. Although the whiteboard may be considered a traditional form of classroom technology, it remained highly relevant in the school, with extensive use by four of Annie's teachers. Only her social studies teacher did not use one.

Not many students appeared to use laptops. During the English lesson, only one student opened up her laptop, while the rest used their mobile phones. During the social studies lesson, some brought their own laptops to use, while the majority used the laptops provided in the computer lab. On the use of personal laptops, Annie commented:

> It is compulsory for everyone to get [one]. We usually only bring our laptops if the teacher asks us to because it's really heavy. Most of the time we just use our phones, but if we have a bigger project to do, then we'll use our laptops because it's easier to type with everyone.

Annie's comments reveal that while laptops were compulsory, most students preferred to use their mobile phones because they were lightweight and could serve similar functions as a laptop. Laptops seemed to be used only for large-scale active collaboration and projects.

Annie's visit to the library during recess was particularly significant. Annie, who usually visited the library to study, had borrowed a book from the school library. She wanted to borrow its sequel but did not know if the library had it in its collection. She struggled to find the book as she did not remember the author's name, and she revealed to Elia that she did not know how to approach the librarian for help. She explained that she did not know how to look for book titles and did not know how to borrow or buy e-books. She preferred print copies as she wanted to keep them as her own.

During the follow-up interview, Annie told Elia that she had visited the new HarbourFront public library and was intrigued by the new technological features such as e-books and laptops for online magazines. She was looking forward to 'easily accessible technology for all ages' in future libraries. She explained her personal challenges in using the library:

> Maybe clearer explanations as to how to use technology in terms of education. Technically, we can use the computers to research and find research journals, but don't know how. The computers there are really old . . . I suppose I could ask the librarian, but there aren't instructions there that are widespread for us to find information.

Annie's struggle with seeking help in finding books and online resources transcended merely knowing how to use the computers and finding research materials. It highlighted the lack of effective signage and technology in the school library that could support her needs. Additionally, Annie expressed the desire for personal study spaces so that she would be able to do her work uninterrupted.

User-journey map: Paige, a Year 2 non-library-goer. Figure 8 traces Paige's activity on a Wednesday. She had a full curriculum day; however, the last two

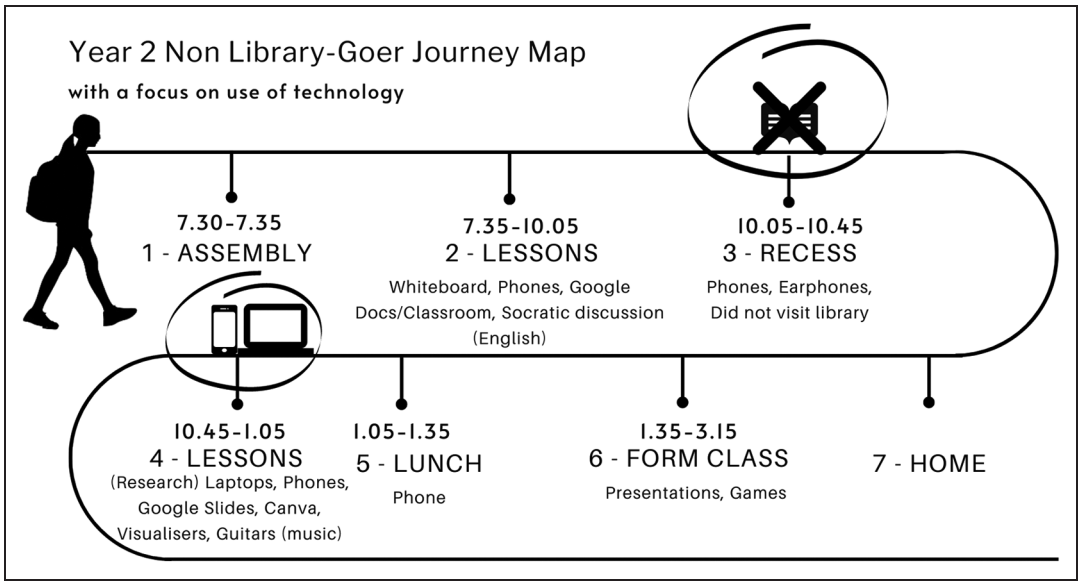

Figure 8. Paige's user-journey map, with a focus on the use of technology.

periods (i.e. 1.35 p.m. to 3.15 p.m.) were her Form Class periods. Unlike Annie, Paige did not usually visit the school library. Most of her breaks were spent in the school cafeteria with her friends, using their mobile phones for leisure. The school had a relaxed mobile phone policy and students were allowed to use them when not attending class.

Paige's experience with technology also involved whiteboards, visualisers, Google Docs, Google Slides and other platforms like Student Learning Space (SLS), a Ministry of Education learning management system adopted by the school. Traditional technologies like whiteboards and visualisers were used in her biology and mathematics lessons. More handouts were issued for these subjects, and the students used the whiteboard to present their work, while the visualiser was used to present the teacher's answers. This was also common in Annie's mathematics lesson, where the students were invited up to the board to share their work.

In contrast, laptops were used extensively for multiple purposes in Paige's social studies and English lessons. Paige's experience with using technology for online collaboration was similar to Annie's social studies lesson. During a research lesson, the students were tasked with a group activity that demanded them to collaboratively research a topic for their project work. Paige's group was researching 'ethnography'. Although supposedly a discussion, there was not much dialogue happening. Instead, four of the five students, including Paige, were on their phones working together on a Google Docs page, contributing their findings. Unlike Annie's class, Paige's class had at least one laptop per group, although the majority still used their mobile phones.

Elia noticed one member of Paige's group browsing the *Encyclopaedia Britannica* online for information, while the rest of her group members were on other web pages. When the student was asked why she preferred the *Encyclopaedia Britannica*, she explained that her father had taught her to refer to it, just as he had taught her to use Canva, a design platform, for presentations. The rest of the group, including Paige, appeared unfamiliar with Canva. Paige shared that they would all organise their points on Google Slides, which was accessible to all. Then, the student who knew how to use Canva would transfer everything onto that platform.

Paige's English lesson also utilised technology for online learning. Her teacher used the SLS platform to simulate a livestream flow of comments from an elaborate Socratic discussion. The students were paired up and given the role of speaker and scribe. The scribe had to note down their speaker's points and upload them onto the SLS page, which was screened on the main projector for everyone to see.

The second area of interest in Paige's day was her conscious decision not to visit the library. Paige explained that she frequently visited the school library in her primary school and avidly read the books in its collection. However, she stopped visiting the school library in secondary school due to her busy schedule. Furthermore, she limited visits to the school library because of the noise. The peak hours of library traffic (i.e. recess and after school) could be very noisy, according to Paige. Hence, she only visited the library on rainy days when the study benches in the school's corridor spaces got wet. Insufficient study spaces and noise levels were also something Paige was concerned

with during her follow-up interview. She expressed a preference for outside library spaces to study due to the library's non-conducive environment. Lack of time was also mentioned as a factor for her sporadic visits to the library, as she was facing an increased workload. Since she had a personal laptop and mobile phone that she used for her schoolwork, her need to visit the library was reduced. When asked how she gained access to books, Paige replied:

> When I want to borrow books from the [public] library, I usually borrow the e-book, so I can read it on my phone . . . because it's easier and very convenient. I don't need to wait and reserve a book because there's a waiting list, but it'll be automatically delivered. But I also prefer buying books because I like to have a collection.

Paige did not have issues with books or reading, but was unsatisfied with the services and environment of the school library. Instead of borrowing physical copies, Paige expressed a preference for e-books, which she considered 'convenient', as she did not have to wait for a book to become available.

Discussion

The findings revealed several key points about how the library can be improved to support the learning needs of the adolescent students at Cedar Girls' Secondary School. In this section, we discuss how the school library can be redesigned for reading, research, and study and collaboration.

Redesign for reading

The main finding from the survey was that the library was perceived as not having attractive and relevant book collections to support student reading. Furthermore, Paige elaborated that she was able to get book resources from the public library and bookstores, supporting the findings from the survey that students who were avid readers could get their books elsewhere. Even though Annie was an avid reader, she was not aware of how to get e-books or ask the librarian for help. This is reflected in the survey data where the majority of the students reported not using the National Library Board app, which would have allowed them to access e-books freely and easily. Based on these findings, the Library Task Force is working on improving the library's book collection and e-collection in tandem with the physical library renovation to better meet the needs of the students.

With more students gaining access to apps like Goodreads, Kobo and Kindle, their interactions with e-books are more widespread (Atanasovski, 2018). However, current research shows that while avid readers are likely to utilise e-books as well as print books to feed their reading habit, many students still need to be taught how to use e-books (Loh and Sun, 2019; Sun et al., 2021). Since public libraries already make e-books accessible, the school can support students' access to these public resources by educating students like Annie on how to go about borrowing them, and even set up an e-collection system that mediates the borrowing from the public library to students. In particular, the experience of COVID-19 has shown that it is essential for librarians and school libraries to help students access e-books, especially when physical books are not available, in order to extend their reading resources. Online tutorials on how to use e-books, e-programming and the online promotion of books are even more necessary to keep students reading (Witteveen, 2020) and should be integrated into the school's library programming.

Second, while the library already has an online public access catalogue system to make searching more convenient and faster, it was not made visible to the students through an online public access catalogue machine. Annie's experience showed that it was not easy for students to find books in the library or know who to ask. Students could access the online system by logging in on their phone or laptop, but they might be unaware of how to use it, suggesting that instruction and frequent reminders are required for simple routines. Lonsdale's (2003) call for a more technology-relevant school library and technology-equipped librarians rationalises the need for an online system. Annie's experience also highlighted the importance of a helpdesk and posters informing students of the various functions and resources available for them. Big bold signs drawing students' attention may ease their user experience if they require help, creating an environment of support and user-friendliness in the library.

Redesign for research

Paige's and Annie's experiences revealed many instances of research and collaboration, suggesting that research is an integral part of the school curriculum. This puts the school on Kuhlthau's (2010) track of inquiry-based learning, instilling the future-ready skills relevant for students to flourish. With the establishment of research libraries (Research Information Network, 2011), the school can also increase features that improve the research process. The increased reliance on digital information today means that students need to be skilled and critical users of digital information. The user journeys showed that the students

did not necessarily have knowledge of the different ways to search for information, often relying on the Google search engine. Paige's classmate's knowledge of the *Encyclopaedia Britannica* resulted from her home environment rather than school education. This suggests that there needs to be a stronger information literacy curriculum (e.g. FOSIL Group, n.d.) in the school to help students learn to navigate the Internet for specific kinds of information. Although the students may be "digital natives" (Prensky, 2001), they may possess uneven knowledge and access to different ways of searching and evaluating information (Coiro, 2020; Selwyn, 2009).

Other resources that the library may subscribe to or integrate into training are sites like Canva, Google Scholar, Refseek, iSeek, Infotopia or Microsoft Academic, which can be made accessible by logging into the library computers. Introducing these presentation or research sites to students, curating customised research tools and developing more targeted research skills programmes can help students develop their presentation and research skills. Given the increased emphasis on collaboration, the capacity to present research and ideas will facilitate students in learning to communicate effectively with others. The Library Task Force has started work on curating e-resources to support students' learning needs. The Library Task Force could also work with the Research Department to find ways to support the curriculum needs of the school in terms of updating its resources, although this will likely be a difficult task as Singapore schools are not staffed with full-time qualified librarians or teacher-librarians who can collaborate with and support the development of a structured research and information literacy curriculum.

Redesign for study and collaboration

The survey findings showed that the students used the library most for studying and also used it regularly for group work. The findings also suggest different patterns of behaviour that point to the need for a flexible approach to meet the needs of diverse users. While some students liked to go to the library to study together, others liked having quiet workspaces. This is borne out in the survey, where a majority of the students requested private study cubicles. This suggests that study carrels or the partition of spaces to give a semblance of a personal space for each student will support students' individual silent study. The students' requests for more conducive spaces imply that a change in the physical layout of the library could better support their study needs.

Based on this feedback, the redesign of the Cedar Girls' Secondary School's library aimed to integrate two discussion rooms in the lower level of the library and reserve the upper level of the library for study. Before purchasing carrels, the school decided to rearrange the existing tables and chairs on the second level of the library to facilitate quiet study as a form of rapid prototyping (Meier and Miller, 2016) to test the idea and lower the cost of the innovations. This zoning of the library into a noisy zone in the lower level and a quiet zone in the upper level will allow for seamless movement between the different ways of learning across different parts of the library. Since students also use the library for group work, it would be helpful to provide learning materials and technologies such as flipcharts, whiteboard markers and whiteboards to facilitate student work. These tools for brainstorming can facilitate student collaboration by providing a space for group thinking. Projectors or touchscreen televisions can also facilitate student collaboration and sharing through projection of their work.

Conclusion

The findings from the study informed the design for the physical renovation of one school library to create spaces in the library for the future-ready functions of reading, research, collaboration and study. The design will be accompanied by improved book collections and programming that aim to improve student access to and use of the library for the development of their future-ready skills. At the same time, there needs to be meaningful use of both older (whiteboards, print books) and more recent technologies (e-books, e-subscriptions) to support students' future-ready learning. As shown in the findings, 'older' technologies such as whiteboards continue to be significant for brainstorming and collaborative work. When it comes to figuring out how technology can serve students' needs, collaboration between teachers and librarians can allow for better decisions to be made regarding resources and methods (Lance, 2002; Montiel-Overall, 2010). School and public library collaborations are also a way for school libraries to draw on public resources and materials for the common goal of student learning (Moreland and Kammer, 2020), particularly in times of reduced budgets and limited resources. However, it is crucial to note that space redesign must be accompanied by shifts in collection policies and programming (Loh et al., 2017) – a journey which the Library Task Force is continuing on even as there are further changes in Singapore's post-pandemic educational landscape.

While certain principles may remain core to the work of school libraries, each school needs to consider its student profile and priorities, in accordance with budget constraints and empirical research, to ensure targeted and relevant improvement. This article has demonstrated how design thinking processes can be used to understand the user (in this case, the student). It offers schools that are interested in redesigning their library space a systematic way to involve their students in the process of gathering data and identifying school-level needs for their library improvement projects. Design thinking can be applied to the various areas of school library improvement. For example, schools can meaningfully monitor the types of books with high- and low-frequency borrowing, generating patterns from the data that can better inform what kinds of resources are valued by students. At the same time, school libraries can gain student perceptions of the library and how it contributes to or complements their school life, which empowers them with useful information to strategise follow-up actions. Design thinking can be used for small hacks and improvements or large-scale transformations. Ultimately, the aim of using design thinking is to ensure ongoing evidence-based library revitalisation for the continuous improvement of school libraries to support reading and learning.

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Notes

1. Cedar Girls' Secondary School's real name is used with permission from the school.
2. The students names are pseudonyms.

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Do primary school libraries affect teenagers' attitudes towards leisure reading?

Pamela McKirdy
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Abstract

This study explores how New Zealand primary school students' experiences of school libraries affected their attitudes towards reading for pleasure once they entered secondary school. Two hundred and seventy-six students in their first year at high school completed a survey asking about their primary school libraries. The students were asked to self-identify as keen readers, occasional readers or non-readers. The results were analysed in a spreadsheet, considering variables such as attitude to reading, former school and family background. The students were mainly positive about their libraries, but were bothered by cramped and noisy environments and books they perceived as babyish. Students from schools with a librarian were more positive about reading for fun than those from schools where the library was not prioritised. Students from a family background where reading was encouraged were more likely to maintain a positive attitude to reading by the time they reached high school.

Keywords

Young adult services, services to user populations, children's services, school media centres, libraries, types of libraries and information providers, buildings, facilities, management, administration, Oceania, Asia

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Introduction

This research looks at a group of New Zealand students in their first year of high school, and asks whether their experiences at their primary school libraries might have had any influence on their current attitudes to leisure reading. Previous research shows a strong correlation between enjoyment of reading and use of a library, but which comes first? Do children use a library because they like reading or does library use lead them towards enjoyment of reading? It is not clear whether libraries play any part in encouraging or maintaining student enjoyment of reading or whether other factors, such as family background, are more important, so this new research explores these issues. In New Zealand, school libraries are not given a high priority by the government. Anecdotal comments by library staff on school library mailing lists shows that even some school principals do not see the value in a library, so the author wanted to gather information that might show that school libraries make a difference to young people's enjoyment of reading.

Literature review

Reading and the role of the school library

Much international research has looked into how school libraries may influence children's engagement with reading for pleasure (also referred to as 'free voluntary reading' or 'leisure reading'). Supporting reading for pleasure is only one of the school library's roles, along with providing a place to study and learn, and a safe space for students' well-being. Research shows that schoolchildren like a library that is a space separate from their usual classrooms, where they can relax and socialise, as well as read books, find

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information or study (Sannwald, 2007, cited in Huang and Shieh, 2008; National Library of New Zealand, n.d.; Teravainen and Clark, 2017). A report commissioned for BookTrust in the UK studied six successful primary school libraries and suggests a range of factors for success, including cooperation between library staff, teachers and school management; integration of the library into the life of the school; maximising the library's opening hours; ensuring the availability of resources to provide a wide range of good-quality stock; and borrowing rules that do not deter use of the library (Greenwood et al., 2008).

In Taiwan, Lai (2007) conducted a field study of 16 library-using primary school children to find out why they liked to visit the library. Lai concluded that primary school students have both intrinsic and extrinsic motives for visiting their school library. The intrinsic motives include curiosity about the library and the borrowing process, a quest for information on topics of personal interest, a desire to kill time in a comfortable space, and wanting to be recognised or valued – the children enjoyed being greeted and praised by the librarian. The external motives include wanting to achieve academically, wanting to please parents (who see the library as being a study space), and trying to impress friends. Lai does not mention enjoyment of reading for its own sake as a main reason for visiting a library.

Huang and Shieh (2008) interviewed Taiwanese children and analysed their drawings of their ideal libraries. 'From the perspective of these schoolchildren, the function of a library was providing the environment for studying and relaxation. It was a place to visit to increase knowledge, look for information, borrow and return books, and explore unknown subjects' (Huang and Shieh, 2008). This is similar to Lai's (2007) findings.

Researchers in the Netherlands analysed data from over 4500 children and concluded that although reading promotion seemed to be 'somewhat more prominent' in schools with libraries, 'the bare presence of a library in a school does not yield a significant contribution to the variance in reading attitudes' (Huysmans et al., 2013: 151). However, the more often a class visited the school library, the more pupils liked reading books (150). Huysmans et al. observed that reading promotion by parents probably had a greater effect on attitudes to reading, and concluded that 'differences in reading between pupils could not be attributed to what schools, teachers and libraries do' (153).

This contrasts with the findings of Haslett (2005, cited in Junior Certificate School Programme Support Service, 2008: 4). In Ireland, the Junior Certificate School Programme's Demonstration Library Project was set up to improve the literacy of school students in socio-economically disadvantaged communities. Evaluation of the project aimed to confirm whether a good library impacts the learning experience of disadvantaged children and allows them to address and overcome literacy difficulties. The study found clear evidence that 'well stocked, well managed school libraries, with access to books through structured library programmes that are directed towards the learning needs and interests of even the most reluctant and hesitant readers, can have impacts that are very significant' Haslett (2005, cited in Junior Certificate School Programme Support Service, 2008: 4)..

There is wide variation in the staffing of school libraries around the world. Some have teacher-librarians with both teaching and library qualifications. Others are run by teachers. A survey by the Chartered Institute of Library and Information Professionals in 2010 suggested that, compared to unqualified library staff, qualified school librarians were more likely to promote reading by running reading clubs, having a good stock of reading materials and engaging in information literacy development (Streatfield et al., 2010, cited in Teravainen and Clark, 2017: 26). This would back up the research by Huysmans et al. (2013: 151), who found that the mere existence of a school library was not enough.

Reading enjoyment at different ages

Huysmans et al.'s (2013: 151) research shows that attitudes to reading declined as children got older. Gordon (2010) asserts that the decline in the reading motivation of US middle-school students is due to a decline in choice and increasing teacher control as they go through the school system – having to read a certain book or certain number of books for school classes. Since low-achieving students usually do not read outside of school, the only reading they do is compulsory texts. They then feel that they have no choices in their reading. Gordon (2010: 34) believes that, in many cases, 'low achievers don't really hate to read – they hate to be told what to read'. This view is shared by Loh et al. (2017: 158), who state that good readers gain more by reading more, but since weak readers have to exert more effort at decoding text, they are less likely to be motivated to engage in further reading. As a result of their lack of proficiency, practice and motivation, they lag behind.

Huang and Shieh (2008) also found that older students (in 5th or 6th grade) were less likely to use the school library than younger children. When they no longer had reading classes in the library with a teacher, students stopped visiting the library

regularly. 'Only the ones who were fond of reading were attracted to the library' (Huang and Shieh, 2008).

Common Sense Media's (2014) research brief echoes other research with its findings that reading for fun drops off as children get older, and that over recent years there has been a clear drop in the proportion of young people who regularly read for pleasure (5). The report asks if the apparent decline in time spent reading for fun could be due to differences in methodology in various studies, and if it really matters that young people are spending less time reading if their reading achievement scores have not fallen (24–25).

Gender and reading

Along with a drop in leisure reading as children get older, research shows that girls enjoy reading more than boys (Common Sense Media, 2014: 5; Huysmans et al., 2013: 151); the reasons for this, however, are not clear.

New Zealand: background

New Zealand has a population of 5 million, mostly living in towns and small cities. The official languages are English and Maori (the language of the Maori, New Zealand's first inhabitants). There are some bilingual and Maori-immersion schools, but the vast majority of schools teach in English. Education is compulsory from age 6 to 16, although most children start school shortly after their fifth birthday. New Zealand's primary schooling covers eight years from age 5 to age 12 or 13. Students usually attend either a full primary school from Years 1–8 or else they attend a contributing primary school (Years 1–6) followed by an intermediate school (Years 7–8). New Zealand has 1058 full primaries, 770 contributing primaries and 117 intermediates, which are typically in larger population centres (Education Counts, 2019a).

The Ministry of Education (2019) provides each school with funding (the Operations Grant) to help pay for school resources and activities. School libraries are generally funded from the Operations Grant, which is used to pay for library management systems, cataloguing subscriptions, books and processing materials, and support-staff wages. If a school is short of money, it may choose to divert funds from the library to other areas, such as paying for a teacher aide or heating system.

Primary school libraries in New Zealand are often managed by teachers or teacher aides who may have other duties around the school; in some cases, only a parent volunteer is available. Even when there is a person dedicated to the library, only about 20% have library qualifications (National Library of New Zealand, 2018: 23, 27–30). A lack of formal qualifications may be compensated for by years of on-the-job experience: almost half of all school library staff have more than 10 years of experience working in school libraries. The National Library report uses the terms 'librarian' or 'library staff' to represent those school staff members who work in or manage the library, whether or not they are qualified librarians. An Education Review Office (2005: 36) report found that, in some school libraries, less effective practice related to inadequate library staffing. The librarians or teachers in charge were untrained or not allocated sufficient time in the library, or there were not good links to support classroom work.

Although the Education Review Office (2005) report stated that 81% of New Zealand primary schools offered effective or highly effective support of students' attitudes to reading (3), some students expressed disappointment that they had limited access to the library. This was due to limited library hours (e.g. the library not being open at lunchtimes), poor library management (restrictions on taking books home) or a teacher-centric approach where the teacher did not encourage visits to the library (39–40).

A National Library of New Zealand (2018: 18–20) survey shows that only about a third of New Zealand primary and intermediate schools allow students access to the library before school. A third of school libraries open at interval, but most school libraries are open for students during lunchtimes. These figures perhaps relate to the small size of many primary schools and lack of staff to supervise children in the library. There may not be the demand here for before- and after-school access, or there may be worries about the library being used as a babysitting service.

Data collection and analysis

The author's research consisted of a survey, which was completed by 167 Wellington East Girls' College students (female) and 109 Rongotai College students (male) in Year 9, their first year of high school. Year 9 students are typically aged 12 or 13 when they arrive at high school. Wellington East Girls' College was chosen for the survey because the author works there, and Rongotai was added to provide data from boys. Wellington East Girls' College has approximately 1050 female students and Rongotai College has 700 male students. The average secondary school in New Zealand has around 800 students (Education Counts, 2019b), so the two schools surveyed can be considered typical midsized urban schools. The

survey was limited to these two schools because they have a similar catchment area in Wellington's eastern suburbs, taking students from both high-income and low-income neighbourhoods. The students are from a variety of ethnic groups, including European, Maori, Pasifika, Asian and African (the African students are predominantly from refugee backgrounds). In addition to the survey, a focus group was held with a small group of keen readers from Wellington East Girls' College. The author also visited or emailed the six schools that most of the survey respondents came from, in order to get school librarians' views.

Permission to undertake the survey and publish the results was gained from the school principals before the survey was sent out, and the students were advised that the survey was confidential and anonymous. The students were asked to complete an online survey via Google Forms (see Appendix 1). The survey questions were developed based on the author's 14 years working with students at Wellington East Girls' College and anecdotal knowledge of local primary schools. Most of the questions required the students to select one of a range of answers. Additional useful and interesting data was captured by giving the students a free space to add their own comments. Google Forms was used because it would be easily understood by the students and was quick and simple to complete.

Teachers were asked to get the students to complete the survey during class time because it was important to get opinions from both enthusiastic readers and those who had no interest at all in reading or libraries. The disadvantages of using an online, mostly multiple-choice survey to gather data are that students can misinterpret questions and that important questions may be omitted. On the other hand, the students were under no pressure to answer in a certain way, since their answers were anonymous. Having the students complete the survey anonymously during class reduced the likelihood of social desirability bias, since they had nothing to gain by not answering or answering in a particular way. Approximately 80% of all the Year 9 students at the two high schools completed the survey.

The responses to the survey were analysed in a Google spreadsheet, looking at correlations between different variables to see what differences in library use and enjoyment of reading existed between the students from various schools. The author looked at the percentages and averages of the responses to the options provided in each question to see if there were any interesting variations in the answers. The first two sections of the survey asked the students various questions about their primary school libraries and reading in Years 7 and 8 and in Years 1–6. Then, the students were asked some questions about reading now they were at high school, and what sorts of reading-based activities they might have done that year. Most of the students in this survey had attended a contributing primary (Years 1–6), followed by one of two local intermediate schools (Years 7 and 8 only); the others were from full primaries (Years 1–8). For those students, their school library was probably the same for both parts of the survey. The primary schools in the survey area have from 100 to 400 pupils each, and the two intermediates have about 430 pupils each.

Survey findings

The students were asked, 'Did you like reading for fun when you were in Year 7 and 8?' and given the options of 'Yes! I used to read nearly every day', 'Sometimes' or 'No'. The first option was phrased to identify students who were positive, committed readers, rather than those who might have just thought it a good idea to choose 'Yes'. Those who responded 'Yes' are described in this article as keen readers, and those who responded 'No' are described, for convenience, as non-readers. Thirty-six percent of the Year 9 students responded 'Yes' when asked if they enjoyed reading in Years 7 and 8. However, there was a difference in responses between males and females. The female students were twice as likely to say they were keen readers (44% versus 23%). This echoes some international findings that boys tend to enjoy reading less than girls (Common Sense Media, 2014: 5; Huysmans et al., 2013: 151). The reasons for this difference were not explored.

The author found a sharp difference in the percentage of readers and non-readers between the two intermediate schools in the study and the full primaries. Figure 1 shows the responses from the two intermediates, all the full primaries together, and the individual primaries with the most respondents. Only 30% of the ex-intermediate students said they were keen readers, compared with over 50% of the students from the full primaries. Around 18% of the ex-intermediate schoolchildren said they did not like reading, compared with 7% of the children from the full primaries. Note that the numbers from the individual primary schools are quite small.

Research indicates that the more exposure children have to books and libraries, the more they enjoy reading (Cribb, 2019; Duarte and Pavia, 2017; Teravainen and Clark, 2017), and that trained and enthusiastic staff are better able to match individual students with titles they might enjoy (Teravainen and Clark, 2017: 25). Primaries 1 and 3 in Figure 1 have an enthusiastic

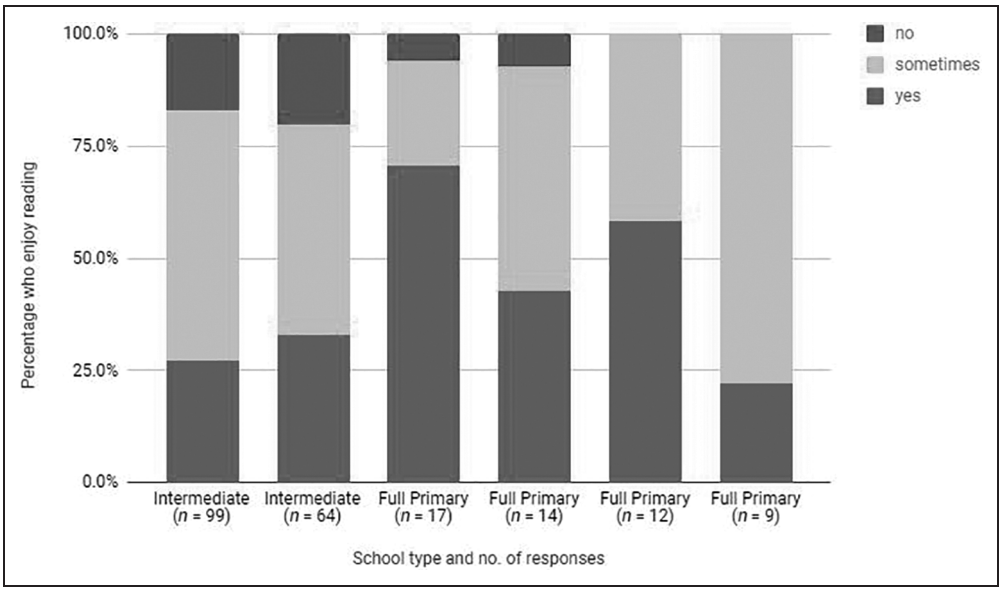

Figure 1. Enjoyment of reading in Years 7 and 8 by school type.

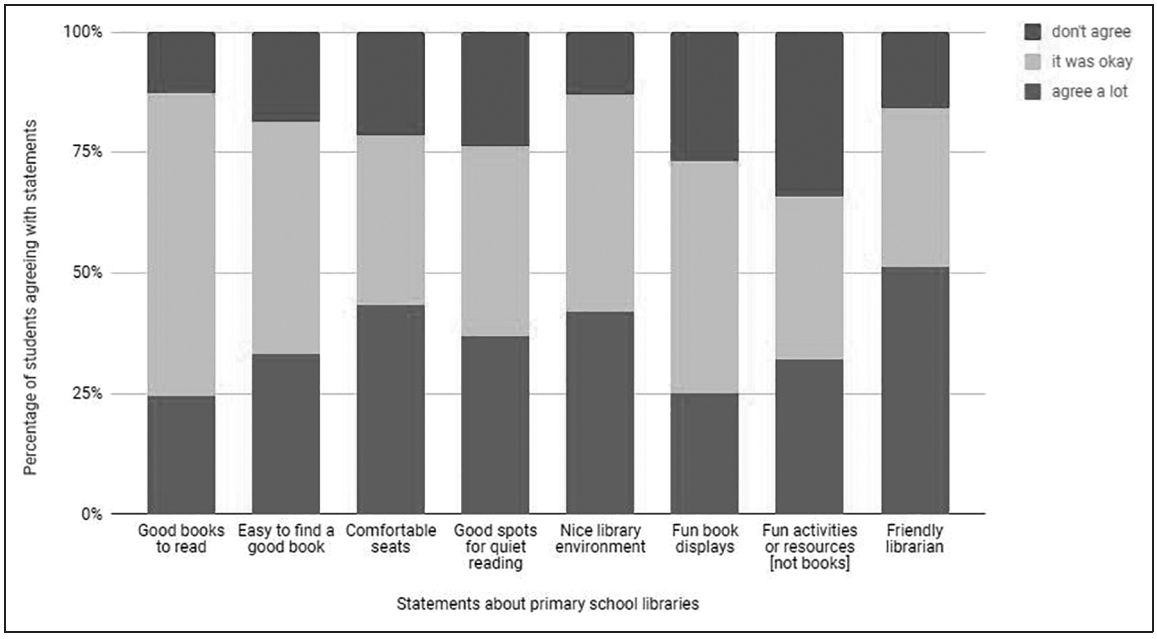

Figure 2. Percentage of students agreeing with various statements about their library in Years 7 and 8.

librarian on duty at lunchtimes who is therefore more able to make a child feel welcome, respond to requests and form relationships, and suggest books for individual students. Both these schools had more students who left school as keen readers. However, the small numbers from each school may have skewed the results.

Figure 2 shows student opinions about various aspects of their library. Keen readers were more likely to think their librarian was friendly, and non-readers were more likely to think the librarian was not friendly. Although the students mostly liked their librarian, a look at the six schools that accounted for 92% of all the survey respondents shows that only two actually had a staff member whose main role was in the library and who was available at lunchtimes. Of the total 276 respondents, only 17% said that their librarian or teacher often talked about new or interesting books. The students from the intermediate schools were much less likely (only 6.5%) to have had somebody talk to them about books.

Loh et al. (2017) identified a pleasant environment as important for encouraging students to read. Overall, 42% of the students surveyed agreed a lot that

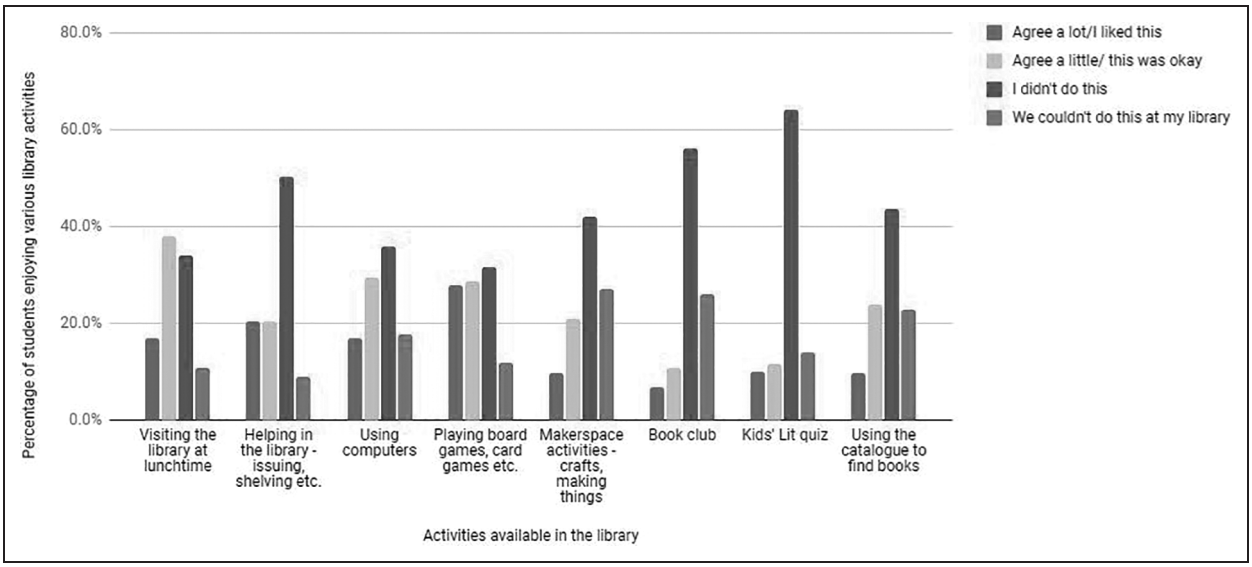

Figure 3. Percentage of students who enjoyed various activities in the library.

their library had a nice environment. Keen readers were slightly more positive, with 51% agreeing a lot that the library was a nice environment. Keen readers were the most likely to agree that there were good spots for quiet reading. Is it possible that occasional or non-readers were less likely to notice or look for a quiet spot to read?

Several non-reading males enjoyed relaxing in the library, even if reading was not their priority. No specific question about noise levels was asked in the survey, but some students commented that their libraries were too loud. No students mentioned that their library was too quiet. Is it possible that cramped and noisy spaces were turning students off?

The students were asked various questions about the services provided by the library, and to say if they agreed a lot or enjoyed an activity, thought it was okay, did not do the activity or could not do the activity. Figure 3 shows the percentages of children who enjoyed each activity.

Thirty-one percent of keen readers agreed a lot that they liked visiting the library at lunchtime. This compares to 9% of 'sometimes' readers and 7% of those who did not like reading. Overall, 10% of the students said they could not visit their library at lunchtime. Three schools stood out for not allowing lunchtime access, and there were many comments about another school that had a system of issuing a limited number of library passes. Given that most of the students who really liked to visit the library were keen readers, it is unfortunate that they faced such a major barrier to access.

Given the space to add their own comments, the students had a lot to say about the types of books in their school libraries and restrictions on access to the collections. There were numerous comments that the books were too babyish and that the students needed their parents' permission to borrow some books. We might expect that full primary schools, with often smaller rolls than intermediates and fewer children at each year level, may not have the budget or space to buy a lot of books suitable for older children, but a common thread at both full primaries and intermediates was that there were not enough Young Adult books. These students saw themselves as more mature than the junior students, and perceived that their libraries only had books for young children.

The students were asked several questions about their Year 1–6 school libraries. For those who attended a full primary, this was often the same library that was used in their responses for the Year 7–8 questions. During their first six years at primary school, students are learning to read and developing fluency, as well as becoming used to visiting the library and gaining autonomy in book selection. By and large, it seems that the students were mostly satisfied with the library in the first six years of primary school.

Forty-one percent of the students thought that their Year 1–6 library had good books to read, and another 46% thought the book selection was 'okay'. Of the 35 students who did not like the books, 10 said they liked reading a lot. These 10 keen readers may have preferred more advanced books or had more

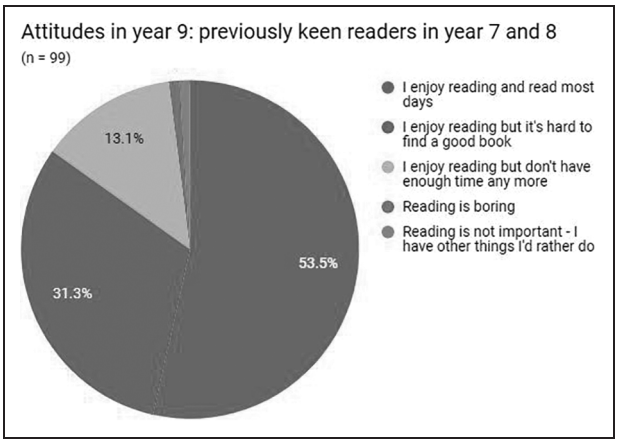

Figure 4. Attitudes to reading in Year 9: Students who were keen readers in Years 7 and 8 ($n = 99$).

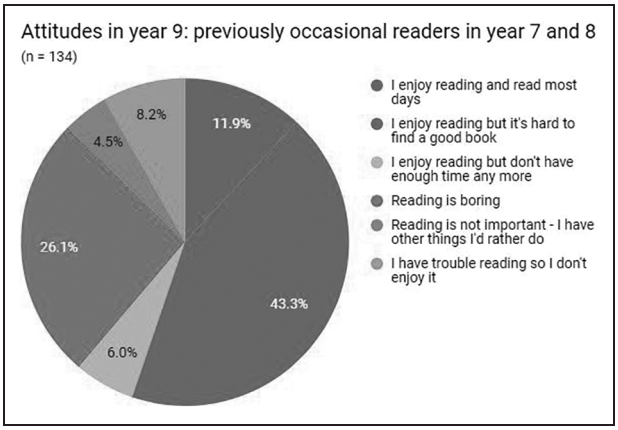

Figure 5. Attitudes to reading in Year 9: Students who were occasional readers in Years 7 and 8 ($n = 134$).

particular reading interests that were not catered for at school.

The next set of questions asked the students about reading-related activities they had done that year now that they were in Year 9 at high school. Of the 99 students who said they liked reading in Years 7 and 8, just over half (53 students) still said that they read most days (see Figure 4). Thirty-one of the former keen readers now in Year 9 said that it was hard to find a good book, and 13 said that they still liked to read but did not have time. It is reasonable to assume that students have more calls on their time as they deal with high school classes, interest groups, and possibly further distances to travel to and from school. A bigger issue is the group that used to like reading but now found it difficult to find a book. The greater choice in a high school library may be off-putting.

One hundred and thirty-four students said that they sometimes read for fun in Years 7 and 8 (see Figure 5). Now, in Year 9, almost half said they liked reading

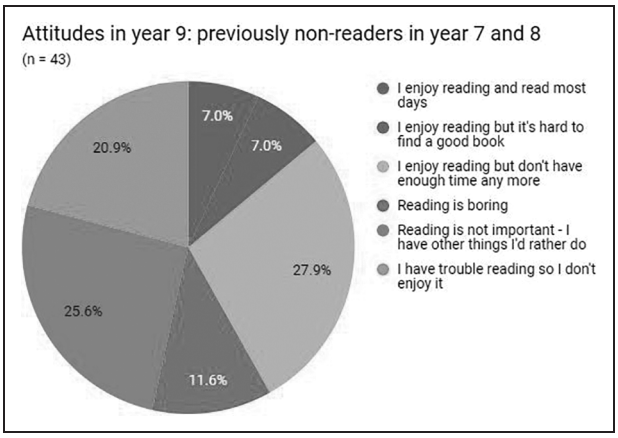

Figure 6. Attitudes to reading in Year 9: Students who were non-readers in Years 7 and 8 ($n = 43$).

but had trouble finding a good book. Only 6% said they did not have enough time to read. This is half the percentage of keen readers with time issues, possibly because reading was not as important to begin with, so they were not noticing as much of a change in their habits. Twenty-six percent of the 'sometimes' readers now thought that reading was boring and 8% said they had trouble reading so did not enjoy it. It is possible that the large number who thought reading was boring included students who were having trouble finding an entertaining book at their reading level. Forty-three students didn't like reading in Years 7 and 8, and most of those still felt that way in Year 9 (see Figure 6).

Males were more likely than females to say they did not have time to read or had other things they would rather do. Females appeared to be more polarised in their opinions, with a higher percentage saying they liked reading and also a higher percentage who thought reading was boring.

The students were asked if they had done various reading-based activities when younger. This question was intended to explore family attitudes to reading – from parents reading to an emergent reader and reading activities through the primary years. Some of the students responded that they had not been interested in reading when they were younger. This response option was intended to find students who had no interest in reading during their earlier years at primary school, prior to Years 7 and 8, but this was not made explicit. Assuming that the respondents took it that way, we can compare this group to the total. Figure 7 shows that over half of these non-interested students did visit a public library – possibly taken with siblings whether they enjoyed it or not – but, on the whole, the non-interested students did not have as much early exposure to reading-related activities as the other

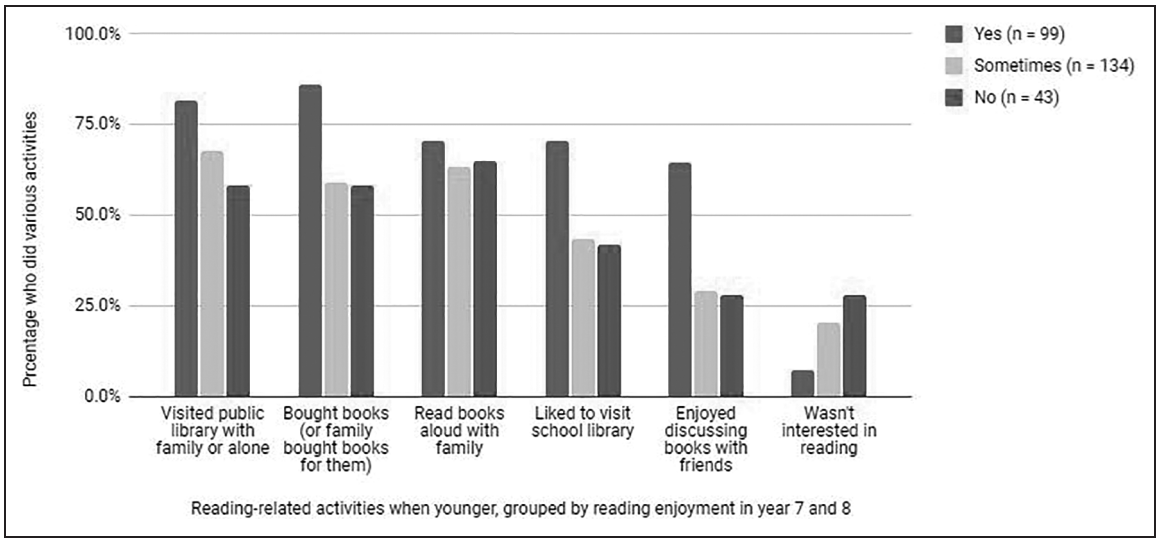

Figure 7. Enjoyment of reading in Years 7 and 8 versus participation in reading-related activities when younger.

students. Those who did not enjoy reading at Years 7 and 8 ('No' on the chart) were less likely to have visited a public library, had their own books, read aloud with their family, enjoyed visiting their school library or discussed books with friends when they were younger.

Only 2.5% of the students who were keen readers in Years 7 and 8 said they did not like reading when they were younger. The author believes that this shows that reading enjoyment is something which generally starts early with family support and is then sustained through primary and intermediate school, rather than a 10- or 11-year-old suddenly finding enjoyment in reading. Alton-Lee and Nuthall (1998, cited in Fletcher et al., 2005: 5) found that few or no library visits were one of the barriers to learning for low achievers. Fletcher et al. (2005: 7) also found that parental support and home–school relationships were two important factors for students to be successful in reading and writing, while Huysmans et al. (2013: 151) concluded that parental support was more important than the presence of a school library.

Focus-group findings

To complement the survey of Year 9 students, a small group of Year 10 Wellington East students who had borrowed the most books from their school library during the previous year (Year 9, their first year at high school) were invited to take part in a lunchtime focus group. Asked the same questions about their attitudes to reading as those who completed the Year 9 survey, these students all said that they had enjoyed reading in Years 7 and 8. However, only one said she still read a lot. Two said they enjoyed reading but had difficulty finding a good book, and three said they enjoyed reading but did not have enough time any more. Some issues were explored further. Regarding their Year 7 and 8 libraries, these students said that there were not enough books and it was sometimes difficult to locate a particular book. At the full primaries, the little children were annoying. The students said that their Year 7 and 8 libraries tended to be noisy and there were not enough quiet spaces. These comments reflect the same opinions given by the Year 9 students in the survey. One student commented that children playing noisy games, like trading card games, was annoying. None of the students said they had the option of recommending titles to their primary school library. One student said that it would have been 'scary' to suggest a book to the person in charge of the library.

The author asked the students what they were doing now that meant they had less time to read. Sports and classwork predominated. One student commented that, at such a big school, it took more time and effort to get to the school library. Asked about social media, none of the students said they used social media platforms such as Facebook, Snapchat or Instagram. None of them had Netflix at home either. This was interesting, since it is a common stereotype that teenagers spend lots of their free time online. The students were asked about their families' attitudes to their reading for leisure. One girl said her parents wanted her to read 'harder' books, but otherwise there was no particular pressure to read more, or to do homework or something else instead of reading.

Discussion

In theory, an intermediate school should be able to provide a collection that is closely targeted to a narrow

age range – roughly 10- to 13-year-olds. A primary school with a similar or smaller roll has to cater for all ages from 5 to 10 or 13 – with picture books, early chapter books and some Young Adult titles – so it is surprising that the students from intermediate schools, which should have a bigger, more focused collection, were less likely to leave school with an enjoyment of reading. It is possible that, in a bigger school with a larger collection, it is more difficult to find a good book or easier to get away with not borrowing or reading anything, or there may be more interesting activities or groups competing for students' attention. However, both of the intermediate schools in the survey had libraries without a librarian on duty at lunchtimes – one did not even open at lunchtime – so it is probable that the students at those schools had less opportunity or encouragement to read or engage with the library. This would support the findings of Greenwood et al. (2008), who suggest that library opening hours should be maximised. It is also possible that the library staff at the intermediate schools in the survey had less time or interest for collection management, since their main roles were outside the library (one was a cooking teacher and one ran the school canteen). A qualified librarian might make a difference in these schools (Streatfield et al., 2010, cited in Teravainen and Clark, 2017: 26).

A recent discussion on a school library mailing list (Schoollib Mailing List, 2019) shows that librarians have various approaches to the issue of age restrictions on books at primary schools. Some have a separate section for older students; some require parental permission before borrowing; and some have age restrictions. Are school librarians asking their students what they want to read? Are age restrictions creating a barrier for some students? It may be that those who are not dedicated readers would become more engaged if there were more 'age-attractive' (as opposed to just age-appropriate) books and fewer rules about age restrictions.

Keen readers were more likely to view a librarian as friendly. It is possible that librarians have more positive interactions with students who enjoy reading and are interested in discussing books. In the New Zealand context where primary school library staff may also have another role in the school, it is possible that non-readers have had less pleasant interactions with librarians – for example, as a teacher aide for learning support or for disciplinary reasons. In addition, students with reading difficulties may be less motivated to visit a library (Gordon, 2010; Loh et al., 2017: 158) or engage with a librarian.

There appears to be a correlation between reading-related activities, particularly those involving the family, and interest in reading by the time students are independent readers in Years 7 and 8 (age 11–13). Some of the school librarians interviewed stated that they ran competitions and book clubs, while another could not even name which titles or authors were popular at her school. There needs to be a whole environment supporting students as they develop their skills and tastes in reading.

Some school libraries offer games or let students play their own games, but this can lead to overcrowding and high noise levels, which is off-putting for those students looking for a relaxing space to read or 'chill'. Even if reading is not the main purpose for visiting a library, a pleasant environment is an important factor in the use of libraries (Sannwald, 2007 cited in Huang and Shieh, 2008; National Library of New Zealand, n.d.; Teravainen and Clark, 2017).

Conclusion and recommendations

It appears that, in general, students in Years 7 and 8 liked their librarian and were mostly positive about their library. It may be that, for most students, the library is not uppermost in their thoughts. It is just there as another part of school and not something they have paid much attention to. It is also possible that students do not know what they are missing if they have only experienced one or two school libraries.

Primary and intermediate schools vary wildly in their staffing and access to the library at lunchtimes. The two intermediate schools in the survey area were able to target their collections and activities specifically to Year 7 and 8 students, yet a larger percentage of students was leaving those schools with no enthusiasm for reading for fun. Neither of the intermediate schools had a staff member whose main commitment was the library. While it was outside the scope of this report to investigate issues of budgets, space constraints and staffing priorities at schools, it does appear that schools with a dedicated librarian and a library that is open at lunchtimes play a big part in encouraging students to read.

By Years 7 and 8, some students thought their library was too small and/or too noisy, and there was a feeling that sometimes the books were too babyish. Keen readers were particularly annoyed about restrictions on borrowing and opening hours. Students who are keen readers need to be encouraged, not faced with barriers such as lack of access or unappealing 'too-young' books.

When students reach high school, there is a drop in reading for fun. This is due to time pressures such as increased schoolwork and sports activities, as well as a feeling that it is more difficult to find a good book.

A larger school library with a bigger collection may be discouraging students who are not confident keen readers or who do not have a particular passion for one author or genre. If their previous two years of schooling have not emphasised reading for fun, it will be difficult for students to become motivated to read while coping with all the other demands of high school.

Classes should visit their library regularly. Ideally, school libraries should be bigger and staffed by a librarian who is available during the day, and especially at lunchtimes, to create a welcoming environment. The librarian would promote books and reading through book talks and skilled book selection that matches the interests and abilities of the students. Keen readers are more likely to seek out additional sources of books, such as e-books or the public library, but the school library plays an important part in encouraging occasional readers or those who are not interested to continue to read. Schools need to work much harder to ensure that once students have attained competency in reading, they are encouraged to keep reading for fun.

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Supplemental material

Supplemental material for this article is available online.

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Author biography

Pamela McKirdy is one of the two librarians at Wellington East Girls' College, a single-sex high school in Wellington, New Zealand. Her previous published research discussed how novels used in high school English classes are selected.

Appendix 1

Survey questions

Following is a version of the Google Form that students completed in class.

Article

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Intellectual property information services and the impacts on academic libraries' transformation from the perspective of Chinese university libraries

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Abstract

Approximately 100 Intellectual Property Information Services Centres have been established in Chinese university libraries, more than 80% of them since 2017. The context of this boom in Intellectual Property Information Services Centres is the rapidly increasing number of patent applications in China, as well as an unacceptably low transfer ratio. Do Intellectual Property Information Services Centres represent a promising direction for university library transformation? This is the central issue addressed in this article. The characteristics of the Chinese evolutionary path and driving forces are discussed, and distinctive intellectual property information service practices are studied and summarized. Comparisons are made with the USA, the UK, Europe and India. With Intellectual Property Information Services Centres, university libraries can evolve from information providers to innovation catalysts, and establish closer connections between universities, communities and industries. The impacts of Intellectual Property Information Services Centres on university librarianship are multifaceted. The trends and challenges of intellectual property information services are also discussed in the article.

Keywords

Intellectual property information services, patent information services, academic libraries, library transformation, Chinese university libraries

Introduction

Since 2017, approximately 100 Intellectual Property Information Services (IPIS) Centres have been established in Chinese university libraries. These provide a broad spectrum of IPIS. The themes of this article are the evolutionary path, special practices and driving forces behind this, and their potential impacts on library transformation. In the post-knowledge-service era, libraries will go beyond providing knowledge, which itself is more advanced than providing information (Ke, 2019).[1] Can university libraries offer intelligence? This article discusses the possibility that IPIS Centres could become a channel for university libraries to offer intelligence services. The distinctive Chinese practices described here may offer inspiration to other academic libraries that are considering transforming their services, have interests in supporting their parent institutions in creative ways, or wish to support innovation more directly.

This article is based on research into literature, websites and working reports from respective libraries, as well as from the experience of IPIS meetings in China, conversations with library curators and patent librarians, and site visits. International comparisons are also offered. The research approach includes the use of statistics, analysis and reflections.

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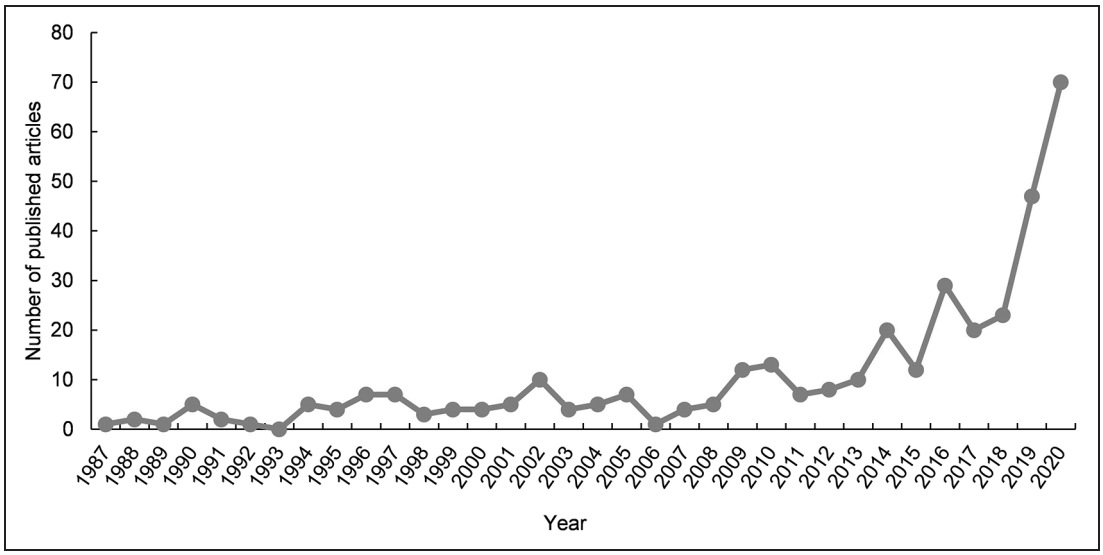

Figure 1. Number of articles published related to IPIS.
Source: China National Knowledge Infrastructure at https://www.cnki.net/

Intellectual property comprises patents, trademarks, copyrights, industrial design rights, and so on (Free Dictionary, n.d.). In the following, patent information services are the theme since patents are an essential form of intellectual property, and patent information services are the major task of IPIS Centres in China. In this article, 'university libraries' denotes 'libraries in higher education institutions'.

Literature review

Patents are an essential form of intellectual property. Patents provide a system for promoting design by granting a monopolistic right for a given time in exchange for the price of disclosing information and allowing public access. There are two main functions of the patent system: the 'exclusivity function' and the 'information function' (Mboya, 2011). Patent information is so valuable that numerous countries have state patent information service networks. There is a wealth of literature on patent information services. But, when focusing on patent information services *and* librarianship, the literature narrows down considerably. The majority of the literature about library and IPIS is from the USA, the UK, Europe and China. The USA has 83 Patent and Trade Resource Centers (PTRCs) in libraries, with 44 of them in academic libraries. A report by the vice-president of the Patent and Trade Resource Center Association has summarized the current situation and challenges (Zwicky, 2016). In the UK, the system is centred on the British Library, a public library system which has 15 impressive Business & IP Centres. Public libraries in the UK are becoming engines of economic growth, creating new businesses and jobs through Business & IP Centres. Their reports (British Library, 2019; UK Government, 2013) provide evidence that these are valuable from the perspective of both IPIS and library transformation. There is interesting literature about European Patent Information Centres (some of which are in libraries), explaining how to run them profitably (Wurzer and Hundertmark, 2005) and presenting successful practices for building them into regional patent centres (Sternitzke et al., 2007).

With the rapid growth of IPIS Centres in China's university libraries, the literature about IPIS in libraries is growing quickly, as shown in Figure 1. More than 200 articles written by Chinese authors have been published in the past five years. Of these, 20% comprise various surveys showing that IPIS are still at a primitive stage (Qiu et al., 2021); 25% are theoretical explorations, including operational models (Wang et al., 2015), mechanisms (Zhao et al., 2020), platform establishment, performance evaluation (Deng, 2020), cooperation models, use of the service competence enhancement approach (Zhang et al., 2018), and IPIS and an innovation ecosystem (Wang et al., 2020); and 35% are creative practice and case studies, including how to service community and related industries (Zhang et al., 2014), how to customize services for specific projects or research teams, or in specific research phases (Feng and Zhao, 2015), and how to nurture high-value patents (Quan et al., 2021). An interesting article discusses the marketing of IPIS Centres, involving pricing strategies and practices (Li et al., 2021). A growing literature reveals the ongoing movement and prompt reflections on this field. However, among these articles, few are in English

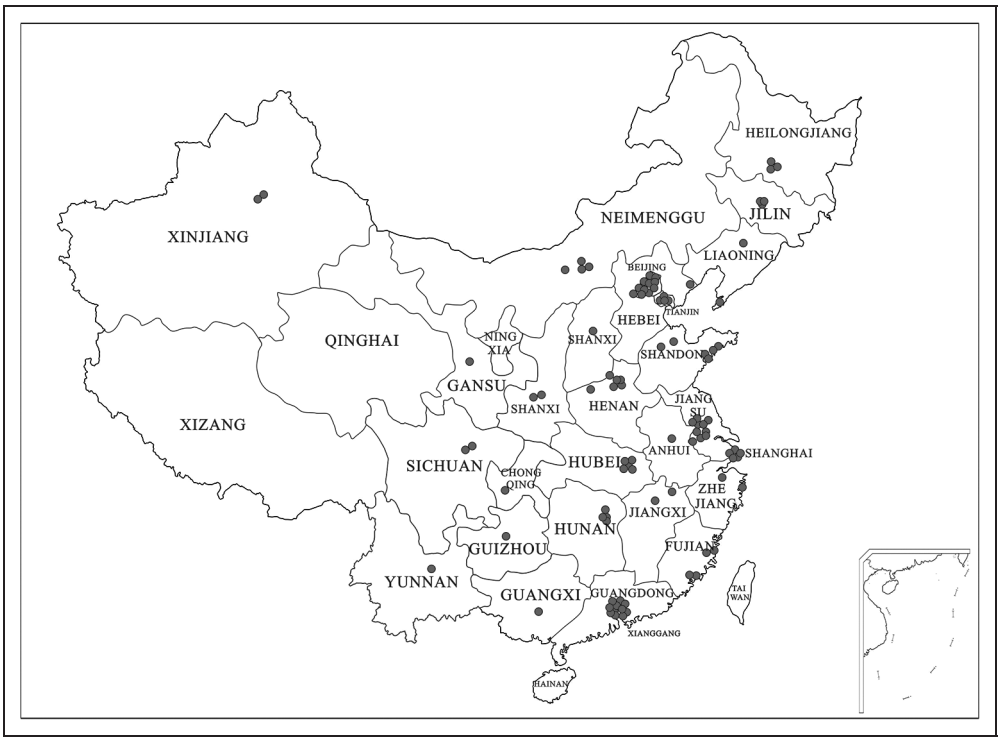

Figure 2. Location of IPIS Centres in China.

(Feng and Zhao, 2015). As a result, the outside world knows very little about IPIS in Chinese libraries.

Library transformation has been a leading topic in the field for some years; there is much relevant literature. For example, World Library and Information Congress: 84th IFLA Congress and General Assembly was entitled 'Transform libraries, transform societies'.[2] Among current thinking about the library and its future role, there are some new ideas. Some articles argue that libraries should transform themselves into think tanks, with management consultation, decision-making support and an intelligence service function (Chu and Tang, 2018; Wang, 2018; Wu, 2019a).

International comparison is used in this article. There are articles that compare China's libraries with libraries in the UK and the USA (Feng, 2017; Zhang and Zhou, 2019). However, global comparisons, especially from the perspective of academic librarianship transformation, have not been found. Although there is a large amount of literature on IPIS and library transformation as separate topics, little has been written about IPIS *and* academic library transformation. This article intends to contribute to this gap in the literature.

Development paths in China

Evolution

According to a report published by the World Intellectual Property Organization, 80% of information about new technology can be found in patent files (Trippe, 2015). Efficient use of patent information can result in a reduction in research time and costs of approximately 40%–50% (Shi et al., 2005). This is why there is so much interest globally in patent information dissemination and utilization. Many developed and developing countries have state patent information service networks and, in many cases, libraries are involved.

IPIS Centres in Chinese libraries originated in the 1980s, with their most rapid development occurring in the 2010s (Tao and Liao, 2019). The 'Higher Education Institutions Intellectual Property Information Services Centre Establishment and Implementation Bylaw' was launched in December 2017 by China's Ministry of Education and Intellectual Property Office; this was a catalyst for the establishment of IPIS Centres in university libraries (Ministry of Education, 2017). A wave of IPIS Centres followed. Around 100 IPIS Centres had been established in university libraries by the end of 2019 (see Figure 2). A wide variety of IPIS practices have been tried out, implemented and studied, and relevant articles have been published. IPIS became one of the topics of greatest interest to Chinese academic libraries. Some scholars have argued that the growth of IPIS is a promising direction in university library transformation (Ren, 2019).

In China, IPIS evolved out of novelty-search services. A novelty search can prove the novelty of an

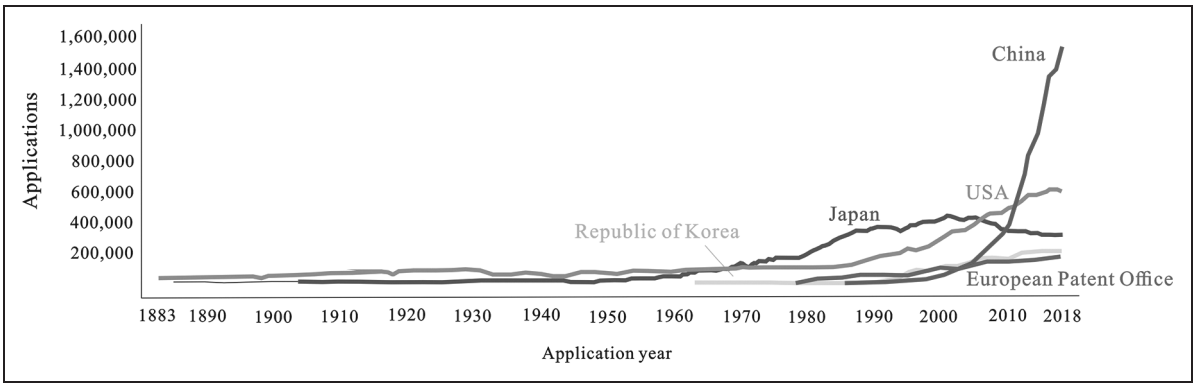

Figure 3. Trend in patent applications for the top-five offices - China, USA, Japan, Republic of Korea, and European Patent Office, 1883–2018.
Source: World Intellectual Property Organization (2019).

idea, project, theme or dissertation. In the 1990s, novelty-search demand increased dramatically because a lot of research was required to offer 'novelty certificates' to prove the novelty of research topics or results. The Chinese government accredited Novelty Search Stations to undertake such searches and grant novelty certificates. By 2004, 102 university libraries were accredited by the Ministry of Education as Novelty Search Stations, offering novelty searches for their parent universities and diverse industries (Ren, 2019). Novelty-search prices were set by the government and relevant universities, according to the search's scope and time requirements, with minor differences from region to region and university to university (Shanghai Jiaotong University, 2007; Shanghai Maritime University, 2009; Xiamen University, 2007).

This paid service brought both challenges and prestige to university libraries. Many libraries were motivated to bring in electronic resources, recruit or transfer qualified librarians, and modify their rules related to work incentive payments. Librarians were offered the opportunity to earn extra pay in proportion to the number of novelty searches they performed. With a greater number of professional librarians and closer collaboration with university and industry research teams, as well as accreditation from the Ministry of Education, this service enhanced the public image of the university library and improved morale amongst staff. In the new century, novelty searches have developed into a high-end service in these 102 Chinese university libraries.

In 2015, China's Intellectual Property Office certified 120 Patent Documents Service Stations across the country. Around 40 of them are in universities – not necessarily in libraries, but rather in technology transfer departments, law schools and management schools – while there are 80 outside of universities, of which three are in public libraries or technology libraries (China National Intellectual Property Administration, 2017).

Because novelty searches often involve retrieving patents, novelty-search librarians become knowledgeable about patent information databases, platforms and statistical tools. China's university libraries have resources and staff advantages in research compared to general public libraries. For this reason, university libraries were chosen as the preferred sites for IPIS Centres when the Intellectual Property Office and Ministry of Education launched the new bylaw in 2017 to address the increasing demand for patent information services.

The big picture

The growth of IPIS in libraries in China is driven largely by the changing intellectual property environment. Figure 3 shows the exponentially increasing number of patent filing applications in China in recent years. Rapid economic development and the state's innovation strategy are the main reasons for this acceleration.

There are other drivers of the demand for IPIS, such as scholars and institutions applying for patents for the purposes of prestige or advantages in academic titles or project competitions. The purpose of the latter sorts of applications is to hold the patent rather than to facilitate commercial transfer. In these situations, patent strength varies, and the transfer ratio is low. This phenomenon is mostly seen in universities (Gao et al., 2019).

Trade disputes between the USA and China have highlighted the importance of intellectual property. China's Intellectual Property Office and Ministry of Education both encourage IPIS Centres to nurture high-value patents, boost patent transfer rates, and support enterprise innovation. Some more ambitious

Chinese university libraries have seen this as an opportunity to try new practices and have done so with enthusiasm. Further, some provinces have implemented special projects to assist university libraries with the implementation of these new services.

Examples of IPIS practice

Tongji University, founded in 1907 in Shanghai, is a leading and respected comprehensive university in China. In terms of articles published (Shen et al., 2017; Shen and Yang, 2010), the university library has conducted in-depth studies on the number of patents and regional economic development, industry research trends based on patent analysis, competitive intelligence and patent mapping. The secretariat of China's University Intellectual Property Information Services Centre Association is located at Tongji University library, which was also one of the first Chinese libraries to offer IPIS.

Shanghai Maritime University, located in Shanghai Pudong New Area, is a multidisciplinary university which also has a focus on shipping, logistics and oceans. Shanghai Maritime University's Science and Technology Information Institute is located in the Shanghai Maritime University Library (2018). This library supports maritime industry innovation and has collaborated in the creation of a maritime industry information think tank. The library is representative of libraries in China that are oriented to specific industries. The university carries out its mission of supporting the maritime industry with respect to IPIS (Zhang et al., 2014). It supports this industry and its IPIS Centre has evolved into a regional intellectual property station, accredited by the Shanghai Pudong District Intellectual Property Office. It offers IPIS to the Pudong New Area and enterprises within it (Zhang et al., 2017).

Fuzhou University is located in the capital of Fujian Province, a coastal and economically developed province of China. Fuzhou University Library offers patent navigation and patent portfolio services for research teams, and has recently finished a comprehensive report on university patent competitiveness. The library is working with the provincial government to contribute to regional development. Further, the library has been developing patent databases for specific industries. It offers patent navigation and competitiveness analysis for local small and medium-sized enterprises.

Huazhong University of Science and Technology is a leading comprehensive and multidisciplinary research university in China, located in Wuhan, the capital of Hubei Province. In 2020, the Huazhong University of Science and Technology Library won a commercial contract to offer IPIS to a research institute outside of the university. Among libraries, this was seen as quite an achievement because the competition was fierce, including some commercial information services firms (Huazhong University, 2019).

Nanjing University of Technology is located in Nanjing, the capital of Jiangsu Province, which is economically developed and known for its 'Intellectual Property Strengthening Provincial Development Strategy' (Government of Jiangsu Province, 2019). Nanjing University of Technology Library offers embedded IPIS in research processes (Feng and Zhao, 2015) and is the patent data centre of the China Intellectual Property Office (Jiangsu) Training Base. The library, as a provincial intellectual property information dissemination and utilization base, is strong in IPIS, with a relatively long history and a large service portfolio encompassing patent data acquisition, patent analysis, patent strategy, patent platform construction and patent clinics (Nanjing University of Technology Library, 2002).

There are two noteworthy provincial projects. The first is 'Intellectual Property Information Dissemination and Utilization Base Establishment in University Libraries' (Jiangsu Patent Information Service Centre, 2017), which was launched in Jiangsu Province in 2017 by the provincial Intellectual Property Office. Jiangsu Province has many universities and colleges, as well as many innovative cutting-edge industries. This project is indicative of the Intellectual Property Office's intention to rely on university libraries to disseminate and lever patent information. Jiangsu Province provides strong policy support on this project and has sponsored data-platform construction.

The second provincial project of note, 'Enhancing Intellectual Property Service Competence of College and University Libraries' (Guangdong Pharmaceutical University, 2017), was launched by Guangdong Province in 2017. This province, which is located close to Hong Kong, is one of the most developed, open and innovative regions in China. Guangdong Province realizes that service competence is key and that there is a bottleneck with respect to IPIS in college and university libraries. The province is working to improve this through a comprehensive strategy. Many Guangdong college and university libraries have received support from this project.

In summary, IPIS are a promising and growing opportunity for university libraries in China, as shown in Table 1.

Driving forces

China's library IPIS evolved uniquely, with two driving forces that are characteristic of the country. One is

Table 1. Special IPIS practices in China.

Library	Special practices or programmes
Tongji University Library	Number of patents and regional economic development reports
	Industry competitiveness and development trends based on patent analysis
	Competitive intelligence based on patent mapping
	Patent-holding analysis for universities in Shanghai
Shanghai Maritime University Library	Support for maritime industry innovation
	Creation of maritime industry information think tank
	Attempts 'library-driven mode' in regional innovation mechanism
	Regional intellectual property station offering IPIS to local enterprises
Fuzhou University Library	Embedded patent navigation and portfolio service within research teams
	University patent competitiveness analysis
	Specific industry patent database development
	Provincial intellectual property navigation project support
	Enterprise patent navigation and competitiveness analysis
Huazhong University of Science and Technology Library	Won a commercial contract in a competitive market to perform IPIS, patent analysis and planning for a ship-delivery device
	Fulfilled an Intellectual Property Office project on advanced porcelain materials with two other university libraries
	Cooperates with research teams and intellectual property firms to boost technology transfer
Nanjing University of Technology Library	Embedded patent information services in different research stages from planning to completion
	Patent data centre and patent information service centre of state Intellectual Property Office (Jiangsu) Training Base
	Provincial intellectual property information dissemination base
	Patent strategy consultation for enterprises
Jiangsu Province	'Intellectual Property Information Dissemination and Utilization Base Establishment in University Libraries' project
Guangdong Province	'Enhancing Intellectual Property Service Competence of College and University Libraries' project

that IPIS implementation in university libraries is driven by the Ministry of Education. In other countries, the driver is the national patent office, such as the United States Patent and Trademark Office, the UK's Intellectual Property Office or the European Patent Office. In China, the 2017 bylaw was issued by the Ministry of Education and the Intellectual Property Office. Universities are the parent institutions of university libraries, and the Ministry of Education is the parent institution of universities, which means that the Ministry of Education has a significant stake in ensuring that universities follow the prescribed directives. Through 2020, 60 Chinese IPIS Centres in university libraries were accredited by the Ministry of Education as 'state-level IPIS Centres' (Intellectual Property Office, 2019, 2020). This is considered to be an important recognition for libraries and universities. Change initiated by the Ministry of Education is followed by assessments, recognition and incentives, all of which has the universities paying close attention.

Another driving force in China is funding. The history of paid novelty-search services means that IPIS are allowed to charge for their services. The costs of novelty searches are fairly stable but IPIS prices have to be negotiated in terms of service scope, complexity and depth of research on a case-by-case basis.

Novelty-search teams in libraries can adapt from novelty searches to more challenging, as well as more lucrative, IPIS. These are not truly commercial activities given that patent librarians are employed by universities. The income from novelty searches and IPIS represents an occasional financial supplement for libraries and universities. Customers in this market are happy with the cost of these services, which is relatively low or even free of charge. In China, university libraries are encouraged to offer IPIS, on behalf of their parent universities, to industries and communities. The small amount of money earned has an impact on libraries because, for example, it can improve libraries' public image, lead to the hiring and training of more professional librarians, and improve morale among library staff. Libraries can meet the needs of both the university and outside clients, further adding to their reputation. This is a Chinese

characteristic. The stimulus is not public funding, as it is in the UK. The stimulus in China comes from flexible policies and recognition from parent institutions.

International comparisons

Methodology

Given that patent information services are a growing and complex industry, IPIS provide a good point of international comparison. The present study focuses on libraries and compares elements that may impact on academic library transformation. Governments around the world have intellectual property offices, with the five largest being in the USA, Europe, Japan, the Republic of Korea and China. As noted in a World Intellectual Property Organization (2013) report, many developing countries are striving to disseminate and leverage patent information. However, their networks and service content are relatively limited compared to developed countries. If there are libraries involved, the service is relatively basic, for the public good, free of charge, and with no obvious impact on library development. Here, India is taken as an example of a developing country. This article provides a comparison of these countries (regions) with respect to library engagement with IPIS.

The USA

The USA has a mature and well-developed patent and trademark information service network, including a PTRC programme led by the United States Patent and Trademark Office. The PTRC programme comprises 83 libraries: 44 university libraries, 31 public libraries and 8 special libraries (see Figure 4).[3] Currently, 83 PTRCs are certified and have access to the Public Examiner Automated Search Tool and the Public Web-Based Examiner Search Tool, which are Patent and Trademark Office products designed for patent examiners. The search tools are only available through in-person visits to PTRC libraries or to the Patent and Trademark Office's public search facility in Alexandria, Virginia.

In the USA, the boundary between IPIS for public good and for commercial purposes is well defined. Libraries offer services to the public, small and medium-sized enterprises, and independent inventors free of charge. PTRCs offer assistance in patent searching but do not offer legal advice. In-depth discussion of the core content of an innovation may disclose it inadvertently, rendering it invalid for a patent application (Zwicky, 2016). If customers need in-depth or legal services, they will be advised to contact commercial firms or attorneys.[4] IPIS in the USA have

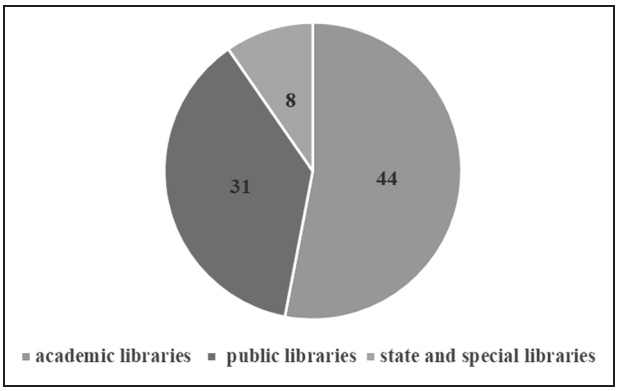

Figure 4. PTRCs in the USA.

spread from public libraries to academic and state libraries. The Patent and Trademark Office provides local portals to serve the public. University libraries are on the same footing as public libraries with respect to IPIS offerings in the USA, although many academic libraries choose not to offer patent information services. For those that do, the services are the same as in public libraries, with no obvious impacts on transformation. The current era of budget cuts and understaffing in academic libraries makes IPIS development more difficult. The vice-president of the Patent and Trade Resource Center Association has discussed how to balance conflicting service priorities in academic PTRC libraries (Zwicky, 2016).

The UK

The UK offers a different landscape. In the UK, there are two systems: one is the British Library system; the other is the European Patent Office system (see Figure 5). The British Library system is a unique public library network from which intellectual property services are offered across the country. Meanwhile, the European Patent Office system has 16 Patent Libraries (PatLibs): one at the Intellectual Property Office and 15 in public libraries.

The British Library system is centralized. The first Business & IP Centre in UK public libraries was founded in the British Library in 2006. Through 2012, it had received 350,000 visitors, helping to create 2775 new businesses and more than 3345 jobs (British Library Business & IP Centre, 2012). Based on the successful model of the British Library, six other core city libraries became involved. The 'Enterprising Libraries' project, sponsored by the Department for Communities and Local Government, Arts Council England, the Intellectual Property Office and the British Library, provided funding to 10 satellite 'enterprising libraries' in 2013 (UK Government, 2013).

Figure 5. The two systems in the UK.
Source: British Library (2019).

The Business & IP Centres in public libraries draw on lawyers, university professors and industry specialists when necessary. UK public libraries can go beyond the mere provision of information to offer solutions to problems, especially as they receive funding for this activity. Many valuable services are offered, such as patent clinics, marketing suggestions, one-on-one consultations, practical skills training and seminars with industry experts – to great acclaim. For example, a one-on-one consultation, which normally costs £200, can be arranged free of charge.

By the end of 2018, nine core city libraries, three county libraries and two pilot libraries had joined the network. According to the British Library's Business & IP Centre Network report, the effects and impacts were phenomenal. The library network helps to commercialize innovative ideas, and helps businesses to innovate and grow, 'providing targeted help to aspiring entrepreneurs and early stage businesses, and helping established SMEs [small and medium-sized enterprises] to scale' (British Library, 2019). In total, 12,288 new businesses and 7843 additional jobs had been created. Every £1 of public money invested returned £6.95 to the economy. Among the people who started a new business through this network, 55% were women, 31% were from black, Asian or minority backgrounds, and 22% were from deprived areas. This network is seen as contributing to social equality, with public libraries acting as innovation incubators and catalysts (British Library, 2019).

The network continues to grow. With the British Library as the network centre, libraries in large urban areas provide support to their surrounding communities, and smaller local libraries can participate and apply for help. These public libraries are evolving into local community hubs to support innovation, employment and economic development. The network has had a great impact on the transformation of British public libraries in the new era. This is an example of how IPIS can grow into intellectual property services that go beyond mere information services. It is noteworthy that, in the UK, no university libraries are involved in this network.

Europe

Across Europe, there are 321 PatLibs in 37 countries accredited by the European Patent Office. Their service scope, content and operations vary from country to country and from PatLib to PatLib. Some offer value-added, in-depth, paid services as regional patent service centres (Sternitzke et al., 2007; Wurzer and Hundertmark, 2005); others offer only general consultation and training. Of these PatLibs, 131 (41%) are in universities, but not necessarily university libraries, while others are located in information service institutes, industry innovation service centres or local governments. In universities, most PatLibs are in technology transfer offices, research management departments, independent patent–innovation offices or management schools. According to website information (European Patent Office, 2020), only 15 PatLibs are clearly located in university libraries and nearly all of them offer relatively basic IPIS and not many value-added services. From the perspective of libraries, 39 (12%) PatLibs are in libraries, of which 15 are in university libraries, 15 in public libraries and 9 in technology libraries (see Figure 6). It is worth noting that the UK is the only country that leverages its public library system to disseminate patent information. Nearly all of the public libraries involved are in the UK. It seems that universities are important members of the European Patent Office's patent information dissemination network, but not university libraries. In Turkey, for example, 45 universities have PatLibs, but not one of them is located in a university library. In Portugal, nine universities have PatLibs in technology transfer offices or innovation offices. In Romania, all five PatLibs in universities are in

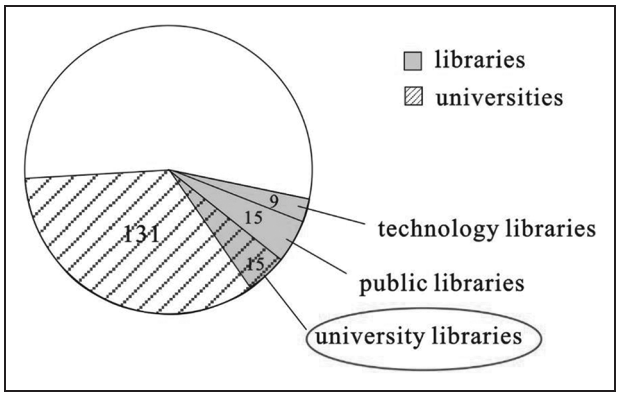

Figure 6. PatLibs in Europe.

regional intellectual property service centres offering comprehensive in-depth services and not one is in a university library. In European universities, management or law schools might offer intellectual property education and training. Transfer offices can support innovation by providing patent information, and libraries, such as public libraries, can offer portal services to the public for free. The PatLibs in European university libraries are fundamental parts of the European Patent Office's patent information dissemination network but have no obvious impacts on university librarianship.

Japan and the Republic of Korea

In Japan and the Republic of Korea, there are mature patent information dissemination networks with numerous document and information centres but these do not involve universities in either country. Some databases are referred to as "electronic libraries."

India

India has a booming economy and an emerging patent information service market. The government is paying a great deal of attention to it and has launched a special Patent Facilitation Programme. Twenty-four Patent Information Centres in various states have been established under the Patent Facilitation Programme. These Patent Information Centres have also established Intellectual Property Cells in the universities of their respective states to enlarge the network. So far, 84 Intellectual Property Cells have been created. They are intended to enhance intellectual property rights awareness, provide training in relevant search skills, and offer assessment of the potential of an invention. However, among these Intellectual Property Cells, the information indicates that not many libraries are involved. Moreover, their service contents, in terms of the description on the Patent Facilitation Programme's website, focus on awareness, search skills and other basic information services, free of charge, with no obvious impact on library transformation (Department of Science and Technology, 2019).

Table 2 provides a comparison of how IPIS is delivered in libraries in different countries including the roles of the state network, market environments, development stage, funding and fees. The table shows the way in which China is taking is a unique development route.

Impacts on transformation

Library transformation has been a leading topic in the field of library and information science for some years and is of ongoing interest. The American Library Association launched the 'Libraries Transform' initiative in 2014 and extended it for another three years in 2017 (Libraries Transform, 2017). 'Transform libraries, transform societies' was the theme of the World Library and Information Congress: 84th IFLA Congress and General Assembly.

Many articles have been written about library transformation and the concepts underpinning it. This is a common experience around the world. However, there are many different perspectives on it. Some argue that libraries are transforming from libraries for books to libraries for people (Wu, 2019b) – that is, human-centred. Some studies on research data management, institutional repositories and academic library transformation show that building data partnerships is a trend in librarianship (Cox et al., 2017; Ruttenberg, 2020). Some propose that open access and open science will blur the boundaries between libraries and the publishing industry (Wu, 2019b).

In this era of digital information and computation, libraries are facing an existential crisis. According to the IFLA's (2018) Global Vision, 'we must update our traditional roles . . . we need to challenge current structures and behaviors, overcoming our passive mindset and embracing innovation and change'. Many scholars hold the opinion that providing value-added information services (including intelligence services and decision-making support) should be an important developmental direction (Chu and Tang, 2018; Wu, 2019b) – in other words, towards the creation of think tanks. IPIS in Chinese university libraries are a bold step in this direction.

One shared opinion is that the new practices that are transforming library practices are outpacing their concepts and underpinning theories. This article argues that IPIS, as value-added information services, may help academic libraries' transformation in the

Table 2. International comparison of IPIS in libraries.

	USA	UK	Europe	China	India
Name	Patent and Trade Resource Center	Business & IP Centre	Patent Library (PatLib)	Intellectual Property Information Service (IPIS) Centre	Patent Facilitation Centres, Patent Information Centres, Intellectual Property Cells
State network	83 PTRCs in 44 university libraries, 31 public libraries and 8 other libraries	14 Business & IP Centres in public libraries; radial system with the British Library as the centre	321 PatLibs, with 131 in universities; only 15 in university libraries, 15 in public libraries and 9 in technology libraries	100+ IPIS Centres in university libraries; 3 Patent Documents Service Stations in public libraries or technology libraries	3 Patent Facilitation Centres, 24 Patent Information Centres and 84 Intellectual Property Cells in various states and universities
Market environment	Mature market with huge commercial intellectual property firms	Mature market with huge commercial intellectual property firms	Varies in different countries and regions	Emerging market, not many intellectual property firms, increasing demand	Emerging market, increasing demand
Development stage	Developed and stable	New centralized system	Mature and stable	Boom stage, far from mature	Early stage, growing
Service content	Promotion, training, basic consulting, retrieving assistance for public good	Patent clinics, platforms to connect small and medium-sized enterprises with industry, experts, solution-oriented	Varies from superficial to extensive	Varies – moving towards academic and in-depth	Promotion, training, basic consulting and retrieving
Funding and fees	Free	Special fund, free	Varies – for free if for public good	Some are paid value-added services; some are free	Free
Impacts on library	Not obvious	Public libraries evolving into community innovation hubs	Not obvious	Profound impacts on university library transformation	Not obvious

following areas, and may inspire more thought and theoretical development concerning library transformation.

From information provider to innovation supporter: better positioning

In providing IPIS, libraries are showing themselves to be information providers as well as sources of direct support for innovation. With valuable IPIS, libraries can help research teams to improve patent quality, foster the filing of high-value patents and increase technology transfer, which are all emerging strengths in Chinese universities. With IPIS, libraries can also support innovation in enterprises from local communities or from related industries. Libraries will be more influential on and outside their campuses.

There has been a trend for libraries to merge with information administration departments in universities, and this is seen by some as an example of library marginalization. By offering in-depth, value-added IPIS, libraries can differentiate themselves from information administration departments, gain more attention from top management, and better position themselves within core university services. In Europe, patent information centres in universities are often located in technology transfer offices rather than libraries because patent services are seen as an inseparable part of technology innovation and transfer. For Chinese university libraries, IPIS are a way for libraries to support innovation in the university directly. In China, in the era of computation, libraries with valuable IPIS will become innovation catalysts – a critical aspect of university innovation ecosystems.

Enhanced service competence: more professional librarians

In the course of library transformation, one of the major barriers is organizational competence or human resources. IPIS require highly professional and specialized staff. With IPIS, Chinese university libraries are under pressure to improve their competence through the recruitment and transfer of appropriately skilled librarians, to attend more professional training, and to increase their number of partnerships with faculties and outside firms. Improved service competence with more professional librarians, who often have a better public image and morale, will help the comprehensive transformation of libraries in the new digital era.

More cooperation among university libraries

China's University Intellectual Property Information Services Centres Association has more than 70 members. The association has launched many projects dealing with intellectual property education and training, librarian training, service content specifications and data sharing. More intensive and wider cooperation among the university libraries is needed for IPIS. The 'silo' mentality is a significant impediment on the path to library development and transformation. The Ministry of Education has designated four universities to lead in the development of a patent data-sharing platform for all university library members. University libraries in China will work together on this data-sharing platform to address their difficulties together. It is hoped that, through such initiatives, bridges will be built between silos with respect to IPIS communication and collaboration, and that, indeed, this cooperation amongst university libraries will extend beyond IPIS in the future.

Transition in culture

Libraries are seen as 'isolated' and as having a conservative image. Librarians are perceived as being unfamiliar with the business environment and lacking awareness of market competition. IPIS pose challenges to the library's 'shy' culture. The results of a major survey carried out by the Shanghai Maritime University Library (Zhang et al., 2020) show that university libraries do not have complete confidence in their competencies and that this is the biggest impediment to them undertaking IPIS. The survey also found that companies think that the biggest problem with libraries is that they are passive and do not take the initiative. In fact, the marketplace would welcome libraries if only they could become more confident and proactive.

In China, the IPIS market is still at an early stage of development, and there are not enough commercial firms to meet IPIS market needs. The conservative university library culture, academic credibility of universities and low cost of IPIS provided by libraries may be attractive for potential customers. On the other hand, some of the work may be beyond the capacity of some libraries. University libraries in China are eager to carry out the missions set out by the Ministry of Education and Intellectual Property Office, and use these opportunities to improve service competence. A possible shortcut may be to find outside partners. Through cooperation with clients, local governments, industry institutions, contractors and other universities, libraries could gain experience, develop competencies and learn how to operate

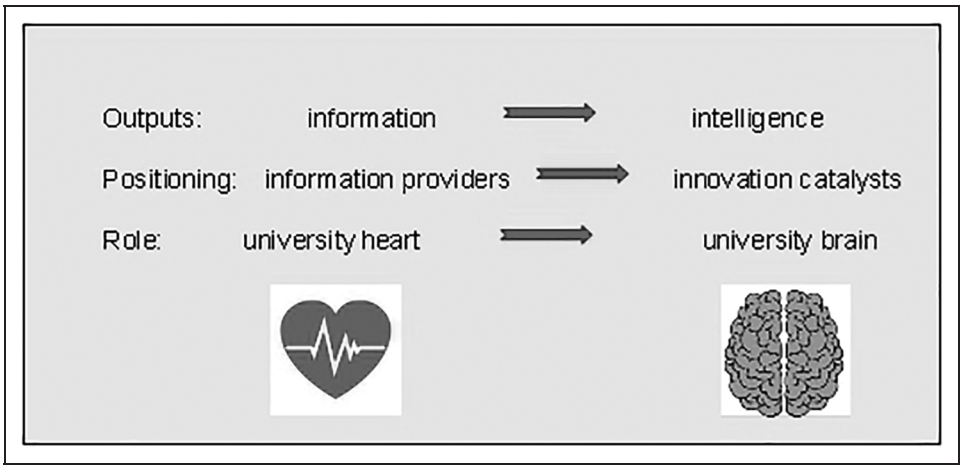

Figure 7. Transformation of the role of the university library.

outside the sanctuary of the university. Negotiation, marketing, business and law are all new to the library's traditional culture. But with the encouragement of government agencies and revenue incentives as a result of fee-paying services, Chinese university libraries are keen to try. IPIS practice provides a platform for university libraries to become more open, show greater initiative, and become competitive while also working with external partners. This more open, inclusive, cooperative and resourceful culture will boost library transformation in many other aspects.

From information service to intelligence service: from 'heart' to 'brain'

From the starting points of IPIS and value-added information services, this article explores further. Academic libraries have resources, staff and research advantages, and can provide intelligence rather than merely information. In fact, libraries could rise to the next level of development. In the human brain, information is processed to gain insights, and insights lead to intelligence (Fagan and Ployhart, 2015) – or, information + processing => insights => intelligence.

For an organization, intelligence can mean information-processing capability, reasoning, or access to sensitive information about competitors and environments. The notion that libraries could offer intelligence services was proposed before 1924 (Cronin, 2001). Intellectual property files are rich in leading-edge technology information, which means that in-depth intellectual property information analysis can provide valuable intelligence. University libraries are valued as the heart of the university (Loma Linda University Library, 2010). By offering intelligence, libraries can evolve towards becoming the 'brains' of the university. There is discussion in the Chinese literature that academic libraries should have the functions of a think tank (Chu and Tang, 2018; Wang, 2018). This is one possible direction for transformation (see Figure 7). IPIS offer an important channel in this direction.

Development trends and challenges

Trends

Generally speaking, university librarians in China are optimistic about IPIS development. With the encouragement of the Ministry of Education and Intellectual Property Office, and the possibility of IPIS becoming an additional source of revenue, IPIS in Chinese university libraries are spreading fast. The direction of development of IPIS in Chinese libraries is quite different from that in either the USA or UK. It may more closely resemble that of Europe. There is a great deal of variation in the approaches taken in Chinese libraries: some offer extensive and in-depth specialized services, but more offer relatively general services, just like the various PatLibs in Europe. Some qualified university libraries will become local IPIS Centres and offer distinct, valuable and comprehensive services to their parent universities, the local community, relevant industries and local governments. The leadership demonstrated by these university libraries may foster transformation in other libraries and in IPIS practices.

Business model

The reason why IPIS could be fee-paying services is because they evolved from novelty-search services, which, as mentioned earlier, have been permitted to charge fees since the end of the last century (Shanghai

Jiaotong University, 2007; Shanghai Maritime University, 2009; Xiamen University, 2007).

The service content of libraries has no obvious conflicts with agents or lawyers because libraries only focus on consulting about industry trends, patent strategies, patent clinic services and patent assessments, and none of these activities involve giving legal advice with respect to patent application filing or providing patentability judgements (Chao et al., 2021; Qiu et al., 2021). The patent information services industry is complex with a long value chain. Libraries have enough space to offer valuable and legitimate services to universities or to the market. But the business model for IPIS is not clear enough. It is still a focus of debate (Li, 2017). IPIS require valuable electronic resources and tools, and competent employees, which are all paid by the university. Why are libraries not allowed to charge fees on behalf of the university if asked to offer services to the market? On the other hand, is it fair to existing commercial patent information firms in the market if the prices charged by a library are low (if not free) (Li et al., 2021)? The offering of IPIS by university libraries is still at a nascent stage in China. So far, there have been no major problems because the volume of services is small. In future, the government may adjust or implement new, more detailed regulations.

The main reality in China is that the market is huge, demand is increasing, libraries are encouraged to offer these services, and university libraries are enthusiastic to respond to the Ministry of Education (Chao et al., 2020). Libraries are proud of their participation and contributions, and their passion will be valued and protected. In future, there will be stricter regulations or bylaws in this field, but this is no reason to be pessimistic.

Service competence

The primary challenge is service competence. IPIS are specialized and require professional capabilities. Capable and experienced staff are highly valued for any IPIS provider. However, the development of the requisite competencies, as well as IPIS teambuilding, needs time, resources and university support. For these reasons, university libraries in China will be differentiated in future in terms of those that are able to offer sophisticated intellectual property services and those that are not. State-level IPIS Centre certification has been organized by the Ministry of Education and Intellectual Property Office, granting, in 2019 and 2020 respectively, 23 and 37 university libraries certification. These IPIS Centres have to report their work annually to the Ministry of Education and Intellectual Property Office. In this current nascent stage, most IPIS are still primitive. More detailed guidelines, quality control regulations and competence enhancement programmes are needed to assure the continuous and thriving development of IPIS in university libraries.

Innovation ecosystems and mindset

Universities could make use of their own innovation ecosystems to foster library engagement. This would facilitate innovation and technology transfer. There are many successful university innovation ecosystems, but it will take awareness, as well as policies and practices, for libraries to become an integral part of them.

With demand for IPIS from universities and from the marketplace, libraries need to develop an open culture – one where initiative and ingenuity are valued. The evolution of libraries' culture and transformation will take time. The traditional inflexible culture and silo mentality are invisible but pervasive barriers.

Tools

Infrastructure, patent data-sharing platforms, and statistical and analytical tools are needed to provide competitive services. Currently, tools from Europe and the USA are available on the market, but, in China, tools using Chinese characters are still being developed. IPIS rely heavily on powerful tools, given the complexity of patent information. Building this infrastructure will take time.

With these challenges and barriers, IPIS are facing some uncertainties. Will it just be another wave of value-added information services trials – a phase or stage evolving into another service, like novelty-search services evolving into IPIS? There may be some adjustments in the direction of development, but with the big picture of China's economic development in mind, as well as patent application trends, growth in the patent information service market, and being far enough from commercial firms in the market, many people believe that IPIS offer a promising direction for libraries.

Conclusion

Intellectual property information is very important in any country. Libraries can form an important part of the system of intellectual property information dissemination and utilization. But only China depends mainly on university libraries; in China,

only a few public libraries offer IPIS. The international comparisons in this article make the differences clear. As noted, the background, evolutionary path and driving forces of Chinese university libraries' IPIS are unique.

In China, creative practices and theoretical explorations of IPIS Centres are growing rapidly. Although facing some challenges, such as bottlenecks and uncertainties, the boom in IPIS Centres in China is making multifaceted and profound impacts on academic library transformation. Academic libraries have to be innovative and show initiative to support the core business of their parent institutions, by fighting marginalization in this era of disintermediation (Brabazon, 2014) and budget cuts. In China, IPIS are considered to be an innovation catalyst and a high-value service. They can support university research, augment a library's position and service competence, facilitate collaboration, and cultivate an open culture in libraries.

The provision of intelligence services, management consultation and think-tank functions are explored as promising academic library transformation directions. In these ways, the 'heart' of the university may evolve to become the 'brain'. IPIS, as a valuable intelligence service, are an important channel and tool for transformation. The growth of IPIS in Chinese academic libraries reflects this trend, which is accelerating the transformation of libraries in China as well as in other countries.

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Notes

1. Ke (2019) divides library environmental transition into the information service era, the pre-knowledge service era and the post-knowledge service era.
2. The World Library and Information Congress: 84th IFLA Congress and General Assembly took place in Kuala Lumpur, Malaysia, from 24–30 August 2018. See: https://2018.ifla.org/
3. The PTRC programme began in 1977 as the Patent and Trademark Depository Library programme, and had the participation of 22 public libraries, though no university libraries were involved. In 2011, the Patent and Trademark Depository Library programme was renamed the PTRC programme and had much wider participation.
4. Originally, there were two types of PTRC: general PTRCs and partner PTRCs. General PTRCs provided general services to the public, while partner PTRCs, which were accredited by the United States Patent and Trademark Office, could offer value-added IPIS. However, partner PTRCs may no longer be available as there has been little written about them in recent years.

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Article

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The information needs and behaviour of the Egyptian elderly living in care homes: An exploratory study

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Abstract

The purpose of this study is to investigate the information-seeking behaviour of the Egyptian elderly, including their information needs. A sample of 63 elderly people living in care homes was taken. It was divided into five focus groups. Of the 63 elderly people, 40 were men (63.5%) and 23 women (36.5%). Almost half (47.6%) ranged in aged from 61 to 70. About a quarter (23%) of them held a high school diploma. The highest percentage (28.6%) was labelled as average-income people. The highest percentage (60.3%) was also found to be widows or widowers. The types of information used most by the Egyptian elderly related to physical, medical/health, social, rational and recreational needs. Their information sources varied between formal and informal sources. Nearly two-thirds (63.5%) of them showed that limited knowledge, lack of interest, poor information awareness, aging, loneliness and health problems were the most significant obstacles they faced when seeking information.

Keywords

Information-seeking behaviour, information needs, elderly people, information sources, Egypt, qualitative study

Introduction

Information is important in the lives of all of us, whether we are young or old. 'In the contemporary world, people are classified as either rich or poor not because of their wealthy possession[s], but by the amount of information they have at their disposal. The information-rich people have [a] wealth of knowledge' (Itasanmi and Okanlawon, 2019: 110). No aspect of life can be achieved without the use of information. People, regardless of their gender, age or educational, professional, ideological and intellectual differences, should therefore have access to sufficient and appropriate information to help them become more enlightened citizens (Mansour, 2015). The use of information is considered to be one of the most important human rights at any age. The right of the elderly, for example, is guaranteed by most of the world's constitutions and charters. The European Union Agency for Fundamental Rights (2007: Article 25), for example, declared that: 'The Union recognizes and respects the rights of the elderly to lead a life of dignity and independence and to participate in social and cultural life'. In 1982, the United Nations General Assembly launched the First World Assembly on Aging (Resolution 37/51), resulting in the 62-point Vienna International Plan of Action on Aging, which called for specific actions on issues and rights such as health, protection, housing, welfare, work and education. In 1991, the United Nations General Assembly adopted the United Nations Principles for Older Persons (United Nations, 1991: Resolution 46/91), enumerating 18 entitlements for older persons relating to independence, participation, care, self-realization and dignity. The following year saw the adoption of the declaration of principles for older persons and, in 1999, the United Nations proclaimed the establishment of the International Day of Older Persons, which is celebrated on 1 October each year. Additionally, the provision of Article (83) in the Egyptian constitution, issued in 2014, states: 'The State shall guarantee the health, economic, social, cultural and entertainment rights of the elderly people, provide

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them with appropriate pensions which ensure a decent life for them, and enable them to participate in public life' (State Information Services (SIS), 2014, p. 24).

In light of the economic boom that the world has witnessed in the last decades, which has impacted the health and conditions of people, the number of elderly people and their longevity have increased. The World Health Organization (2014) expects that, by 2050, the number of people aged 60 and over will have doubled, while the population aged 80 and over will have reached 400 million. Almost all countries of the world are witnessing a growth in the number and proportion of elderly people in their population. There has been increased recognition of the value of elderly people as contributors to development, whose ability to work for the advancement of themselves and their communities should be integrated into policies and programmes at all levels, instead of consigning them to early retirement, marginalizing them and limiting the benefits to be gained from their abundant experience.

In fact, there have been many studies conducted about the elderly in developed countries but few have focused on this topic in developing countries, including Egypt. In serious attempts to shed light on this age group, some organizations, agencies and countries have adopted certain pacts and conventions, including in relation to their information rights. In recognition of elderly people's professional and family standing, and contributions throughout their different stages of life, this study tries to reveal everyday life information seeking among the Egyptian elderly living in Egyptian care homes at this stage of their life, and the special features of this stage of life that may affect the ways of benefiting from various sources of information. The study also identifies the behaviour followed in obtaining these sources, along with methods of preservation and retrieval, and offers an investigation of the obstacles that may affect the elderly's chances of obtaining information.

Purpose and significance of the study

The purpose of this study is to investigate the information-seeking behaviour of the Egyptian elderly, including their information needs. Significantly, this study is one of the few studies at the local and Arab levels that is concerned with this age group. The findings of this study may create awareness about the information needs of elderly people in Egypt among those interested in the elderly, as well as decision-makers. Likewise, this study attempts to address the acute lack of literature on the subject, which is confirmed by Boggatz and Dassen's (2005) study, in a step to enhance the position of this important group of information users.

Objectives of the study

The objectives of the study were as follows:

- To describe the demographic characteristics of the Egyptian elderly living in care homes;
- To identify the information needs of the Egyptian elderly;
- To determine the reasons why the Egyptian elderly use information;
- To determine the information sources as well as channels used by the Egyptian elderly;
- To identify any barriers that may affect the Egyptian elderly's use of information.

Problem statement

Despite the growing interest in elderly people as a group of information users worldwide, such interest at the local level remains low, as documented in Boggatz and Dassen's study (2005). Compared to other age groups, especially young people, this age group in Egypt has still not received sufficient research and analysis, especially with regard to their information behaviour and information needs, and this is confirmed by the absence of local studies on the subject.

Definition of terms

Information needs

The need for information implies a state that arises within a person indicating some kind of gap that needs to be filled (Dervin, 1983).

Information-seeking behaviour

Wilson (2000) defines information seeking as the purposive seeking for information as a consequence of a need to satisfy some goal. According to Law Insider (2020), an older person means someone who is 60 or older who wishes or needs to live with other seniors in a group environment but who is able to live independently. This definition is consistent with the Egyptian context.

Arab Republic of Egypt

With a total area of about 386,662 square miles and an estimated population of 80,471,869 in 2010, Egypt is one of the oldest civilizations in the world, with a recorded history dating back to about 4000 BC. Geographically, Egypt is bordered on the west by Libya, by Sudan to the south and by the Red Sea to the east

(Infoplease, 2020). Egypt's population reached 94,798,827 in April 2017, while the number of expatriate Egyptians was 9.4 million, as reported by the 2017 census conducted by the Central Agency for Public Mobilization and Statistics (State Information Services (SIS), 2018).

Research questions

On the basis of the objectives of the study, the following five research questions are addressed:

Research Question 1. What are the demographic characteristics of the Egyptian elderly living in care homes?

Research Question 2. What are the types of information needs determined by the Egyptian elderly living in care homes?

Research Question 3. Why are the Egyptian elderly searching for information?

Research Question 4. What are the types of information sources used most by the Egyptian elderly living in care homes?

Research Question 5. What are the obstacles that may affect the information needs of the Egyptian elderly living in care homes?

Literature review

This article seeks to address the information needs of the Egyptian elderly living in care homes. These needs may be synonymous with demands, requirements, wants and desires. The concept of 'information needs' refers to demands which may be vocal or written and are made to a library or some other information system (Brittain, 1970). They could be interpreted, as viewed by Hepworth et al. (2002), as data that helps one to cope with different situations and can lead to the more effective management of a condition and improved quality of life. In professional settings, these needs could be classified according to their connection with tasks (Byström, 1999).

Unfortunately, there are few Arabic and Egyptian studies that have been conducted on this topic. Earlier research has not attempted to identify in a comprehensive way the actual information needs of such an age group of information users. Wongpun and Guha (2020), for example, have tried to develop an Online Support System for Elderly Care to provide services for informal caregivers in Thailand. The system has six modules: a patient and caregiver profile manager; an elderly care recommender applying case-based reasoning; a daily care plan manager; an elderly care activity notifier; an elderly care information resource locator; and a social interaction platform for caregivers. The Online Support System for Elderly Care has been established to improve the knowledge and aptitude of informal caregivers, and to reduce their levels of stress.

Through a review of the literature on elderly people's information-seeking behaviour, Wicks (2004) found that they relied on personal resources, along with printed materials, to meet their information needs regarding participation in clubs and community organizations. They sought printed resources to research hobby-related information. For answers to medical and financial questions, they tended to look primarily at personal sources, which included doctors, pharmacists, family members and friends. They were willing to use the Internet as a starting point for obtaining general health information, but when it came to making a decision about their health care, the majority adhered to a physician-centred model of care. Reading was found to be one of the most popular pastimes of the elderly interviewed in this study. Regarding use of a library, most of the elderly used a library to get books and audio and video materials, and participated in the library's activities.

In an effort to examine the needs and problems of the Egyptian elderly in care homes in Beni Suef Governorate, Sayed (2018) interviewed 80 elderly people, of whom 55 were male and 25 female. The study proposed a counselling programme for treating the elderly with therapy. The study found that the means most elderly people used in reading therapy were listening to the Holy Quran on the radio and cassettes. Unfortunately, the study showed a shortage of appropriate libraries, as well as sufficient means to support reading therapy for the elderly. The lack of financial resources and psychological factors was also shown. Therefore, the study suggested the need for the provision of a variety of appropriate libraries to provide the elderly with suitable reading and audiovisual materials to meet their needs. It also proposed that research centres should be encouraged to perform field studies to recognize the real needs of the elderly.

Jarvis et al. (2020) conducted a study to investigate communication technology acceptance among older persons living in care homes. The study used a cross-sectional survey, with a response rate of 72.1%, of residents in four inner-city care homes in Durban, South Africa. Most of the respondents were found to have mobile phones, although smartphone ownership was low. The desire for family communication and ease of use were the main drivers of mobile phone acquisition. Behavioural intention, facilitative conditions, attitude to life, satisfaction and level of education were significantly related to use behaviour.

Anxiety and age in the area of aging technology showed negative associations with use behaviour. Acceptance of communication technology in this situation was low and was influenced by factors of the technological context.

In an attempt to investigate health information behaviour in the everyday life settings of older adults, Choi (2019) interviewed 21 older adults in the USA using Savolainen's everyday life information seeking model. The interview data revealed that, with the exception of health-care providers, a spouse or partner was cited as a reliable interpersonal source of health information among elderly people in a marital or romantic relationship. Older adults' health-information behaviour was characterized in the context of everyday life information seeking based on trier lifestyle and life control. For example, those with more diverse types of hobbies, including cognitive, emotional and social hobbies, were exposed to diverse people while performing their daily routines, which may have led to different sources of useful health information. In marital relationships, those with an optimistic rather than pessimistic attitude toward a problem-solving position played the role of the information provider rather than the role of the information receiver.

Chipps and Jarvis (2017) tried to identify the use and acceptance of technology-assisted communication to increase the social interconnectedness of the elderly in an urban care home facility in South Africa. Perceived usefulness and ease of use, as well as attitude scales, were calculated and the behavioural intention for technology use was measured. The participants with the highest behavioural intention were residents in their first year of relocation, younger participants, divorced participants and participants with higher educational qualifications. Perceived ease of use and perceived usefulness were low and were directly correlated. The overall behavioural intention for technology use was good.

Gladden (2000) attempted to determine how older people in rural areas and their families collected health information to make medical decisions during periods of infection and illness. He found that elderly residents looked forward to direct contact with their doctors (not nurses or physicians' assistants). When these older patients did not receive visits from their doctors, they expressed a feeling of isolation, even when other health professionals visited them. In addition, the elderly expressed a feeling that decisions had been made for them, and they had not been provided with sufficient information regarding their health.

In her PhD thesis, Magdy (2105) emphasized the importance of educating elderly people in computer as well as Internet use, so that they may benefit from the digital services provided in the digital environment. The study recommended eradicating digital illiteracy among the elderly by designing appropriate websites and services for this age group.

Characteristics of the Egyptian elderly: an overview

On the occasion of the United Nations International Day of Older Persons (60 years and over), the Central Agency for Public Mobilization and Statistics reported that the number of elderly persons in Egypt had reached 6.5 million (3.5 million males and 3 million females, representing 6.7% of the total population of Egypt (Ahram Online, 2019). The expectation of survival at birth for individuals in this age group was 73.9 years (72.7 for males and 75.1 for females). The total percentage of the elderly with a university qualification or higher was 8.9% (12.4% for males and 5.1% for females). The number of employed elderly people was 1.217 million, including 52.9% working in agricultural and fishing activities. The provision of Article (83) of the Egyptian constitution states:

> The State is committed to guaranteeing the rights of the elderly in a healthy, economic, social, cultural and recreational manner, and providing an adequate pension that guarantees them a decent life, and enabling them to participate in public life. In its planning of public facilities, the State shall take into account the needs of the elderly. The State shall encourage civil society organizations to participate in taking care of elderly people (State Information Services (SIS), (2014, p. 24).

The efforts of the Ministry of Social Solidarity in the field of caring for the elderly have been to create care homes and open care clubs, and to organize companion services for them. Other efforts have included granting a security pension to the elderly who do not have a source of income; monthly aid to those who are physically incapacitated; and loans on concessional terms from productive family projects to operate small projects.

Research design and method

The study sample was randomly selected from care homes for elderly Egyptians. These care homes represent northern, central and southern Egypt. Permission was obtained to conduct this study from those in charge of serving these care homes in accordance with their regulations and traditions, as well as commensurate with the demographic features of the elderly

Table 1. The distribution of the Egyptian elderly.

Groups	Men	Women	Total
1. North Egypt, Alexandria Governorate: Alexandria society for elderly care	8	5	13
*2. Middle Egypt, Cairo Governorate: Smile elderly home in Maadi	9	3	12
*3. Middle Egypt, Cairo Governorate: Smile elderly home in Maadi	7	6	13
*4. Middle Egypt, Giza Governorate: Mercy home for the elderly	8	5	13
5. Upper Egypt, Qena Governorate: Elderly home society	8	4	12
Total	40	23	63

*Groups 2, 3 and 4 represent Greater Cairo, which is described as one of the largest metropolitan areas not only in Egypt but also in Africa and the world (Macrotrends, 2020).

people interviewed. The population of this study included 63 elderly people living in care homes, who were divided into five focus groups as equally as possible (see Table 1).

As reported by Morgan (1996), focus groups provide a valuable tool for exploratory research and can be used to investigate initial ideas regarding a research design. This technique, which is a variation of the group interview, has been used extensively to ascertain the perceptions and feelings of participants regarding a particular area of inquiry (Chase, 2000). The advantage of this technique is that it may reveal, through dialogue and discussion, a number of issues that are difficult to detect with other techniques and methods, such as questionnaires. In this study, the main purpose of the focus group method was to allow the participants to express their views freely about their need for information, and to provide the opportunity to hear a range of opinions and for them to agree or disagree, or expand on, each other's ideas.

Despite some apparent demographic differences, especially regarding gender and education, this study is concerned with the impact of demographics on the use of and access to information among the participants. Hence, the researcher did not intentionally wish to establish any balance in relation to the demographic characteristics in this study. For issues related to the lack of knowledge among some of the participants, as well as the low level of education of some, training sessions were provided to make them more adapted to the subject of study and provide advice on how to answer the interview questions, which were developed based on previous studies as well as the work regulations in place for elderly care homes in terms of reception and treatment, and the provision of related services. Three research assistants and three interviewers were recruited to help the main researcher conduct this study. In order to avoid any misinterpretation of the questions, training sessions were held through related workshops for those who conducted the interviews. Then, three pilot interviews were carried out by the research team. Based on this test, the interviewing guide was edited according to the gaps identified.

The participants' ages ranged from 61 to over 80, and 23 women and 40 men were interviewed. As far as possible, the study population was interviewed impartially without any bias in the absence of any relationship between the research team and the study population, which would warrant such bias. Additionally, the research team did not discuss any kinds of questions or issues that could impact the feelings of the study population.

The interviewees were clearly informed of the purpose of the study and the anonymization of the data collected from them. The interviews were conducted in August 2020. The sessions ranged between approximately 70 and 100 minutes, which is viewed as adequate by Gibbs (1997). During the interviews, additional questions were asked to clarify the answers depending on the interviewees' responses. The sessions were digitally recorded. As a matter of assistance, notes were also taken manually.

This study focuses only on the information needs and information-seeking behaviour of Egyptian elderly people who hold Egyptian citizenship and are living in public care homes. It does not include any other elderly people of other nationalities, although there are some foreign elderly people, such as Syrians and Africans, who are hosted by private care homes in Egypt. The study does not contain a significantly large sample of elderly from all over Egypt to draw significant conclusions for such a large population.

Findings

The findings of this study are organized and treated according to the order of the items listed in its interviews. They are also handled in terms of the answers to the study's five research questions.

What are the demographic characteristics of the Egyptian elderly living in care homes?

Table 2 summarizes the demographic characteristics (gender, age, education, social status and monthly income) of the Egyptian elderly with cross tabulations. Of the 63 elderly people interviewed in this

Table 2. Demographic characteristics of the Egyptian elderly.

Age	<60*		61–65		66–70		71–75		76–80		81+		Total
Gender	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Education													
Uneducated					2	2		1	1		1	1	8
No formal education			1	1	2	1	2	1	1	1	1		11
Primary school		1	1		1	1	2	1	1		1	1	10
Elementary education				1	1		2		2		1		7
High school diploma			4	4	3	1	1		1	1			15
Bachelor of Arts degree			3	2	3	1	1		1		1		12
Social status													
Married			3	1	4	1	5	2	3	2			21
Divorced				1	1			1	1				4
Widow/widower			1	3	3	3	6	4	8	4	5	1	38
Monthly income													
<E£1000	1	1	1		2	1	2	1	1				10
E£1001–1500			2	2	2	1	1	1	2	1			12
E£1501–2000			4	1	3	2	3		2	1	1	1	18
E£2001–2500			3	2	3	2	2	1	1	1	1	1	17
E£2501–3000			2	2	1	1							6

*According to Law Insider (2020), an older person means someone who is 60 or older.

study, 40 were male, representing almost two-thirds (63.5%) of the total sample, and 23 were female, representing more than a third (36.5%) of the total sample. Almost half (47.6%) of the Egyptian elderly's ages ranged from 61 to 70, and the age of almost a third (31.7%) ranged from 71 to 80. This study revealed that about a quarter (23%) of the elderly held a high school diploma, followed by a Bachelor of Arts degree (19%), uneducated (17.6%) and primary school education (15.9%). The highest percentage (28.6%) of participants was labelled as average-income people, where they were paid E£1501–2000 (Egyptian pounds) per month, which was followed by E£2000–2500 (27%), E£1000–1500 (19%) and less than E£1000 (15.9%). The highest percentage (60.3%) of participants was found to be widows or widowers, followed by a third (33.3%) who were married and just 6.3% of whom were divorced.

What are the types of information needs determined by the Egyptian elderly living in care homes?

Just over a third (38.1%) of the Egyptian elderly indicated that they did not know how to handle and manage their information rights as elderly people, and 42.9% reported that they were unable to accurately and appropriately define their information needs. Yet they expressed, in their own 'spontaneous' way, a need for information. The Egyptian elderly's needs for information were identified as realistic needs, representing and reflecting their basic demands. The types of information most widely used by the Egyptian elderly were in relation to their physical, medical, social, reasonable and recreational needs.

Why are the Egyptian elderly searching for information?

A very significant number (90.1%) of the Egyptian elderly were using information to meet their physical, social, rational and medical needs. A considerable number (84.1%) revealed that they were also searching for recreational information, such as entertainment, practising games based on thinking skills, follow-up programmes provided by radio and television, obtaining the dates of awareness seminars, especially religious ones, and following up on topics of interest.

What are the types of information sources used most by the Egyptian elderly living in care homes?

Despite their age, the Egyptian elderly used many types of information sources, which varied between written (formal) and oral (informal) sources. While a little more than a third (34.9%) of the participants preferred to use written or formal sources (e.g. books, storybooks, magazines or educational pamphlets), nearly three-quarters (73%) used oral or informal sources (contact with others such as friends and family, as well as contact with doctors, therapists, social workers and their peers in other care homes). Almost two-thirds (65.1%) also relied on audiovisual sources and materials to obtain information that met their

needs, especially their recreational needs, such as watching television programmes and listening to the radio (particularly Holy Quran radio stations).

What are the obstacles that may affect the information needs of the Egyptian elderly living in care homes?

A considerable number (82.5%) of the Egyptian elderly showed some concerns when seeking information. Nearly two-thirds (63.5%) showed that the most significant obstacles they faced when searching for information for different purposes and varied needs included limited knowledge, lack of interest, poor information awareness, aging, loneliness, fear of the future, psychological stress (neglect by family and children, abandonment of relatives and friends), lack of financial and moral support, and health problems and diseases, especially those related to aging, such as dementia and depression. Just over a third (36.5%) reported that their illiteracy was a significant factor in meeting their information needs.

Discussion

This study focuses on the Egyptian elderly from the perspective of their information needs, including their information behaviour. Information is an important pillar of life. It is a goal that all people pursue, regardless of their gender, education and age. According to Mansour (2015), it is truly needed, as it is closely linked to democracy and development, enjoying life and the growth of the community. The need for information arises when individuals find themselves in a situation requiring knowledge to cope with the situation as they deem fit (Tackie and Adams, 2007). The use of information depends largely on the need for it. This is consistent with Dervin's (1983) interpretation of the need for information, which states that the need for information implies a state that arises within a person indicating some kind of gap that needs to be filled.

As much as possible, the researcher in this study attempted to identify the information needs of one Egyptian age group – the elderly – whose information needs are supposed to increase as they get older. As a result of the illiteracy of some of the participants interviewed in this study, as well as the low level of education of others, the researcher found it difficult to address the answers of the participants – they were spontaneous, overlapping and, at times, conflicting, especially among the older participants (aged over 75). This, in turn, created a problem in dealing with the answers and extracting them accurately.

With regard to their demographic characteristics, this study showed that despite the demographic diversity that was observed among the elderly Egyptians, there was no significant difference between their understanding and appreciation of their information needs, especially in light of their stay in identical care homes. The study showed that approximately two-thirds of the Egyptian elderly were men and slightly over a third were women. Through the participants' comments, it has been noted that gender played a role when searching for information, as older Egyptian women, especially very old women, were less interested in searching for information than men. This finding is consistent with the findings of Chaudhuri et al. (2013) and Enwald et al. (2017). The age of almost half of the participants ranged from 61 to 70, and the age of almost a third ranged from 71 to 80. This means that the average age of the participants ranged from 65 to 75. About a quarter held a high school diploma, which was followed by a Bachelor of Arts degree, uneducated and primary school education. According to Chaudhuri et al. (2013) and Enwald et al. (2017), there are many factors – such as age, education and health literacy – that affect the health information-seeking behaviours of elderly people. Very old people, for example, are less likely to seek information related to their health conditions, share health information with others, or think about the physical exercise needed to manage their health conditions. The highest percentage of the Egyptian elderly was labelled as average-income people, where they were paid E£1501–2000 per month, which was followed by those who were paid E£2000–2500, EG£1000–1500 and less than E£1000 per month. The highest percentage of the Egyptian elderly was found to be widows or widowers, followed by a third who were married. These findings are consistent with work conducted in the Egyptian environment, such as Sayed's (2018) study, which found that 67% of the elderly in the Beni Suef Governorate were men, and 33% were women, and a quarter of these elderly people barely knew how to read and write, while the rest were either illiterate (38%) or had an elementary (18%), intermediate (14%) or university education (8%).

Despite their age, the Egyptian elderly used many types of information sources, which varied between written (formal) and oral (informal) sources. While a little more than a third preferred to use written or formal sources (e.g. books, storybooks, magazines or educational pamphlets), nearly three-quarters used oral or informal sources (contact with others such as friends and family, and with health professionals, such as physicians, pharmacists, therapists and social

workers, as well as with their peers in other care homes). Almost two-thirds of the participants relied on audiovisual sources to obtain information that met their needs, especially their recreational needs, such as watching television programmes and listening to the radio. These findings are consistent with Itasanmi and Okanlawon's (2019) study, which revealed that television and radio were the dominant information sources used by elderly people in Nigeria. They are also consistent with Sayed's (2018) suggestions, which proposed that the Egyptian elderly in care homes in Beni Suef Governorate need to be provided with an appropriate library with suitable reading and audiovisual materials to meet their information needs.

It is worth noting that nearly a quarter (23.8%) of the Egyptian elderly reported that they owned regular mobiles to assist them in making contact with and sending text messages to their families. A little more than two-thirds (69.8%) reported that they had smartphones equipped with Internet applications, which helped them enhance their forms of communication, on the one hand, and search for appropriate information in electronic format, on the other, as well as creating an expanded communication environment with the help of multiple and various social media platforms:

> I prefer to use the oral sources because of their advantages, which are difficult to find in the written ones. (Male, aged 61–65)
>
> I strongly prefer the audiovisual information sources, such as television and radio, for their ease of use as well as the variety of serial programmes. (Male, aged 65–70)
>
> I tend to use the radio to listen to the Holy Quran, as it makes me feel calm. (Male, aged 65–70)

A little over a third (34.9%) of the Egyptian elderly reported that they did not know how to address their information rights as elderly people, and almost a third (31.7%) indicated that they were not fully able to identify their information needs. Their information needs were described as realistic needs, reflecting the basic demands of their daily life. The types of information that were used most by the Egyptian elderly related to their physical needs (nutrition, mobility, exercise and housing); social needs (social contact, relationships and networking); rational needs (knowledge, contemplation and learning new skills); recreational needs (entertainment, practising games based on thinking skills, follow-up programmes provided by radio and television, obtaining the dates of awareness seminars, especially religious ones, and following up on topics of interest); and medical needs (information related to health care and medication):

> I don't know what the informational right means. (Female, aged over 81)
>
> I don't see a problem when identifying my need for information. My life is simple and I meet my needs spontaneously without any arrangement or organization. (Male, aged 75–80)

The information-seeking behaviour profile of the Egyptian elderly showed that they preferred to use informal sources over other sources. However, this does not mean that they were not using other, formal, sources, as the study found that some of the participants, albeit a few, used them alongside informal sources, as well as audio and video sources. With the help of modern communication devices, especially mobile phones, as well as social media applications, a large number of the Egyptian elderly, especially those described as educated and financially able, have been able to establish or enhance communication with others, along with employing these devices and applications when searching for information:

> I think the mobile phone is the best way to communicate with others, especially friends, family and doctors. (Male, aged 71–75)
>
> With the help of the mobile phone, I can manage all my private affairs, whether for communication purposes or for obtaining information. (Female, aged 65–70)

These findings are highly consistent with the study of Jarvis et al. (2020), which found that most older people had mobile phones, although smartphone ownership was low and the desire for family communication and ease of use were the main drivers of mobile phone acquisition. Additionally, the findings are consistent with Choi's (2019) work, which revealed that interpersonal sources, such as care providers, family members and friends, were the most reliable information sources used by elderly people.

One of the major and most interesting findings of this study is that about two-thirds (63.5%) of the Egyptian elderly were using the library in the care home in which they were living to meet their information needs, especially with regard to historical and religious information. They were also using small libraries attached to their care homes in order to read, chat, and exchange stories and experiences. A small number (14.3%) of the participants reported that they also used public libraries near their care homes when they had the opportunity to visit them. Furthermore, a small number (11%) reported that they attended awareness seminars held by library specialists at the headquarters of their home library to promote the importance of reading, especially at their time of life. Despite the illiteracy of about a third (31.7%) of the

participants, some of the Egyptian elderly visited the library in their care home and the small libraries of the mosques located in their area for purposes other than reading – either to meet their peers or to listen to the various discussions held by specialists about affairs of the elderly. The Egyptian elderly need good specialized libraries in terms of the availability of various and appropriate sources of information to meet their needs. There is also a need for librarians and information specialists in libraries attached to care homes to be experienced in serving these people, with an understanding of their information needs and the ability to interpret them:

> I rely largely on the library attached to the care home I am living in to obtain the desired information. (Male, aged 71–75)
>
> I really like the atmosphere of the libraries, as I see in the book a best friend, especially at this stage of life. (Male, aged 71–75)
>
> Despite its unupdated holdings, I spend a lot of time in the library getting along with historical and religious books. (Male, aged 75–80)
>
> Although I have read most of the collections of my care home library once and sometimes twice, I prefer to spend a lot of time discussing with my peers the ideas learned from the books that we have read. (Female, aged 65–70)
>
> Despite its great role in obtaining information, I rarely rely on the library for that purpose, but this does not prevent me from spending some time in it with my peers in the care home. (Female, aged 75–80)
>
> After performing my religious rituals in the mosque attached to the care home I am living in, such as prayer and worship, I read some of the pages of the books contained in the mosque's small library. (Male, aged 75–80)

A large number of the Egyptian elderly, especially those who emphasized the use of informal sources of information, reported that they used the Internet to communicate and search for information, especially medical and entertainment information. However, a number of the users who were using formal sources more than informal sources reported that they did not rely too much on the Internet to obtain information, especially health-related information. They preferred to rely on their health professionals as sources of information. In addition, some emphasized that they lacked the basic skills needed to browse and use the Internet in order to find appropriate and correct information. Another reason given by some of the elderly people was that some sites on the Internet are not safe or, even in the experience of these elderly people, are not easy to navigate. Services related to the Internet, as indicated by some elderly, were poor and needed to be promoted. In this regard, Magdy (2015) emphasized the importance of educating elderly people about computers and the Internet in order that they might benefit from the digital services offered in the digital world. She also emphasized the need to eradicate digital illiteracy among the elderly and to design websites tailored to their age group:

> I appreciate the role of the Internet, but I do not prioritize it when searching for information. I prefer libraries more. (Male, aged 75–80)
>
> I have no reason to use the Internet and its applications as a tool for searching for information, as I do not prefer this environment. I prefer formal sources, such as books and newspapers, over informal sources. (Male, aged 75–80)
>
> Using the Internet and smartphones is good for me, but for my illness conditions I do not use it myself but with the help of other colleagues who have the ability to use it well. (Female, aged 70–75)
>
> Using the Internet and smartphones requires certain skills. I lack these skills and I do not intend to learn them. I can live without these devices and these apps. (Female, aged 75–80)
>
> Despite the valuable and useful information provided by the Internet, I am afraid of immersing myself in this environment, especially because I have little experience in dealing with it. I see this environment as posing countless risks. There are no services provided by care homes to raise awareness of these risks. (Female, aged 71–76)

The Egyptian elderly who were keen to visit websites reported that, along with consulting their own health professionals, they visited medical websites, especially Arab and local websites, with the aim of getting known and participating in electronic discussion groups concerning the topics of these sites, especially with regard to health, chronic diseases, treatment and fitness:

> Along with consulting a doctor in the care home in which I am living, I visit some of the Arab medical sites to find out some information about my disease, as well as anything new about it in terms of prevention and treatment. (Male, aged 70–75)
>
> Medical sites helped me to make friends through the comments of visitors and accessing their own groups on social media, especially Facebook and YouTube. (Female, aged 61–65)

The Egyptian elderly faced many obstacles with regard to access to information. Without a doubt, these obstacles affected access. The most significant obstacles reported by almost all of the participants were limited knowledge, lack of interest, poor

information awareness, aging, loneliness, fear of the future, psychological stress (neglect by family and children, abandonment of relatives and friends), lack of financial support, and health problems and diseases, especially those related to aging such as dementia and depression. Additionally, illiteracy was found by just over a third of the elderly to be a very significant factor in meeting their information needs. Despite the existence of these problems as influential obstacles to the Egyptian elderly's access to information, a considerable number of them emphasized their eagerness to overcome them, despite their age:

> Lack of motivation and low enthusiasm are one of the biggest problems that limit my desire to search. (Female, aged 70–75)
>
> I have my own barriers that affect my use of information, although I do my best to benefit from the awareness programmes and discussions that my care home provides when hosting some writers, scholars and clerics. (Female, aged 70–75)
>
> I do my best to improve my information-seeking skills for more knowledge, as well as to make use of free time. (Male, aged 70–75)

Conclusions and recommendations

As far as possible, this study has attempted to investigate the information needs and information behaviour of the Egyptian elderly living in care homes in terms of describing their demographic characteristics, identifying their information needs, determining the reasons why they used information, and determining their information sources and channels, as well as identifying the barriers affecting their use of information. Despite the demographic diversity that was observed among the elderly Egyptians, there was no significant difference in their understanding of their information needs since they resided in similar care homes. Such needs have been described as simple and complex. In order to meet their information needs, the Egyptian elderly relied largely on a number of sources of information, including formal and informal sources, or printed and oral sources, for the purpose of getting information as well as contacting their friends, peers, families and health professionals.

On the basis of the findings of the study, further research is needed to explore the demographic characteristics of the Egyptian elderly in detail. Further research is also needed to investigate the ways and methods that influence the acquisition of information by the Egyptian elderly, as well as the factors affecting this. Research is needed to learn how these elderly people perceive, interpret, select, use and evaluate sources of information. Supporting Magdy's (2015) recommendations regarding the provision of appropriate services for the elderly, especially digital services, this study recommends providing appropriate services for these elderly people, especially services linked to the Internet, as well as designing suitable websites for them in terms of browsing and comfortable and safe use. Further research needs to be carried out to investigate the effect of obstacles on accessing information, and to resolve or reduce these obstacles. The study recommends improving good and free access to information and communications technologies for the Egyptian elderly. Reliable, up-to-date information, as well as data about this age group, is needed to address and carefully evaluate their needs.

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Supplemental material

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Developing information literacy courses for students through virtual learning environments in Tanzania: Prospects and challenges

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Abstract

This article reviews literature on the use of virtual learning environments by highlighting their potential and the challenges of introducing the same in Tanzania. It introduces the concept of virtual learning environments by demonstrating their applications to support teaching and learning. The article discusses the use of virtual learning environments in teaching information literacy courses by highlighting the success of using such tools in facilitating the teaching of information literacy courses to library users. In this review, special emphasis is placed on attempts by Tanzanian institutions of higher learning to introduce web-based teaching of information literacy and the challenges faced. The review reveals the need for Tanzanian institutions of higher learning to develop virtual learning environments to facilitate the teaching of information literacy courses to students and faculty so as to reach many of those who may not manage to attend the face-to-face information literacy sessions that are offered by librarians on a regular basis.

Keywords

Information literacy, virtual learning environments, problem-based learning, teaching and learning, electronic learning environments, higher learning institutions

Introduction

Since electronic teaching and learning systems have come into dominance, there has been a realized need to employ suitable teaching methodologies that will impact teaching and learning styles as well as individual learners themselves. Electronic teaching and learning systems – referred to here as virtual learning environments (VLEs) or learning management systems – are not new in educational settings, but it is the way in which they are used that differs in terms of application to and impact on effective teaching and learning methodologies. With the advent of information and communication technologies (ICTs) in teaching and learning, there have been notable improvements in the way learners participate in the learning process, as well as the diversity of learners with varying teaching and learning needs (Jayamani and Kasi, 2019). Teaching in electronic environments has reduced much of the reliance by students on their instructors. It has also helped to take into account the large numbers of learners who are unable to attend face-to-face classes due to their geographical location or associated socio-economic issues (Buckley and Doyle, 2015). The teaching of information literacy has a similar dimension, following the needs by many institutions to employ appropriate teaching and learning methodologies so as to meet the demands of learners in terms of their immediate and future information needs, as well as preferred learning styles (Makhafola, 2019).

There has been much research on the use of VLEs to support the teaching of information literacy to students at various education levels, including universities and colleges worldwide. What is still needed to be understood is the appropriate ways in which VLEs could be employed in Tanzanian universities to teach

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students information literacy when undertaking assignments, writing their research proposals or doing postgraduate research. This is due to the fact that previous research has highlighted gaps in teaching information literacy courses in Tanzanian universities (Hepworth and Wema, 2006). This research called for employing appropriate mechanisms whereby information literacy could be taught to large student populations across institutions. As such, this article intends to highlight efforts made by numerous higher learning institutions around the world to teach information literacy in VLEs to students in different learning environments. This will influence universities in Tanzania to emulate the same in their efforts to teach information literacy courses.

An overview of VLEs for teaching and learning

The major purpose of utilizing VLEs in academic settings is to encourage collaborative interaction between learners and students, as well as creating environments for asynchronous learning at all times (Das, 2014). According to Alharbi (2017: 10), VLEs are defined as 'an electronic system that can provide online interactions of various kinds that take place between learners and tutors, including online learning'. In this view, VLEs have moved on from the traditional teaching and learning method, where a learner participated in an electronic learning environment as an individual, to a more collaborative environment, where there is communication among learners and the instructor.

The use of VLEs in classrooms is becoming more popular, and aspects such as time, place and space do not limit the learning process. VLEs allow participants to learn asynchronously even after a lesson has taken place while communicating with peers and instructors through networked environments and web interfaces without meeting face-to-face – hence overcoming the challenges caused by space. While it is possible to provide learners with abundant learning resources, various technologies are used to facilitate learning, including text, hypertext, graphics, streaming audio and video, computer animations and simulations, embedded tests and dynamic content. In addition, it is possible for learners to interact with each other and their instructors through a computer-mediated learning environment, as well as control the learning process during and outside the classroom (Farrelly et al., 2018). The aim of VLEs is to bring learners together in a community of practice where students build their identity.

As outlined above, there are a number of methods and tools that are employed in VLEs. These include blogs, wikis, podcasting, social software, structured conferencing, instant messaging and e-portfolios, to name a few. These and many others can be used together with web-based, open-source or proprietary platforms, including, for example, Moodle, Blackboard, WebCT, Lotus Learning Space, eFront, Online Learning and Training (OLAT), Sakai, ILIAS (Integriertes Lern-, Informations- und Arbeitskooperations-System), ATutor, Fedena, Open eLMS, Claroline and Dokeos. Together with the available platforms and tools, VLEs may comprise a number of additional elements, including:

- Current information about the ongoing course;
- The basic content of the course;
- Electronic lecture notes;
- Additional resources, either integrated or as links to outside resources;
- Self-assessment quizzes and self-assessment;
- Formal assessment functions, including examinations, essay submission or presentation of projects;
- Support for communications, including chat rooms, email, threaded discussions, wikis, blogs, RSS (Really Simple Syndication) and three-dimensional virtual learning spaces;
- Access rights for instructors and their assistants, course support staff and students;
- Authoring tools for creating the necessary documents by the instructor and submissions by the students;
- Provision for the necessary hyperlinks to create a unified presentation to the students (Cheng and Yen, 1998: 482).

According to Awang et al. (2018), other factors that contribute to a successful VLE include workable expected learning outcomes, learning objectives, content management, teaching methods, learning activities, learning interactions, learning resources and learning assessment. These and other factors and elements should eventually lead to learners' satisfaction with the learning experience. A number of motivational factors need to be examined in order to determine the success or challenges of a learning process. Studies have been conducted to examine these. Weng et al.'s (2018) study, for example, on the use of the technology acceptance model for the acceptance and use of information technology reveals that users of information technology may be motivated to use it based on perceived usefulness. Perceived usefulness is considered to be a motivational factor that assures an individual of the usefulness of the technology in achieving and enhancing their work performance. On

the other hand, perceived ease of use is a motivational factor where it is believed that, on using the technology, a user should not employ extra effort in learning and knowing how to use it. The theories behind this model have been proven by researchers such as Gautam et al. (2021), who reveal that perceived usefulness has a dimension that makes learners appreciate the contribution of VLEs in enhancing their learning experiences. The technology acceptance model has also given rise to research examining aspects of the quality and usability of VLEs as key influencers of learning outcomes. This has led to research examining the aspects of pedagogical usability and technical usability. According to Melis et al. (2003), pedagogical usability is the ability of a teaching and learning tool to be used by specific users to achieve specific goals with effectiveness, efficiency and satisfaction in a specific context of use. Its subcomponents include learner control, learner activity, cooperative/collaborative learning, goal orientation, applicability, added value and motivation, valuation of previous knowledge, flexibility and feedback (Sales Júnior et al., 2016). On the other hand, technical usability is the ability of a user to interact with a teaching and learning tool (such as a computer) in the learning process. Referring to the aforementioned subcomponents of pedagogical usability, it is important to note that issues of learner control, collaboration, added value, motivation, applicability and feedback have been given emphasis in using VLEs to enhance teaching and learning in higher education settings. These are important issues to consider in the planned design of VLEs for learners.

The aforementioned motivational factors (i.e. perceived usefulness and ease of use), as well as issues of learning outcomes, have influenced both teachers and learners in accepting technologies and appreciating their value in improving teaching and learning environments. Whereas VLEs that support face-to-face classes are expected to improve students' learning environments, their introduction and use in an institution should also consider teachers' familiarity with using features that support traditional teaching methods (Farrelly et al., 2018). Various studies have been undertaken to examine the factors that influence teachers in accepting e-learning technologies. According to Babie et al. (2016), teachers' competence in using the technology contributed to their acceptance of using it for teaching and learning purposes. This has a positive influence in motivating teachers to adopt e-learning. When teachers create VLEs based on instructional design principles, they have greater chances of transforming their ways of teaching. Similarly, teachers' attitudes towards e-learning have a bearing on their acceptance of adopting technologies in their teaching. Using technology in teaching helps to shape teachers' styles of teaching and a positive attitude contributes significantly towards changing attitudes towards technology use in classroom instruction. Other contributing factors include the characteristics of the students and fields of study, the acquisition of knowledge and skills, and institutional factors. The values and culture within certain fields and students' capabilities may be inhibiting factors to accepting technology. Similarly, formal education in the field of pedagogy is a contributing factor to applying e-learning in the education process. In addition, access to a computer classroom, the number of computers in the classroom, security restrictions, the computer network, the adequacy of technical, pedagogical and personnel support, and others within an institution may pose obstacles to the acceptance by teachers of technology in their teaching (Alenezi, 2017).

In summary, it is important to note that some of the elements of VLEs mentioned above go hand in hand with aspects of the motivational factors in acceptance of the use of technology for teaching and learning. Motivational factors influence the achievement of learning goals and outcomes by teachers and learners in a VLE.

A global overview of the applications of VLEs in higher learning institutions

Historically, the emergence of VLEs can be traced back to the early 1970s when efforts to implement distance learning gained momentum with the launching of the Open University in the UK and the University of Open Education in Spain in 1972. This was followed in later years by higher investments in ICTs due to the emergence of the Internet and high-bandwidth computer technologies (Matthews, 1999). Since then, various efforts have been made worldwide by institutions of higher learning to introduce and develop the use of VLEs in schools, colleges and universities. In Europe, through initiatives established under the European Union, the support for e-learning environments has been remarkable. This includes the Electronic Platform for Adult Learning in Europe, a multilingual open membership platform which has played a major role in bringing together teachers, trainers, researchers, academics, policymakers and related categories of professionals who work in adult learning throughout the European Union. Such initiatives by the European Union have resulted in platforms including eTwinning, a school community whose purpose has been to bring together schoolteachers, head teachers and librarians in the participating countries –

Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK. The purpose of developing the eTwinning community was to allow the participants to communicate, collaborate and develop projects, facilitating knowledge-sharing through an online portal under the Erasmus+ programme. The success of the eTwinning community and the introduction of the School Education Gateway facilitated the increased implementation and use of e-learning platforms in colleges and universities, where a number of online systems, including Blackboard, Coursera and Moodle, are used (Goldbach and Hamza-Lup, 2017).

There have been various notable efforts in Europe to introduce VLEs in institutions of higher learning. Such efforts have enabled various institutions of higher learning in Europe to develop online platforms, such as the VITAL Baseline (eLearning@Liverpool, 2014), MyStudies (Swansea Academy of Learning and Teaching, 2016), Learning Edge (Edge Hill's virtual learning environment, 2016), SurreyLearn (Surrey Learn Partnership, 2014) and many more. A few institutions in the European Union – in Denmark, France, Germany, Ireland, Italy, the Netherlands, Northern Cyprus, Norway, Portugal, Russia, Spain, Switzerland and the UK – have introduced and run massive open online courses (MOOCs), offering between one and nine courses (Gaebel et al., 2014).

In the USA, the development of VLEs has been phenomenal. With the growth and spread of the open education movement and open education resources, new digital technologies came into play, giving birth to open platforms that allow for the sharing of resources worldwide. As a result, the Massachusetts Institute of Technology, for example, created its OpenCourseWare platform, which allows for the publishing of all of its courses online (Peters and Britez, 2008). Today, many universities in the USA offer online courses in which large numbers of students are enrolled. Various kinds of VLEs have been used by universities to facilitate online teaching and learning. For example, the University of Phoenix now uses the latest version of Blackboard – Learn Ultra – which is a cloud-based system (Falcone, 2018). This follows a long period of using its home-grown adaptive learning platform, Classroom. Similarly, MOOCs have revolutionized teaching and learning in the USA by supporting open learning opportunities for larger numbers of learners across the world (Organisation for Economic Co-operation and Development, 2015).

In the Asia-Pacific, efforts in using VLEs started way back in the early 2000s when China initiated such systems. In Hong Kong, for example, a network system called Hong Kong Education City was introduced in order to create a broadband network for all higher education institutions to support e-learning platforms. Similarly, in Taiwan, courseware systems, including TopLearn and WBIPPS (Web-based Instructional Performance Support System), were developed to support online teaching and learning. Such initiatives have been noticeable in other countries within the region like South Korea, Japan, Australia and New Zealand (Hung et al., 2006). In Malaysia, a system called the Frog VLE has been in use to support collaborative learning environments in government higher learning institutions (Thah, 2014). Japan, Australia and New Zealand, like their counterparts in Europe and the USA, have also made strides in implementing MOOCs in various institutions of higher learning (Bonk et al., 2017).

In Africa, developments in e-learning and the use of VLEs in institutions of higher learning can be said to be hampered by a number of obstacles. These include limited opportunities among lecturers to use such platforms, as well as a lack of appreciation for the opportunities brought by developments in e-learning to transform teaching and learning. Further obstacles include a low Internet bandwidth, poor ICT infrastructure, a dependency on donors in implementing e-learning programmes and the associated costs (Abatan, 2018). Yet a study by Abdelfatah (2016) reveals that several African countries – Egypt, Ethiopia, Nigeria, Ghana and South Africa – have attempted to invest in the development of e-learning programmes through using low-cost mobile learning technologies, the Edu-Active learning platform and open-source VLE platforms. Apart from developing their own programmes, countries such as South Africa have embarked on using MOOCs as a way to facilitate teaching and learning (Garrido et al., 2016).

From the brief analysis above, based on developments in VLEs in various parts of the world, one may observe that the pace at which e-learning platforms have been implemented differs from one region to another, which may also have an impact on facilitating the teaching and learning in information literacy courses in higher learning institutions.

Studies on using VLEs for delivery of information literacy to students in higher learning institutions

The concept of using VLEs to teach information literacy is not new in the literature. Various studies (e.g.

Avcı and Ergün, 2019; Detlor et al., 2010; Fernández-Ramos, 2019; Santos and Serpa, 2017; Stagg and Kimmins, 2012) have demonstrated the need for, and possibilities of, teaching information literacy using various electronic learning platforms. Among many of these studies, the emphasis has been on using VLEs to teach information literacy on a generic level with the delivery of whole packages of information literacy courses (including developing search strategies, information platforms, search techniques, and evaluating and using information). The courses cover a wide range of users, including those in the early stages of higher education as well as postgraduate students. Johnston and Walton's (2013) study demonstrates the use of VLEs to teach information literacy courses to any 18-year-old who is thinking about further study and may be unsure of where to start or what is involved. The programme was planned to build confidence in learners for academic pursuits at higher levels. Like the aforementioned study, learners who participate in the 'Step up to Higher Education' (Johnston & Walton, 2013) programme learn how to find, evaluate and use information. Through collaborative, peer-to-peer and interactive learning, students are able to construct the meaning of what they have learned and share their viewpoints with their instructors and peers.

The Faculty of Management Library Support Team at Bournemouth University in the UK introduced information literacy courses for final-year students on the Bachelor of Arts Business Studies degree that utilized online tools such as Padlet and Socrative to support large cohorts of students. Panopto software was used to record lectures and capture lecture screens. VLEs were used to direct students to a range of links to materials in the form of workshop recordings, video clips and useful online resources to support the writing of their dissertations. Students were able to make appointments with librarians for further assistance through an online booking system. The use of these online tools to teach information literacy courses has helped to support large groups of students who could not attend face-to-face sessions due to space constraints and the limited number of teacher librarians (Davey, 2017).

The emergence of Moodle open-source software has further helped with the design of web-enabled information literacy modules in a number of higher learning institutions. For example, Moodle was used to design an information literacy module for faculty and students in the Department of Library and Information Science at Annamalai University, India, in order to enhance knowledge transfer and information literacy instruction. Using the Association of College and Research Libraries' Information Literacy Standards, the online information literacy module was prepared along five competency areas: knowledge-seeking skills, quality information product producing skills, self-directed learning skills, group contribution skills and ethical information usage skills. In addition to imparting information literacy skills, the courseware enabled librarians to evaluate the module and encourage faculty and students to reflect on the activities carried out during sessions (Anandhi, 2020).

Whereas the above studies highlight the usability of VLEs in conducting information literacy courses generally, a number of studies have been carried out that focus on specific aspects with regard to information literacy training. One such study, by Walton and Hepworth (2012), focuses on undergraduate students. The study aimed to find out whether blended information literacy learning together with a teaching intervention could enhance the ability of sport and exercise first-year undergraduates to evaluate information, compared to how this occurs in traditional face-to-face delivery methods in information literacy classes. The study offers statistical data that demonstrates the usefulness of an information literacy intervention that combines blended learning, including online discussions, and problem-based-learning approaches. Students who participated in this intervention demonstrated the ability to use higher-order thinking skills such as application, analysis and synthesis. In contrast to the aforementioned study, in Geoff's (2017) research there is an emphasis on using a single component of information literacy (evaluating information and sources) to thoroughly examine the ways in which students could work on a formal assignment to evaluate information using a collaborative approach.

The University Library at California State University, Los Angeles, has developed an interactive online information literacy tutorial for first-year undergraduate students in order to facilitate their transition from high school to the college by introducing them to academic experiences and the university's resources, including the library. This tutorial resulted from a previous LibGuide tutorial which was designed in 2015 and included modules and quizzes, but no interactive sessions or room for reflection. The newly designed library research tutorial provides a better understanding about developing online interactive information literacy tutorials based on a backward design and predictable understandings and misunderstandings framework. Such approaches have a greater chance of helping designers to develop content based on students' understanding of course content and the clarity of the concepts used (Franklin et al., 2021). From this study, it is evident that

designing online information literacy courses by engaging learners allows more interaction, self-assessment and reflection.

In summary, it has been noted that teaching information literacy through VLEs aims to make learners able to reflect on what they have learned in terms of changed behaviour, as well as appreciating the outcome of the training in terms of acquiring new skills. Emphasis is placed on the ability of learners to engage in the learning collaboratively, as well as being able to critically evaluate the learning process. In this way, a participative learning experience is expected in such learning environments. The studies that have been highlighted above demonstrate training in specific aspects of information literacy, focusing on live/formal assignments and activities that encourage problem-solving skills. Furthermore, they provide insights into the design of information literacy courses based on collaboration and changed behaviour (i.e. appreciation of the learning outcomes), as well as the real-life problems among students in academic environments. Drawing examples from the studies above, it can be noted that information literacy in higher learning institutions in Tanzania could be taught as both generic and more subject-specific programmes where learners would be expected to engage fully with the tasks in collaborative and problem-based approaches.

VLEs and academic libraries

Academic libraries play an important role in supporting the development of VLEs in academic institutions through providing access to electronic resources (Radhakrishnan and Alagumalai, 2020). In addition, librarians have been actively involved in assisting information technology staff in the design work of VLEs and supporting tools. Having participated in the design of VLEs, librarians are expected to be well placed to implement VLEs in their libraries for the purpose of enhancing information literacy courses, as well as facilitating the delivery of library services. This can be done by using VLEs as a means for outreach services through promoting library services and creating visibility, as well as managing links to information resources that are attached to VLEs (Zaliene and Thornley, 2015).

Studies conducted on the integration of VLEs in academic libraries show that their use has initially been to provide links to available library resources, websites and electronic databases; create course reserves; and communicate with library users via the tools that are embedded within VLEs such as blogs, announcements and discussion forums (Sewell and Kingsley, 2017). However, as the use of VLEs has increased, the evidence shows that librarians have been involved in using them to conduct information literacy courses, in addition to the aforementioned types of use. It is evident that VLEs have been used by librarians to provide subject-specific resources to users and carry out interactive learning activities, as well as delivering online tutorials with learning objectives and assessments through online quizzes. The delivery of information literacy courses through VLEs has been performed on a variety of platforms – both open source and proprietary – including Blackboard, WebCT and Moodle. The ability to use such platforms has been the result of ongoing continuous staff development programmes that provide librarians with the necessary skills (Sewell and Kingsley, 2017). The University of Leeds in the UK has developed a tool – skills@library – to train students on various topics, such as guiding undergraduate students who are working on their final-year project or dissertation on how to use online journals, evaluate information, format references and write reports. Similarly, the library at the University of Leicester in the UK has developed online courses through the university's VLE (on the Blackboard platform) to assist students with finding and evaluating information, referencing skills and writing their final dissertation (Sewell & Kingsley, 2017).

Despite the envisaged role of librarians in supporting the development of VLEs in academic settings and utilizing the same in the provision of information literacy training, there are a number of issues raised by librarians with regard to the low usage of VLEs. Research has revealed the low level of use of VLEs in the delivery of information literacy training in libraries and in promoting library services. Librarians appear to have a minimal or low input in VLEs; many are actively involved in managing electronic resources linked to VLEs, including electronic databases and digital repositories (Zaliene and Thornley, 2015). This may be attributed to a lack of confidence on the part of librarians as instructors and insufficient teaching skills and instructional design (see Turner, 2016). However, research has found that, as opposed to trained teachers, academic preparation by librarians in delivering instruction to users may not necessarily include the principles of instructional design. Moreover, other aspects, including lack of expertise in ICTs, a heavy workload and a shortage of staff, are contributing factors in hindering librarians' effective participation in VLEs (Kampa, 2017).

Nevertheless, with reference to the aforementioned examples, the need for librarians in developing VLEs for teaching information literacy, as well as enhancing library services, is worth noting.

VLEs in higher education institution libraries in Tanzania

Tanzania is located in eastern Africa within the African Great Lakes region. It is bordered by Uganda and Kenya to the north and north-east, respectively; the Comoro Islands and Indian Ocean to the east; and Mozambique and Malawi to the south. It is also bordered by Zambia to the south-west and Rwanda, Burundi and the Democratic Republic of the Congo to the west. According to the 2012 census, Tanzania had a population of 44 million; by 2020, it was estimated to have a total population of 59 million (Mwakisisile and Mushi, 2019). Tanzania has 34 public universities, 15 university colleges and 9 institutes, both public and private (Tanzania Commission for Universities, 2019). The usage of VLEs in Tanzania's higher learning institutions is considered low due to a number of factors, including a poor Internet infrastructure, low bandwidth, lack of support from ICT experts and lack of user training (Kavuta and Nyamanga, 2018). Despite their low level of use, a few institutions in Tanzania have implemented VLEs; their usage in libraries, however, is still at the nascent stage. A few institutions in Tanzania have implemented VLEs for the delivery of teaching and learning (Sife et al., 2007). These include nine public universities, four public institutes and one private university. These numbers demonstrate a slight improvement compared to a previous survey by Sife et al. (2007), in which the University of Dar es Salaam and Sokoine University of Agriculture were the only institutions implementing VLEs.

The library at Sokoine University of Agriculture implements its VLE platform (which uses Moodle) for the delivery of a collection development and management course, which is offered to undergraduate students. This is a good starting point for librarians to employ VLEs in the delivery of courses related to library or information management. However, the Sokoine University of Agriculture library does not use the platform to conduct information literacy courses for its wider user population; such courses are offered on a face-to-face basis. There are several reasons for this, including a lack of institutional commitment to accord official status to information literacy courses and low bandwidth (Emmanuel and Sife, 2008). Nevertheless, with these current efforts, the library intends to use VLEs to run information literacy courses, as well as implement mandatory information literacy courses for both undergraduate and postgraduate students (Lwehabura, 2018).

The Muhimbili University of Health and Allied Sciences has a VLE platform that is used for various courses offered at the university. However, the university library has only linked its resources to the VLE platform, while asynchronous information literacy tutorials run on a Web 2.0 platform designed by the library for that purpose. Despite not using the VLE platform to run information literacy courses, the library has made remarkable achievements in creating awareness of information literacy courses within its wider user audience, with the notable results including embedded them in the university-wide curriculum. The university is running a course on information and learning technologies to enhance students' skills and knowledge in managing and using e-learning technologies, with information literacy being one of its specialities (Nagunwa and Lwoga, 2012).

The library at the University of Dar es Salaam has been offering information literacy training to its users for the past 10 years following the introduction of ICTs and subscriptions to electronic resources at the university. Most training has been conducted on a voluntary basis, with some academic staff allocating time for students to attend training in the library. These courses have not been taken up by many users due to having limited content and lack of space to accommodate many students (Klomsri and Tedre, 2016). Despite a sufficient number of computers, an adequate Internet connection and the availability of a VLE platform at the university, information literacy courses are being offered in the form of asynchronous tutorials on a stand-alone web page.

The above examples demonstrate the potentials of implementing information literacy courses in institutions' VLEs in Tanzania. Yet most of these courses lack the most important aspects of information literacy – namely, interactivity and problem-based learning, as well as the ability for learners and instructors to collaborate actively in the learning practice. They are designed in a passive, lecture-based-instruction mode, which does not allow for active and experimental learning experiences. In addition, libraries in higher education institutions in Tanzania face a number of bottlenecks. These include commonly discussed issues such as an insufficient number of computers, low Internet speed, electricity power outages and poor ICT skills among library users, as well as a lack of skilled library staff who are able to use the available VLEs (Nagunwa and Lwoga, 2012). On a more serious note, a lack of coordination between library staff and teaching staff in colleges, schools, faculties and departments in communicating the importance and availability of information literacy training to students has been one of the major challenges facing the development and

implementation of information literacy courses through VLEs (Klomsri and Tedre, 2016). In such situations, it might become difficult for academic staff to appreciate the usage of such platforms by librarians. Moreover, many librarians tend to shy away from ICT-related technologies, including VLEs, leaving such tasks to ICT staff, who may not necessarily meet librarians' ICT-related needs (Muneja, 2013).

It is important to note that the success of integrating such courses in institutional VLE platforms relies significantly on institutional support, as well as linkages between library staff, faculty and ICT staff. In addition, readiness among librarians to utilize VLEs as tools for conducting information literacy courses, as well as to promote and create awareness of the available resources and services to users, is crucial.

Developing web-based collaborative, interactive and problem-based-learning information literacy programmes

Developing web-based information literacy programmes that reflect aspects of collaboration and problem-based learning is considered vital in creating lifelong and independent learners. This is because such courses create learners with transferable, experiential and dynamic learning abilities (Fidan and Tuncel, 2019). Currently, most information literacy courses in Tanzanian higher learning institutions follow a traditional approach where learners are given lectures followed by independent hands-on activities that may not necessarily encourage active learning. This is because of the nature of the learning environments and the associated learning activities. In many cases, learners in most Tanzanian higher education institutions, as has always been the case in many institutions in Africa, attend the information literacy programmes that are offered as part of library-orientation sessions or general awareness-creation programmes for new information resources or services (Adeleke et al., 2015). As a result, such courses create passive learners who do not appreciate the advantages of information literacy skills for their academic and lifelong careers.

Various scholars have demonstrated that information literacy courses developed and run in e-learning environments can be equally interactive, collaborative and problem-based. A study by McKinney et al. (2011) demonstrates that an online inquiry-based-learning pedagogical approach could enable learners to work collaboratively in finding research-based news stories by brainstorming among themselves and searching research papers from online databases. The results from this study reveal that students were able to develop information literacy abilities by comparing and evaluating news stories and journal articles, and, in so doing, their information literacy skills seemed to improve. This is further proven by a study conducted to determine the role of information literacy in enhancing learning outcomes among postgraduate learners. With the use of a problem-based-learning approach, learners were able to demonstrate their ability to use both declarative and procedural knowledge in tackling a problem through collaboration and solving a real-life problem in small virtual groups online (Garcia and Badia, 2017). The above examples help to demonstrate that it is possible to develop such courses with positive results. However, what can be learned from the examples above (and many others that have employed similar approaches) is that introducing online courses through VLEs requires, among other things, the inclusion of interactive, collaborative and problem-based approaches in what should be taught. This is due to the fact that learners in online environments, when left to learn without full engagement with each other, end up learning in different ways because they use the technologies in different ways. As a result, the learning goals may be achieved unevenly among them (Ellis and Bliuc, 2016).

However, it is argued that e-learning environments pose threats to consolidating problem-based and collaborative learning experiences. This is due to the exclusive nature of these learning environments, which encourage more self-paced and independent learning (Savin-Baden et al., 2016). Bearing this observation in mind, the development of such courses should focus more on the use of VLE tools and pedagogy that support and encourage learner participation and engagement rather than relying on those that support traditional lecture methods. This is due to the fact that problem-based learning works better in a participatory and collaborative environment than conventional lecture methods (Munro, 2006). In essence, problem-based, participatory and active learning is key to facilitating online learning methods through VLEs.

Conclusion and recommendations

Based on the reviewed literature, the development of information literacy courses in e-learning environments requires, among other things, well-designed programmes that align with the necessary pedagogical standards. Courses established in this manner should be interactive enough that they encourage creativity and critical thinking among learners. In addition, such

courses need the full support of their parent institutions, without which a sustainable environment might not be guaranteed. With the available technologies – for example, mobile devices and wireless services – it is convenient to extend e-learning environments for information literacy courses through using flipped lessons and social media services with the help of Padlet, Prezi or Vimeo (Zain, 2020).

Based on several of the case studies highlighted above, Tanzanian university libraries are still in a position to initiate and implement information literacy in e-learning environments due to the presence of supportive environments in terms of the availability of ICTs and content with which to teach information literacy courses. What is still lacking, however, are the right approaches to ensure that such courses actually go online. There have been a number of cases reported of the failure of such courses to be implemented in many African higher learning institutions, due to, among other things, a lack of commitment by the authorities, cooperation among institutions and staff expertise (Lwoga, 2012). It is from such weaknesses that Tanzanian higher learning institutions should plan ways forward. Higher learning institutions such as the University of Dar es Salaam, Open University of Tanzania, Sokoine University of Agriculture and Muhimbili University of Health and Allied Sciences have all had online learning management systems for several years. This could form a potential platform for libraries in other institutions to plan for the introduction of online information literacy courses to serve wider communities on campuses.

Apart from setting up online information literacy courses, libraries in Tanzanian higher learning institutions should work towards promoting such learning environments in order to pave the way for access to resources by wider university communities who would opt for self-learning platforms, thereby relieving librarians from the tedious job of moving through various classes delivering information literacy courses.

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Communication channels for exchanging agricultural information among Tanzanian farmers: A meta-analysis

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Abstract

This study investigates how communication channels to exchange agricultural information were chosen. Specifically, it identifies the communication channels used by farmers in Tanzania and determines the factors influencing the choice of communication channels for exchanging agricultural information. The study employs a meta-analysis review methodology in identifying, evaluating and interpreting studies relevant to the topic of interest. The results indicate that radio, mobile phones, television, fellow farmers, agricultural extension agents and newspapers were the commonly used communication channels for transferring agricultural information. Moreover, the channels' influence, availability, affordability, communication network coverage, and the resources and facilities needed to use a particular communication channel were found to influence the choice of channels. It is concluded that understanding the audience, the characteristics surrounding messages and choosing appropriate communication channels are important for enhancing access to agricultural information. It is recommended that agricultural information providers should understand the factors surrounding communication channels before disseminating agricultural information.

Keywords

Communication channels, agricultural information, farmers, rural areas, Tanzania

Introduction

Information is important for social and economic transformation. Its importance in social and economic transformation outweighs that of other transformational factors (Logan, 2012). Information is a carrier of explicit knowledge; it can be repackaged in different forms and shared through different channels (Mahroeian and Forozia, 2012). As a carrier of explicit knowledge, information can be repackaged into a comprehensive or in-depth understanding rather than a general idea of how things work (Gilson et al., 2013).

Agricultural production involves several risks and uncertainties (Ullah et al., 2016). Farmers may have inadequate knowledge on what and how to produce (quality), when to produce potential markets available, the quantities of produce needed and how to store produce (Singh, 2018). To limit the impacts of these risks and uncertainties, farmers need to make informed decisions. This is only made possible when farmers have adequate access to relevant agricultural information.

Agricultural information is generated by several stakeholders. Among farmers, agricultural information is acquired through long-term experience (Wood et al., 2014). Moreover, agricultural information may be generated through agricultural research (Munyua and Stilwell, 2013). Once generated, agricultural information must be presented in a form that is easy to use by those who need it. Depending on the users, agricultural information may be organized, translated and repackaged before being exchanged. It can be repackaged in audio, text, graphic, image and video forms (Indrati et al., 2018). Repackaged agricultural information is managed by personal and impersonal sources (Isaya et al., 2018). Farmers must choose relevant sources of agricultural information to access the

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required information. When a source of agricultural information is known, the information must be communicated and used by the farmer.

A communication process involves the sender, the receiver, feedback, noise and the communication channel (Iksan et al., 2012). A communication channel is a medium through which a message is transferred (Ifukor, 2013). It is a pathway through which information is transmitted (Turk, 2013). A communication channel links the sender and the receiver of the message in the communication process. These channels can be formal or informal (First and Tomić, 2011). Formal communication channels are recognized as official channels by an organization (Sheykh and Eslami, 2010). They include radio, television, newspapers, pamphlets, letters and meetings. In organizations, formal communication channels are designed and managed to allow the exchange of information between decision levels and between departments (Hociung, 2011). Formal communication channels form part of the formal structure of an organization and are used to support organizational management (Raza, 2013). Therefore, formal communication channels are used to transfer information in an official and planned communication process. Informal communication is a communication process that is spontaneous, interactive, rich, implicit, multidimensional and diverse (Kumar, 2015). Common informal communication channels include the grapevine, rumours, informal social groupings and phatic communication (Zulch, 2014). With current developments in information and communications technologies (ICTs), social networks may be useful channels to support both formal and informal communication.

The choice of an appropriate communication channel is important for an effective communication process. When choosing a communication channel to transfer a message, one may consider the costs of using the channel, and the availability of other resources to use the channel (Gensler et al., 2012). The communication channel should have limited noise (Stephens et al., 2013). In the communication process, noise is anything that interferes with the transfer of messages and can include physical disruptions, status effects, cultural differences, poor reception, semantic problems, perceptual distortions and lack of feedback. Moreover, one has to choose a communication channel with more authority and influence. Zulch (2014) points out that written communication is more authoritative and has more influence than other channels of communication. Likewise, it is important to consider the time of day and the distance between the communicators. When it is daytime on one side of the world, it is night on the other. Other factors to consider when choosing a communication channel include the urgency of the message (Stephens et al., 2013), confidentiality (Saxena and Chaudhari, 2012), safety and the security of the message being transferred (Cattaneo et al., 2013).

Statement of the problem

Agricultural production is an information-intensive activity. Stakeholders in the agricultural sector use various communication channels to exchange agricultural information. Commonly used communication channels include face-to-face oral communication (Lwoga et al., 2011), radio and television stations (Mtega, 2018), magazines, leaflets (Benard et al., 2014) and mobile phones (Barakabitze et al., 2015). Despite employing different communication channels to exchange agricultural information, studies (Mkenda et al., 2020; Msoffe and Ngulube, 2016; Mubofu and Elia, 2017) indicate that access to agricultural information among farmers has remained a challenge for years. This has limited the level of usage of new knowledge (Ndimbwa et al., 2019), technologies and best agriculture practices (Isaya et al., 2018), leading to stunted growth of the sector and the prevalence of poverty among farmers. This study therefore sets out to investigate the factors that are considered when choosing communication channels to exchange agricultural information in Tanzania.

Research questions

This meta-analysis is intended to respond to the following research questions:

1. Which communication channels are used to exchange agricultural information in Tanzania?
2. Which factors influence the choice of communication channels to exchange agricultural information in Tanzania?

Research methodology

This study investigates how Tanzanian farmers selected communication channels to exchange agricultural information. The study uses individual studies as units of analysis. It employs a meta-analysis review methodology in identifying, evaluating and interpreting studies relevant to the topic of interest and provides information about the effects of some phenomena across a wide range of settings (Kitchenham, 2004). This methodology was chosen because many studies on communication channels for exchanging agricultural information among farmers have been conducted across a wide range of settings in

Bibliographic information	Overall objective	Study approach		Communication channel used	Reasons for communication channel selection
		Qualitative	Quantitative		

Figure 1. Data extraction form.

Tanzania. Moreover, meta-analysis can make inferences to a larger population than individual studies.

The scholarly publications included in the study are journal articles published between 2000 and 2020. Google Scholar was selected to search for scholarly journal articles because it is the most powerful and largest scholarly programme indexing peer-reviewed papers, theses, books, preprints, abstracts and technical reports from broad areas of research (Husain, 2020). Google Scholar has the highest ability to identify the most relevant documents for a given query (Martín-Martín et al., 2019). It is a search engine that can identify a collection of publications for a particular research topic through digital snowballing (Zientek et al., 2018).

Article selection

Inclusion and exclusion criteria are important for review studies. Card (2012) defines inclusion criteria and exclusion criteria as a set of explicit statements about the features of studies that will or will not be included in the meta-analysis. This study involves peer-reviewed scholarly articles written in English. Unlike other research reports, peer-reviewed journal articles undergo a quality check, which is of great importance in improving the credibility of scholarly publications (Ali and Watson, 2016). The peer-review process checks against malfeasance, helps to maintain standards, and ensures that the reporting of research work is as truthful and accurate as possible (Voight and Hoogenboom, 2012). Thus, peer-reviewed journal articles from studies conducted in Tanzania on 'communication channels used for exchanging agricultural information' using either qualitative, quantitative or mixed approaches are included in this study. Moreover, the study includes journal articles from studies that involve adequate sample sizes of farmers (50 or more respondents). Usually, a sample size of 30 or more respondents can be used to generalize the results of a study (Kothari, 2004). Furthermore, peer-reviewed journal articles published between 2010 and 2020 are included in the study. Within this time frame, adequate advancements in communication technologies have been made that may affect how people exchange information. These inclusion criteria were used to form a checklist for the screening of journal articles to be included in the study.

Data extraction

The Google Scholar search on communication channels for exchanging agricultural information among farmers in Tanzania retrieved 506 results. The consideration of all the inclusion criteria resulted in the exclusion of 477 results, leaving a selection of 29 studies. Therefore, a data extraction form was used to collect data from 29 selected peer-reviewed journal articles (see Figure 1). Further, 19 peer-reviewed journal articles were excluded because they were found to be duplicates (only one of several journal articles resulting from a single study conducted by the same researcher in the same study area and at the same time was chosen). Thus, only 10 peer-reviewed articles were found to meet all of the inclusion criteria. The effectiveness of a systematic review does not depend greatly on the number of studies reviewed but on studies that meet the set criteria.

The data extraction form had five parts: author and year of publication; overall objective of the study; study approach; communication channel used; and reasons for selection of the communication channel.

Results

This section presents the results of the study by research question. It is divided into two subsections: choice of communication channels and factors influencing the choice of communication channels.

Choice of communication channels used by farmers

Table 1 shows the meta-analysis results of the 10 peer-reviewed journal articles on the communication channels used by farmers in exchanging agricultural information. The communication channels were included in the current study if they were used by at least 10% of the total population or mentioned to be used by the majority in the case of qualitative studies. The sample size from the individual studies ranged

Table 1. Communication channels commonly used by farmers.

Authors	Sample size	Communication channel used					
		Radio (%)	Mobile phone (%)	Television (%)	Fellow farmer (%)	External agent (%)	Newspaper (%)
Churi et al. (2012)	90	51.3	46.3	19.5	–	–	–
Magesa et al. (2014)	216	83.8	75.9	15.8	–	–	18
Msoffe and Ngulube (2017)	360	93.6	78.9	44.3	97.7	95.5	65.5
Mtega (2018)	314	61.5	48.4	28.7	97.1	32.5	–
Mtega and Msungu (2013)	100	57	66	67	64	11	68
Ndimbwa et al. (2021)	318	84.5	92.1	–	95.3	88.1	–
Njelekela and Sanga (2015)	50	88	78	–	–	–	–
Nkebukwa (2018)	600	49.6	–	–	–	–	–
Silvestri et al. (2020)	241	89.8	90.4	–	–	–	–
Temba et al. (2016)	160	42.5	40	65	–	–	12.5

from 50 to 600 respondents. Moreover, all of the relevant studies were published between 2012 and 2020.

The results indicate that radio was mentioned by all of the studies as the communication channel of choice. This implies that all of the 10 studies found radio to be the communication channel used most by farmers to access agricultural information. The results indicate that about 42.5% to 93.6% of the farmers in the individual studies used radio as a communication channel. The mobile phone as a channel of communication was reported by nine studies. The number of farmers reported by the 10 studies to use mobile phones ranged from 40% to 92.1%.

The results in Table 1 indicate that television was ranked as the third channel in terms of being mentioned by the studies. The results show that some respondents from six quantitative studies used television as their communication channel of choice. The number of farmers using television from the six quantitative studies ranged from 15.8% to 67%.

The fourth-ranked communication channel reported by the studies was fellow farmers; 4 of the 10 studies reported that farmers accessed information from their fellow farmers. The number of farmers using fellow farmers as a communication channel ranged from 64% to 97.7%. Likewise, extension agents were reported by 4 of the 10 studies as a communication channel used by farmers. These studies reported a frequency of usage of extension agents as a communication channel ranging from 11% to 95.5%.

Lastly, farmers used newspapers as a channel for agricultural information. Four of the 10 studies reported the usage of newspapers among farmers. The number of farmers using newspapers to access agricultural information ranged from 12.5% to 68%.

Factors influencing the choice of communication channels among farmers

The results from the 10 studies indicate that several factors influenced the choice of communication channels among farmers. This study considers only the three factors mentioned by the majority of the farmers in each study.

Factors influencing the choice of ICT-based communication channels among farmers. The results in Table 2 indicate that the choice of ICT-based communication channels depended on some general factors and ICT-tool-related factors. The results indicate that two studies pointed out that the usage of radio and television among farmers was influenced by the timing of programmes. Farmers follow daily activity schedules and only use the radio and television programmes when they are aligned with their schedules (Magesa et al., 2014; Ndimbwa et al., 2021).

The results in Table 2 indicate that six studies found that the affordability of ICT services influenced the usage of ICT pathways (Msoffe and Ngulube, 2017; Mtega and Msungu, 2013; Mtega and Ngoepe, 2019; Ndimbwa et al., 2021; Silvestri et al., 2020; Temba et al., 2016). These results imply that when the cost of using ICTs is cheap, farmers may use an ICT-based communication channel more. Moreover, the results from four studies (Magesa et al., 2014; Msoffe and Ngulube, 2017; Mtega and Msungu, 2013; Njelekela and Sanga, 2015) indicate that access to relevant ICT applications influenced the usage of ICT-based channels. In some cases, specific ICT applications had the best results for communicating agricultural information. When such applications are available, farmers use them to enhance their access to information.

Table 2. Major factors influencing the choice of ICT-based communication channels.

	Factor		
Authors	**Radio**	**Mobile phone**	**Television**
Churi et al. (2012)	Ownership	A reliable source of power The ability to use mobile applications Ownership	Ownership A reliable source of power
Magesa et al. (2014)	Ownership Radio programme timing	A reliable source of power The ability to use mobile applications Network coverage	Television programme timing
Msoffe and Ngulube (2017)	Ownership A reliable source of power	The ability to use mobile applications Service affordability A reliable source of power	Ownership A reliable source of power Content relevance
Mtega and Msungu (2013)	Ownership Content relevance	Instant feedback Service affordability	Television channel affordability Content relevance
Mtega and Ngoepe (2019)	A reliable source of power Ownership Content relevance	Network coverage Service affordability Ownership	Service affordability Content relevance
Ndimbwa et al. (2021)	Radio programme timing Ownership	Service affordability Ownership	Television programme timing Television channel affordability Ownership
Njelekela and Sanga (2015)	Ownership	The ability to use mobile applications Network coverage	Network coverage
Nkebukwa (2018)	Network coverage Content relevance	The ability to use mobile applications Network coverage	
Silvestri et al. (2020)		Service affordability Network coverage	
Temba et al. (2016)	A reliable source of power Content relevance	Service affordability Network coverage The ability to use mobile applications	Network coverage Content relevance

The results in Table 2 indicate that one study reported the ability of ICTs to enhance instant feedback, influencing their choice as a communication channel (Mtega and Msungu, 2013). Communication channels may be synchronous if they can enhance instant feedback and asynchronous if they cannot. Moreover, three studies (Churi et al., 2012; Mtega and Ngoepe, 2019; Njelekela and Sanga, 2015) indicated that farmers' ownership of ICT tools influenced the usage of the tools in accessing and/or sharing agricultural information. Those who own ICT tools have more opportunities to use these tools than those who do not.

The results in Table 2 also indicate that four studies (Mtega and Ngoepe, 2019; Njelekela and Sanga, 2015; Nkebukwa, 2018; Temba et al., 2016) reported that ICT network coverage influenced the use of ICT-based communication channels. The level of usage of ICTs for accessing and/or sharing agricultural information is always higher in areas with an adequate ICT infrastructure and good network coverage than in areas with a poor ICT infrastructure (Mtega and Ngoepe, 2019). Five studies (Churi et al., 2012; Magesa et al., 2014; Msoffe and Ngulube, 2017; Mtega and Ngoepe, 2019; Temba et al., 2016) pointed out that the reliability of power sources among farmers influenced the usage of ICTs to access and/or share agricultural information. ICTs are power-dependent; those with access to power can use ICTs, but when the power supply is unreliable, usage of ICTs is equally variable.

Lastly, the results in Table 2 indicate that five studies (Churi et al., 2012; Magesa et al., 2014;

Table 3. Major factors influencing the choice of non-ICT-based communication channels.

	Communication channel used		
Authors	**Fellow farmer**	**Extension agent**	**Newspaper**
Ndimbwa et al. (2021)	No resources needed to use this channel Availability Accessibility	Availability Accessibility	
Mtega and Ngoepe (2019)	Influence Accessibility	Accessibility Authority	Passable roads Affordability
Misaki et al. (2016)	Accessibility Influence	Availability	
Magesa et al. (2014)			Content coverage
Temba et al. (2016)			Accessibility
Churi et al. (2012)	Accessibility No resources needed to use this channel Influence	Availability Authority	
Msoffe and Ngulube (2017)	Availability Convenience	Availability	Availability Accessibility Affordability

Msoffe and Ngulube, 2017; Nkebukwa, 2018; Temba et al., 2016) pointed out that farmers' ICT skills influenced the usage of ICT-based communication channels. Some level of skill is necessary to use ICT tools and applications, and those that require more limited skills may be used more by farmers than those requiring advanced skills.

Factors influencing the choice of non-ICT-based communication channels among farmers. Among the 10 studies reviewed, only seven of them involved non-ICT based communication channels. The results in Table 3 show the major factors influencing the choice of the main non-ICT communication channels. The results indicate that the choice of fellow farmers was influenced by the easy availability and accessibility of fellow farmers, and the fact that no resources are needed to access agricultural information from fellow farmers (Churi et al., 2012; Misaki et al., 2016; Msoffe and Ngulube, 2017; Mtega and Ngoepe, 2019; Ndimbwa et al., 2021). Others chose fellow farmers as communication channels because of their influence in enhancing access to relevant agricultural information and being considered as more convenient (Churi et al., 2012; Misaki et al., 2016; Msoffe and Ngulube, 2017; Mtega and Ngoepe, 2019).

The choice of agricultural extension agents was influenced by several factors. The results in Table 3 indicate that the availability of agricultural extension agents influenced the dependency on them in the delivery of agricultural information (Churi et al., 2012; Misaki et al., 2016; Msoffe and Ngulube, 2017; Ndimbwa et al., 2021). The availability of agricultural extension agents among farmers is mostly influenced by their numbers. Moreover, the accessibility of agricultural extension agents influenced their usage in enhancing access to agricultural information among farmers (Churi et al., 2012; Misaki et al., 2016; Msoffe and Ngulube, 2017; Ndimbwa et al., 2021). The accessibility of agricultural agents may be determined by their availability in terms of how many there are to serve a given population of farmers. This implies that when the farmer-to-agent ratio is low, farmers will have easy access to agricultural information (Msoffe and Ngulube, 2017), whereas, when the ratio is high, the accessibility becomes difficult. The results in Table 3 indicate further that the choice of agricultural extension agents to communicate agricultural information was influenced by the agents' authority in the field of agriculture (Churi et al., 2012; Msoffe and Ngulube, 2017). Agricultural extension agents are believed to have more authority in providing agricultural extension services; they are more knowledgeable and have more skills in how to meet farmers' agricultural information needs (Msoffe and Ngulube, 2017).

The results in Table 3 indicate that the choice of newspapers as a channel for communicating agricultural information depended greatly on the passability of rural roads to enable the delivery of newspapers (Mtega and Ngoepe, 2019) and the affordability of newspapers (Msoffe and Ngulube, 2017; Mtega and Ngoepe, 2019). The use of newspapers as a communication channel also depended on their content coverage (Magesa et al., 2014) and availability (Msoffe and Ngulube, 2017; Temba et al., 2016).

Discussion

Among the six most commonly used communication channels, fellow farmers and agricultural extension agents are interpersonal communication channels; they require a face-to-face setting to enhance access to and/or the sharing of agricultural information. The results from the present study indicate that only 4 of the 10 studies reported the use of interpersonal communication channels by the majority of the farmers. These results imply that farmers only use face-to-face communication channels for accessing and/or sharing agricultural information when they are in the same physical place. However, farmers come from different geographical locations, most of them have limited access to agricultural extension services (Msoffe and Ngulube, 2017), and only few among them are reliable sources of agricultural information (Mtega et al, 2016).

The decision to use interpersonal communication channels is influenced by their accessibility and availability. The availability of trusted interpersonal communication channels is influenced by the number of people who can enhance the accessibility of the needed agricultural information. The choice of fellow farmers as a communication channel depends greatly on the trust farmers have in other farmers. Those who are trusted to be the carriers of the required agricultural information must be available and accessible when needed. Farmers decide to access agricultural information from their fellow farmers because there is no charge for the acquired information. In most cases, agricultural information is not accessed from any farmer but rather from those who are believed to be lead farmers – pioneers in terms of the adoption of new technologies and practices, and experienced (Misaki et al., 2016). Lead farmers influence others in terms of using new farming technologies and practices.

Similarly, the choice of agricultural extension agents is influenced by their availability and accessibility. The availability and accessibility of agricultural extension agents among farmers depends on how many of them there are in a given village. In Tanzania, one agricultural agent usually serves several villages, and the agent-to-farmer ratio is poor (Benard et al., 2018). This limits their accessibility and dependency on them for enhancing access to and use of agricultural information among farmers. However, despite being limited in terms of numbers, agricultural extension agents are believed to have authority. Farmers trust a lot of what they hear from agricultural extension agents.

Newspapers were mentioned by four of the studies as one of the communication channels used for enhancing access to agricultural information. However, relatively few respondents from the four studies used this communication channel. Regardless of the number of farmers using newspapers for agricultural information, the use of newspapers in providing agricultural information is influenced by the passability of roads to enable the delivery of newspapers. Most countries in Africa, including Tanzania, do not have good rural roads (Benard and Dulle, 2014), which limits the delivery of newspapers in rural areas. Moreover, the usefulness of newspapers in the provision of agricultural information depends greatly on their content. Unfortunately, newspapers in Tanzania have very limited agricultural content (Ndimbwa et al., 2019) and, in most cases, cannot be afforded by farmers.

Farmers used radio, television and mobile phones as communication channels for accessing and/or sharing agricultural information. The ownership of communication tools influences the usage of communication tools (Sanga et al., 2014). Therefore, farmers who own ICT tools are potentially more frequent users of such tools than non-owners. However, the level of usage of radio and television also depends on the timings and availability of agricultural programmes. Moreover, access to ICT services is influenced by the quality of the network coverage. When there is no or poor ICT network coverage, the ownership of ICT tools has no meaning because it does not result in ICT usage. Therefore, before disseminating agricultural information via ICT tools, one has to assess the coverage and quality of the ICT network.

The use of radio, television and mobile phones may also be affected by service affordability. Radio and television channels are either free-to-air or paid channels. When channels can be accessed for free, anyone may have access. However, not all farmers may be able to afford to pay the subscription fees for radio and/or television agricultural programmes (Familusi and Owoeye, 2014). This also applies to mobile phones, which involve fees for use. The cost to use mobile phone services also influences mobile phone use for accessing and/or sharing agricultural information. Thus, before using ICTs to disseminate agricultural information, one has to consider the costs of ICT services and whether farmers can afford them. Likewise, access to a reliable power source is a factor to take into consideration before deciding to use ICTs for disseminating agricultural information. ICTs are power-dependent and can only provide reliable services when there are reliable sources of power.

The use of mobile phones is influenced by other specific factors. Some farmers prefer to use them because they have the power to provide instant feedback (Kaske et al., 2018). They can enhance both synchronous and asynchronous communication (Madell and Muncer, 2007). Communicators can get instant feedback (Valk et al., 2010), record the message communicated and store it (Martin and Abbott, 2011). Moreover, mobile phones have several applications that are used for specific purposes. Farmers may use applications to exchange agricultural information.

Generally, before enhancing access to agricultural information, it is important to, first, determine the availability of the channels and, second, assess the usefulness of each channel among farmers. The usefulness of a communication channel is determined by its ease of use, influence on the message receivers, authority and affordability. The usefulness of communication channels also depends on the coverage of communication networks and the availability of the other resources and facilities needed to use the channel.

Conclusion

The results of this study clearly show that not all communication channels are used by farmers for exchanging agricultural information. Radio, television, mobile phones, fellow farmers, agricultural extension agents and newspapers are some of the most commonly used communication channels in rural settings. Their availability, accessibility and usage influence access to agricultural information. It is also clear that farmers have their reasons for choosing certain communication channels for exchanging agricultural information. The decision to use a communication channel depends on its influence on the user, authority, cost-effectiveness and communication network coverage, and the availability of the resources and facilities needed to use that channel. When communication channels are available, affordable and easy to use, farmers may have adequate agricultural information. Thus, an effective agricultural information communication process relies on the choice of communication channels. Communicators need to know that some of the communication channels are meant for mass communication and can affect agricultural information dissemination to a larger audience. Others are suitable for one-to-one communication. It is recommended that agricultural information providers should first understand the factors surrounding the usage of communication channels before disseminating agricultural information to farmers. It is also important to design interactive communication channels for instant feedback. The findings from these studies are limited to how farmers in Tanzania chose communication channels for exchanging agricultural information. It is not known how other agricultural stakeholders choose communication channels. Moreover, it is time to study how the private and public sectors may work together to lower the cost of communication among farmers, and design some specific communication strategies to meet the agricultural information needs of different stakeholders in Tanzania.

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E-books in the Czech Republic: Analysis of demand and readers' behaviour

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Abstract

Currently, there is a more frequent replacement of books by e-books, which have become an increasingly viable format and make it easier for readers to read books in a variety of places. Public libraries therefore focus more often on the provision of e-books as one of the components of their digital services. However, these services do not always meet with an adequate demand from readers due to several factors, such as service charges or a lack of awareness. Therefore, in this article, the authors focus on the demand side, represented by e-book readers. Specifically, they focus on the Municipal Library of Prague's e-book readers' behaviour and propose a three-step research model. It consists of analyses focusing on: (1) the specifics of the Municipal Library of Prague's e-book readers; (2) e-book readers' interest in borrowing e-books; and (3) e-book readers' interest in the Municipal Library of Prague's e-service when they must pay a fee. As a data source, the authors use unique data from an online questionnaire survey among readers of the Municipal Library of Prague in 2019 by the Sociores agency. The results show that science fiction and fantasy readers represent the most significant group of e-book readers at the Municipal Library of Prague, and that Facebook is the most significant channel for communication with e-book readers. The authors also confirm the importance of e-book readers and smartphones as devices that significantly affect readers' decision to read e-books. In the final part of the article, the authors propose some practical recommendations that could attract more e-book readers.

Keywords

Library, e-book, reader behaviour, willingness to pay, survey

Introduction

The irreplaceable importance of public libraries for both society and individual citizens has been underlined for decades in developed countries around the world (Hartley, 2005). The original definition and characteristics of library services have always been based on current consumer needs and the socio-economic situation of the economy (Anand, 2004; Meričková et al., 2020). The consumer-reader is the first person who decides, on the basis of their individual preferences, the scope and content of library services. Digital services, including access to e-books, databases and web applications, are part of these library services. In the last two decades, there has been a huge development of digital services, which is clearly related to the development of information and communications technologies (ICTs). This creates pressure from consumer-readers to offer not only new services and forms, but also new ways of providing services in public libraries (Worstall, 2014).

In connection with these changes, researchers must also deal with the analysis of demand and readers' behaviour. The results of such studies can be used by library management to respond and design the portfolio of public library services. These changes are already taking place around the world and, from their original passive 'invisible mediator' role, libraries are

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becoming active providers of information – information stores or information education centres. They are also working much more actively with information in electronic forms, providing a wider range of digital services (Brophy, 2008). It should be noted that these changes are occurring without a significant change in their budgets.

Due to the mostly unchanging public library budgets, it is necessary to look for new ways to make the content of library collections accessible in a digital and virtual way. One of the ways is a wider offering of electronic books (e-books), as well as the digitisation of written materials (d-books or d-contents). In practice, however, there are often managerial decisions that respond to changes in the budget but are not confronted with the needs and wishes of customers (Volejníková and Kuba, 2020). Logically, there is often a mismatch between the expectations of customers (readers) and the real offering of the library, and thus an inefficient allocation of public funds (Halásková et al., 2020; Vrabková, 2017).

A good example of practical problem is the constant debate over the 'rivalry' between e-books and paper books (e.g. Ashcroft, 2011; Rao et al., 2018). It shows that e-books and various other digital services have been included in the normal library service portfolio and are offered as standard. However, for a library customer, an e-book is often just a supplement, and their expectations may be disappointed if they do not find a book in the format they want.

The same discussions are taking place in the Czech Republic, which is known for having the densest library network in the world. In library practice, there are serious discussions about the relevance of the public budgets of libraries and the range of services provided. The Ministry of Culture in the Czech Republic is putting pressure on increasing the number of e-books in individual libraries. It even supports subsidies for the commercial expansion of e-book offerings (libraries pay firms to supply e-books). However, there has been no serious scientific research on consumer behaviour, e-book readers' demands and conclusions that may justify the ministry's efforts or validate libraries seeking a more moderate approach to e-book offerings. This is why this article is being written. It aims to contribute to this debate with scientific data and recommendations that are supported by relevant evidence. The contribution of this article is therefore not only its practical applicability; it also contributes to the expansion of knowledge about the Czech library market and of theoretical knowledge in the field of research methodology analysis of demand and reader behaviour in public libraries.

The next sections focus on a literature review and the methodology employed for the empirical analysis. An analysis and discussion of the data will follow. The final section of the article delineates the conclusion and recommendation for library managements.

Literature review

In the past 20 years, the offering of electronic materials and e-books in public libraries has been developed by gradually expanding ICTs. E-services are just another version of the same service – that is, paper books are converted into an electronic format.[1] In parallel with ICT developments, readers' habits have changed, and public libraries have had to respond. Libraries' offerings were not extended but were modified by another form of consumption. Littman and Connaway (2004) report that e-books have a number of benefits for readers and the library: e-books are available 24/7; readers can access the books at any time without going to the library (using the presence services); readers can search full texts or use the text and images; e-books require no storage space; and there is no need to repair or manipulate e-books. Certainly, there are some disadvantages associated with offering e-books, in particular the issue of protection and use of copyright, the protection of free copying or securing a limited e-book loan period.

There are a number of studies that deal with e-books, especially in two discussion areas. The first is devoted to consumer preferences and contributes to the discussion of whether e-books will replace paper books. Merga (2015) looks at evaluations of research to determine whether e-books are preferred by adolescents. He shows that there is no relevant research to unequivocally confirm this hypothesis. This conclusion must be examined by further research because it is obvious that the situation in society, citizens' preferences and the speed of ICT developments are changing significantly. All of these factors determine the willingness to use more electronic devices (tablets or smartphones, for example) or read e-books. This justifies many studies dealing with the issue of paper books being substituted by e-books.

The second discussion area is devoted to the use of e-books. Most of the relevant studies perceive them as an interesting and beneficial element in the educational process. Hibbard (2014), in his study, examines whether e-books can replace paper textbooks in the educational process in schools. The results show that this alternative is possible and beneficial in school, but when working at home the substitution is more difficult because of technical obstacles (children do not have suitable or compatible technical equipment

at home). The fundamental relationship between willingness to read e-books and ownership of technical equipment (book readers) and Gibson and Gibb (2011). Girard (2014) adds that the readiness to read e-books is also influenced by social and cultural factors. Girard describes the statements of respondents who had a very strong relationship with paper books. These respondents perceived reading an e-book as a betrayal of paper books, misappropriate their education and upbringing.

Walton (2008) adds that, especially in Europe, the process of accepting e-books in the general population will be very slow. Researchers recommend that consumer preferences and the perceived social and cultural barriers in individual countries (nations) must be explored. This conclusion is supported by statistics on the development of the number of e-readers. According to data from PubTrack Digital, the e-book market in 2017 reached 10%. Moreover, these figures followed on from the previous year, when the decline was even greater. According to the research, the price behind the world turbulence is absolutely crucial for the reader. In 2015, there was a general price increase in this area.

In some countries, however, the results are slightly different, and more positive. For example, research conducted in Germany suggests that e-book readers have an above-average level of education; two-thirds of them are under the age of 50; and about half have an absolute preference for e-books (and do not buy paper books). The popularity of e-books in Germany is gradually increasing, putting pressure on e-book producers, which are, in turn, putting pressure on political representation and demanding improved licensing of their works. The same trend is also shown in the reports of the Association of Booksellers and Publishers in the Czech Republic. Its statistics confirm the growing popularity of e-books among Czech readers. Year-on-year, the number of e-books sold has increased by 14%. However, at 135 million copies, they still occupy only 1.5% of the total 8 billion book turnover. By December 2017, Czechs could choose from 20,000 e-books from 300 publishers. Czech readers had bought 1 million e-books and the number of e-book loans had increased by 116% (Annual Report of the Union of Czech Booksellers and Publishers, 2017–2018). However, the study also suggests that Czech readers enjoy e-borrowing and reading e-books, but do not like to pay for this service. Therefore, the Czech Republic applies a public policy of e-book support by subsidising the creation of e-books annually (to a lesser extent) from the national budget and financing the purchase of e-books from commercial suppliers, which provide them to libraries every year. However, each library must pay for a license, and the results of Stejskal and Hájek's (2015) and Hájek and Stejskal's (2015) studies prove that the self-production of e-books by a library is far more efficient (the purchase costs are significantly lower than the subsidy for a book provided by the state).

However, not enough empirical studies have been conducted to explain why different consumer behaviour occurs with e-books and other e-materials in the Czech Republic. Therefore, the aim of this article is to focus on: (1) the specifics of e-book readers at the Municipal Library of Prague; (2) e-book readers' interest in borrowing e-books; and (3) e-book readers' behaviour in the event that these services are not free.

Data and methodology

The research methodology stems from many years of research into consumer behaviour in public libraries. This project was implemented with the support of the Ministry of Culture of the Czech Republic.

To obtain primary data, a sociological survey questionnaire was used. It was processed by the sociological agency Sociores based on the assignment of the research team. It included sociologists, economists, information science experts and librarians. Researchers determined the research goal and research questions, and chose the appropriate tools and procedures.

The questions in the questionnaire were defined for individual research questions (see below). They were designed to best describe the problem being solved. In order to ensure that the respondents understood the questions correctly, a multistage control consisting of pilot testing was used. Once the pilot testing of the questions had provided a high degree of certainty, the agency launched the sociological survey.

The questionnaire was distributed to registered readers at the Municipal Library of Prague. This is the largest public library in the Czech Republic and has a database of all its readers and their emails. With the help of random selection, an email with an explanation, request and questionnaire was sent to each selected reader (aged 15+). The computer-aided web interviewing system was used. As soon as the reader had completed the answers and returned them, they received an email thanking them for participating in the sociological survey. The return rate of the questionnaires was the same as in other surveys – around 20%. The survey information is presented in Table 1.

Information about the sample is shown in Table 2.

Before analysing the data, it was cleaned of the unfinished questionnaires and the quality of the data was checked (remote extreme values were discarded).

When the selected variables (questions) are binary, logistic regression analysis is commonly used to study the relationship between the set of explanatory variables (selected questions – independent variables) and the discrete responses (dependent variables). The discrete binary response of an individual unit can take only two values, denoted by 0 or 1 (Prokop and Stejskal, 2019). The empirical analysis was performed using binary logistic regression models (for more, see Prokop et al., 2019).

Table 1. Survey information.

Survey type	Quantitative
Sample size	$N = 1334$ (readers at the Municipal Library of Prague aged 15+)
Data collection method	Online survey (computer-aided web interviewing)
Selection method	Random selection of readers at the Municipal Library of Prague aged 15+
Response rate	17%
Average time spent filling in the questionnaire	9 minutes, 12 seconds
Date of data collection	2019

To fulfil the aim of this article, we proposed a three-step research model including three research questions (representing dependent variables) from the questionnaire. First, we analysed whether the respondents had read, studied or downloaded an e-book in the previous 12 months by using question Q1 – *Have you read, studied or downloaded an e-book in the last 12 months?* – and analysed factors (variables Q4, Q5 and Q6) that influenced the respondents' willingness to read, study or download an e-book.

Second, we analysed the respondents' willingness to use new library services by using question Q2 – *The Municipal Library of Prague is considering introducing a new service – 'e-book lending' – i.e. the possibility to read an e-book through the application and for a limited period of time. This would mainly be book novelties by contemporary Czech and world authors. Would you be interested in such a service?* – and analysed factors (variables Q4 and Q5) that influenced these respondents' decisions.

Table 2. Socio-economic information of the target group.

		Target group (%) ($N = 1334$)	Readers from the target group who have read at least one e-book (%) ($N = 423$)
Gender	Female	1021 (76.54)	307 (72.57)
	Male	288 (21.59)	109 (25.76)
	No answer	25 (1.87)	7 (1.67)
Highest level of education	Elementary school	44 (3.30)	22 (5.20)
	Secondary school (including apprenticeship)	46 (3.45)	9 (2.13)
	Full secondary with graduation, higher vocational	482 (36.13)	133 (31.44)
	University	742 (55.62)	254 (60.05)
	No answer	20 (1.50)	5 (1.18)
Economic situation	Economically active	786 (58.92)	256 (60.52)
	Pensioner	233 (17.47)	38 (8.98)
	Student	176 (13.19)	90 (21.28)
	Housewife, maternity leave	80 (6.00)	27 (6.38)
	Unemployed	15 (1.12)	6 (1.42)
	Other	28 (2.10)	2 (0.47)
	No answer	16 (1.20)	4 (0.95)
Household's net monthly income (Czech koruna)	Less than 15,000	73 (5.47)	12 (2.84)
	15,000–29,999	252 (18.89)	70 (16.55)
	30,000–44,999	302 (22.64)	102 (24.11)
	45,000–59,999	227 (17.02)	78 (18.44)
	60,000–74,999	106 (7.95)	40 (9.46)
	75,000+	102 (7.65)	45 (10.63)
	No answer	272 (20.39)	76 (17.97)

Note: 1 euro = 25 Czech koruna.

Table 3. The readers of e-books.

Group	Variable	*p*	β
EQUIP	Smartphone	.098*	.305
	Tablet	.424	.146
	Laptop/computer	.117	−.277
	E-book reader	.000***	0.786
GENRES	Poetry	.028**	.689
	Drama	.667	.093
	Beletry – Czech and world novels	.603	−.090
	Beletry – novels for women	.181	−.313
	Beletry – historical novels	.030**	−.410
	Beletry – books for children	.477	.160
	Beletry – detective novels	.930	−.015
	Beletry – humour	.856	−.033
	Beletry – science fiction and fantasy	.000***	.699
	Professional literature – facts	.464	.129
	Professional literature – travelogues	.610	−.095
	Professional literature – the fates of the famous	.019**	−.511
INFORM	Email	.719	−.066
	Edition plan once a year by email	.657	−.083
	Library website	.082*	.313
	Library Facebook page	.001***	.790
	Library noticeboard	.499	.197
	Printed edition plan in the library	.096*	.445
	Through librarians	.567	.185
Cox and Snell R^2			.212
Nagelkerke R^2			.283

*significant at $p < .10$; **significant at $p < .05$; ***significant at $p < .01$

Third, we analysed whether the respondents would be interested in the new library service (Q2) if it was a paid service, by using question Q3 – *Would you also be interested in such a service if it was a paid service?* – and analysed factors (variables Q4, Q5 and Q7) that influenced these respondents' decisions.

For the purpose of this study, we selected the following questions as independent (explanatory) variables:

Q4. Do you use any of the following devices that can be used to read e-books (smartphone; tablet; laptop/computer; e-book reader)? (EQUIP)

Q5. Please select a maximum of five genres of interest from the e-book genres (poetry; drama; beletry – Czech and world novels; beletry – novels for women; beletry – historical novels; beletry – books for children; beletry – detective novels; beletry – humour; beletry – science fiction and fantasy; professional literature – facts; professional literature – travelogues; professional literature – the fates of the famous). (GENRES)

Q6. The library can inform you about new e-books in various ways. What would you prefer (email; edition plan once a year by email; library website; library Facebook page; library noticeboard; printed edition plan in the library; through librarians)? (INFORM)

Q7. Which of the following options describe your reasons for downloading e-books from the Municipal Library of Prague (school reading/recommended literature – e.g. for graduation; professional and study literature – e.g. research/citation source; relaxation/fun/reading for pleasure; reading to/for children; work duties and tasks – e.g. employee or entrepreneur)? (REASONS)

Results and discussion

In accordance with the research design, the activities and results were divided into three groups. The first task was to map the preferences of the e-book readers. The aim was to identify the specifics of those who preferred/read e-books (irrespective of the source of the e-books they read). It should be remembered that the source of the e-books was not the subject of the research, nor was the cost of purchase or the way they were secured. The results are shown in Table 3.

The results in Table 3 show that readers at the Municipal Library of Prague preferred to use e-book readers and, secondly, smartphones. However, the level of significance suggests the preponderance of e-book readers. Even the insignificant results may

Table 4. Interest in e-book loans.

Group	Variable	*p*	β
EQUIP	Smartphone	.001***	.601
	Tablet	.084*	.327
	Laptop/computer	.398	−.147
	E-book reader	.000***	.991
GENRES	Poetry	.137	−.460
	Drama	.006***	.701
	Beletry – Czech and world novels	.007***	.450
	Beletry – novels for women	.376	.213
	Beletry – historical novels	.040**	.397
	Beletry – books for children	.283	.259
	Beletry – detective novels	.007***	.475
	Beletry – humour	.004***	.553
	Beletry – science fiction and fantasy	.081*	.327
	Professional literature – facts	.004***	.504
	Professional literature – travelogues	.871	−.030
	Professional literature – the fates of the famous	.847	.042
Cox and Snell R^2			.125
Nagelkerke R^2			.179

*significant at $p < .10$; **significant at $p < .05$; ***significant at $p < .01$

suggest that the readers were deviating from laptop/computer reading.

Most of the respondents only selected e-book genres. The interesting result is that science fiction and fantasy book readers clearly preferred e-reading to paper-book reading. It is probably connected with the topics of technology and science fiction. In our opinion, it can be explained by the statement that science fiction fans also prefer modern technical elements, such as new technologies and ICT, in their daily lives. The other readers who preferred e-books were lovers of historical novels and poetry. This can be justified in particular by the size (i.e. weight) and portability of historical books – when reading while travelling, for example, the reader of a historical e-novel will be more comfortable. No significant results were found in the other genres. It is therefore clear that the genre (with some exceptions) is not an essential determinant of e-reading.

Even the information sources used by the readers indicate their preference for technical news and the use of social networks. The readers of e-books preferred communication via Facebook. Other sources of information are insignificant.

From the results, it can be implied that for library management, e-book readers represent a specific group who prefer new ICTs and are willing to communicate with the library with new technologies and social networks, as well as expecting that the library will communicate with them in this way too. The results also show which genres libraries should offer if they want to increase the share of e-reading among their readers.

The second part of the research dealt with the analysis of the readers' interest in borrowing e-books (a special library service). The e-book readers preferred (under the current conditions – i.e. for the Municipal Library of Prague an annual library entry fee of 50 Czech koruna) reading e-books on e-book readers or smartphones. This preference concurs with the results of the first part of the research.

As for the availability of e-books in the library pool, they welcomed most of the genres that were on offer. There was little interest in children's books, where e-reading is problematic due to the technical equipment required and the format of the books, or in novels for women. The detailed results are shown in Table 4.

Therefore, it is clear that the research confirms that readers are willing to read e-books more widely if they are provided free of charge by a public library. The readers probably realise that legal e-books are more accessible through libraries. This conclusion supports the general interest in e-books in the Czech Republic.

The third part of the research concerned a situation where the respondents would be required to pay a special fee for an e-book loan. It should be recalled that readers at the Municipal Library of Prague can access all services, including all of the available paper books and e-books, for 50 Czech koruna per year. The results in Table 5 show that the readers were not willing to pay for e-books at all. This is an absolutely

Table 5. Readers' behaviour when services are not free of charge.

Group	Variable	*p*	β
EQUIP	Smartphone	.518	.303
	Tablet	.858	.084
	Laptop/computer	.799	−.111
	E-book reader	.001***	0,556
GENRES	Poetry	.442	.509
	Drama	.750	−.163
	Beletry – Czech and world novels	.858	−.077
	Beletry – novels for women	.109	−.909
	Beletry – historical novels	.708	−.176
	Beletry – books for children	.190	−.831
	Beletry – detective novels	.596	.231
	Beletry – humour	.705	.172
	Beletry – science fiction and fantasy	.815	−.100
	Professional literature – facts	.907	.052
	Professional literature – travelogues	.750	.170
	Professional literature – the fates of the famous	.308	.610
REASONS	School reading – recommended literature	.062*	−.834
	Professional and study literature	.077*	.920
	Relaxation, fun, reading for pleasure	.510	.310
	Reading to/for children	.023**	0,045
	Work duties and tasks	.251	−.978
Cox and Snell R^2			.212
Nagelkerke R^2			.286

*significant at $p < .10$; **significant at $p < .05$; ***significant at $p < .01$

proven result, since no significant results were found in any of the categories or genres.

This negative outcome from the research is probably related to the fact that readers at the Municipal Library of Prague do not have to pay any fees for services and so the respondents did not feel any willingness to pay for something they still had for free. Moreover, the general mood in Czech society is that readers should pay nothing for public library services.

We questioned those respondents who said they would be willing to pay for e-book loans from a public library. The results are shown in Table 6.

The results confirm the unwillingness of readers to pay for e-books. The median value corresponds to approximately one euro per month for one e-book. When comparing the findings with the willingness to pay for paper books, it has been found that respondents would rather pay for paper books than e-books (Himma and Just, 2007). Willingness in this study is derived from a specific sample of e-book readers (younger people who are able to work with ICT, communicate on social networks, and regard free e-materials as a standard part of their everyday life). There is also the free-of-charge policy of libraries, as well as the easy availability of free e-books and materials on the Internet (the grey economy).

Table 6. Willingness to pay each month for borrowing an e-book.

What would you be most willing to pay for borrowing one e-book for one month?	Amount (Czech koruna)
Number of respondents willing to pay	392 (29.38%)
Average	29.01
Minimum	1
Quartile Q1	20
Median	20
Quartile Q3	40
Maximum	200

Source: Authors' own research.

Conclusions

In the last years, we have seen rapid changes in publishing thanks to the growing interest in e-books. This has been caused by, among other things, the emergence of personal digital assistants as practical reading devices. Therefore, e-books are nowadays becoming an increasingly viable format (Landoni and Hanlon, 2007) that will make it easier for readers to read books in a variety of places, while also facilitating access to interesting books. Most libraries,

including academic libraries, have included e-books in their collections (Tri-Agif et al., 2016). It has meant that e-books are able to provide readers and researchers with access to information at the time and location of their (research) need. For these reasons, electronic books have become a significant part of publishers' revenue streams (Bailey et al., 2015). In this article, we have focused on the demand side – specifically, e-book readers at the Municipal Library of Prague. We created three statistical models to explain e-book readers' behaviour. First, we analysed the preferences of e-book readers – in particular, the specifics of those who had preferred (or read) e-books in the previous 12 months. Subsequently, we analysed the readers' interest in borrowing e-books through the Municipal Library of Prague's new service. In the last part of our analysis, we focused on the question of whether the respondents would be interested in the new library service if it was a paid service, and on the factors that influenced these respondents' decisions.

Our results confirm the importance of e-book readers and smartphones as devices that significantly affect readers' decisions to read e-books. Other (large and less portable) devices are not important for readers. This is in accordance with other studies (e.g. Ahmad and Brogan, 2016) which also show that readers' experience rests on the device on which the e-book is read. MacWilliam (2013) states that the experience must be harmonious between book and cover, and that the reading experience will be augmented if both the device and the contents can engage the reader on functional, material and emotional levels, as well as cognitive or experiential levels. Facebook, as a communication platform, represents a significant source of information for current and potential e-book readers. To attract more e-book readers (not only science fiction and fantasy readers, who represented the most significant group of e-book readers), it is necessary to focus on other social networks and communication platforms where marketers progressively promote their brands among youth (Duffett, 2017). These platforms include Twitter, LinkedIn, YouTube, WhatsApp and Instagram. A library, for example, could pay to advertise on these platforms, create its own account, pay for a collaboration with a known influencer, or create its own free mobile application to provide readers with information about new e-books and e-book loans.

We have also confirmed readers' willingness to read e-books more widely if they are provided free of charge by a public library. Readers probably realise that legal e-books are more accessible through libraries. This conclusion supports the general interest in e-books in the Czech Republic. The Municipal Library of Prague should therefore provide this service (for free) because it could attract potential new readers and avoid the initial problem that discourages some people from reading – that is, the cost of reading. We suggest a further potential solution (similar to a music platform) where readers could pay either a monthly fee for unlimited access to e-books or a symbolic amount for a particular e-book. We also suggest discounts for students because our results show the low willingness of students to pay for e-books (the negative results). According to Roesnita and Zainab (2013), undergraduates, both users and non-users of e-books, prefer nowadays to use printed version of textbooks, especially if the text is being used continuously. Moreover, Noorhidawati and Gibb (2008) state that students' most frequent reason for using e-books was to find relevant content, which indicated that e-books were not read in their entirety but instead consulted or used for reference purposes. However, the Municipal Library of Prague should focus on this group because the majority of readers have a university degree or are educated to the full secondary with graduation and/or higher vocational level (see Table 2). Therefore, students represent other potential e-book readers who might change their minds in the future and be willing to pay for e-book loans.

The small sample size and the factors selected may represent possible limitations of this research. Therefore, for future research, we plan to conduct a broader analysis covering other libraries in the Czech Republic and other significant factors influencing readers' behaviour. Moreover, we plan to focus on different groups of e-book readers and to identify the typical readers of each group (e.g. according to their willingness to pay for new library services) and the factors that influence readers' decision-making, so that we can suggest further practical implications.

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Note

1. The origin of the first e-books can be dated much earlier. As early as 1998, American libraries began offering free

e-books as an additional service to their websites. However, they were static and could not be downloaded; readers had to read them on the website.

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Abstracts

وإمكانية الاستخدام المستمر لها. إن الاحتفال بإرث التقدمية المعمارية المتأصلة في مباني مكتبة كارنيجي العامة يعزز صورة اليوم عن أصل تلك المباني، مما يساعد على وضع التوقعات للمستقبل. إن إعادة تقييم التصميمات الأصلية لمكتبات كارنيجي من خلال دراسات الحالة مثل إيفانستون يعزز الحُجة القائلة بأنه ، حيثما كان ذلك ممكنًا ، يجب بذل الجهود هادفة للحفاظ على مباني مكتبة كارنيجي التي لا تزال موجودة حاليًا.

الكلمات المفتاحية:
مكتبات كارنيجي، تاريخ المكتبات وعلوم المكتبات، عِمارة المكتبات، مباني المكتبات، مبادئ علم المكتبات والمعلومات، الولايات المتحدة الأمريكية

What we talk about when we talk about information literacy

ما نتحدث عنه عند ذكر الدراية المعلوماتية

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مجلة الافلا، 47–4

مستخلص:
إن المهارات المتعلقة بالدراية المعلوماتية ضرورية لتحقيق إمكانات الفرد وترتبط بصورة كبيرة بنوعية الحياة الجيدة. لم يتم استكشاف طرق مناقشة الدراية المعلوماتية في المجال الأكاديمي على نطاقٍ واسع، خاصّة وأن تلك المناقشات لها أكثر من منظور ثقافي. غالبًا ما تعتمد طرق تجميع هذه الثقافات على الأساليب التقليدية للتكتل أو التجميع الجغرافي التي تزداد تعقيدًا بسبب الطبيعة الداخلية المتباينة للمجتمعات. وباستخدام تحليل النص لمجموعة كبيرة من البيانات الببليومترية، يعد هذا البحث محاولة لفحص كيفية مناقشة العلماء حول العالم للدراية المعلوماتية في مطبوعاتهم. سحَب المؤلفون 3658 من التسجلات التي تحوي مصطلح 'الدراية المعلوماتية ' من قاعدة بيانات Scopus. تم تحليل هذه البيانات من حيث الكلمات والعبارات الأكثر استخدامًا، وتم تجميعها وفقًا للدولة. قام المؤلفون بتجميع الدول أيضًا وفقًا لمستويات الدراية المعلوماتية، ومؤشر التنمية البشرية، ومتوسط عدد الاقتباسات لكل مقالة، ووضع مقياس يقيم مدى تطور كل دولة فيما يخص أهداف التنمية المستدامة والصحة السكانية. وتتضمن النتائج مناقشة الاختلافات في الطرق التي يناقش بها العلماء من مختلف الثقافات الدراية المعلوماتية، وعدد من الوسائل البصرية لعرض البيانات لتسليط الضوء على الاختلافات في البيانات.

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

الليبرالية الجديدة وسياسة المكتبات العامة في أيرلندا، 1998–2011: من الوثيقة الأولى للسياسة الحكومية وحتى الانتخابات العامة الأولى بعد فترة الركود الكبير

Maureen Garvey
مورين جارفي
مجلة الافلا، 47–4

مستخلص:
يناقش هذا المقال تأثير الفِكر الليبرالي الجديد على المكتبات العامة في أيرلندا، من الوثيقة الأولى للسياسة الحكومية التي نُشرت عام 1998 وحتى الانتخابات العامة الأولى بعد فترة الركود الكبير عام 2011. يبحث المقال أيضا أهمية المعلومات وبالتوازي قبول مبادئ السوق الحرة لتقديم الخدمات العامة. يتم تحليل وثائق السياسة الحكومية الأيرلندية عن تلك الفترة. ومن الضروري أن يكون هناك وعي نقدي فيما يخص تلك التغيرات في مجال علم المكتبات والمعلومات وذلك من أجل إدراك السياسات التي تضر بتقديم خدمات المكتبة للجمهور ومعارضتها.

الكلمات المفتاحية:
سياسات المكتبات العامة، أيرلندا، الليبرالية الجديدة، النطاق العام

A re-assessment of the design of Carnegie public library buildings

إعادة تقييم تصميم مباني مكتبة كارنيجي العامة

Alistair Black, Oriel Prizeman
أليستير بلاك، أوريال برايزمان
مجلة الافلا، 47–4

مستخلص:
وفقا للمصادر الأرشيفية بالأساس، تركز هذه الدراسة على مكتبة إيفانستون العامة، في ولاية إيلينوي، والتي افتتحت عام 1908. على مدى نصف قرن من الزمان، اكتسبت المكتبة سمعة باعتبارها واحدة من أكثر المباني الشهيرة والمرموقة في المدينة. إن زوال المبنى، ومبانٍ أخرى لمكتبة كارنيجي، بالإضافة إلى المباني التي لا تزال موجودة، يحُثنا على التفكير في الشعبية المتغيرة لمكتبات كارنيجي كمباني عامة

تطرح الشعبية المتزايدة لوسائل التواصل الاجتماعي عددًا من الأسئلة حول مدى استخدامها ونوع المعلومات التي يتم مشاركتها. تجيب هذه الدراسة على تلك الأسئلة من خلال التحقيق في استخدام طلاب الجامعات لوسائل التواصل الاجتماعي كمنصات التواصل الاجتماعي شائعة الاستخدام، ووتيرة الاستخدام ونوع المعلومات التي يتم مشاركتها. كما تتناول الدراسة الاختلافات في الرأي وفقًا للجنس، والتخصص الأكاديمي وبرنامج الدراسة. وتستند هذه الدراسة إلى مسح نموذجي مقطعي؛ وتم تطوير استبيان منهجي وجمع البيانات من 400 طالب في أربع جامعات في فيصل أباد، باكستان. تشير النتائج إلى أن غالبية الطلاب يستخدمون وسائل التواصل الاجتماعي ويقوموا بالدخول على المنصات بصورة يومية أو عدة مرات في اليوم. ويعد واتسآب WhatsApp وفيسبوك Facebook ويوتيوب YouTube أكثر منصات التواصل الاجتماعي استخدامًا. يميل الطلاب الذكور إلى استخدام وسائل التواصل الاجتماعي بشكل أكثر تواترًا عن نظرائهم من الإناث. ستكون هذه الدراسة بمثابة تمهيد لمزيد من البحوث حيث أنها تتناول موضوعًا لم يتم التطرق إليه من منظور محلي.

الكلمات المفتاحية:
وسائل التواصل الاجتماعي، الاستخدام، مواقع الشبكات الاجتماعية، طلاب الجامعات، باكستان، مشاركة المعلومات

Saudi scholars' perception of open data portals at Shaqra University

نظرة العلماء السعوديين لبوابات البيانات المفتوحة في جامعة الشارقة

Ahmed Shehata, Mohamed Elgllab
أحمد شحاتة، محمد الجلاب

مجلة الافلا، 47–4

مستخلص:
يقدم هذا المقال نتائج دراسة حول استخدام البيانات المفتوحة بين العلماء السعوديين. يحقق المقال في نظرة العلماء للبيانات المفتوحة وبوابات البيانات المفتوحة. وعَرَضت الدراسة العوامل المؤثرة على قرار المشاركين باستخدام البيانات المفتوحة وكان الهدف هو فهم ممارسات الباحثين السعوديين وتصوراتهم المتعلقة باستخدام وتبادل البيانات المفتوحة. اعتمدت الدراسة نهجًا كميًا وتم توزيع استبيان على 190 من أعضاء هيئة التدريس السعوديين وجمعه لقياس تصوراتهم واستخدامهم للبيانات المفتوحة وفوائد البيانات المفتوحة والعوامل التي أثرت بشكل كبير على استخدامهم للبيانات المفتوحة. وتكشف النتائج أن 42.1٪ من الباحثين السعوديين استخدموا بوابات البيانات الحكومية المفتوحة وزاروا بانتظام بوابات البيانات المفتوحة التي تقدمها الجامعة والحكومة بشكل رئيسي لأغراض البحث. كما تشير النتائج إلى أن بوابات البيانات المفتوحة مكنت الباحثين السعوديين من الحصول على بيانات مفيدة لأبحاثهم مع منحهم الأدوات اللازمة لتصور وفهم البيانات.

الكلمات المفتاحية:
البيانات المفتوحة، بوابات البيانات، مشاركة البيانات، بوابات البيانات المفتوحة، الباحثون السعوديون، جامعة الشارقة

الكلمات المفتاحية:
الدراية المعلوماتية، التعليمات بشأن المعلومات information instruction، الخدمات، أعداد المستخدمين، المنظور العالمي، المكتبات، المعلومات، علم المكتبات والمعلومات، القياسات الببليومترية، قياسات المعلومات، قياسات الويب/الويبومتريقا، نظم المعلومات، استرجاع المعلومات، المجتمع، الثقافة، التطور

Acceptance of social network sites by university librarians

قبول واعتماد مواقع التواصل الاجتماعي من قبل أمناء المكتبات الجامعية

Sureni Weerasinghe, Menaka Chandanie Bandara Hindagolla
سوريني ويراسينجه، ميناكا شانداني باندارا هينداجولا

مجلة الافلا، 47–4

مستخلص:
تشهد المكتبات ثورة بالتقدم التكنولوجي الذي يفتح آفاقا لتضمين خدمات المكتبات المبتكرة. من الضروري أن يواكب أمناء المكتبات التتكنولوجيا الحديثة مثل مواقع التواصل الاجتماعي، لإثبات جدارتهم في هذا العالم الرقمي التنافسي. وتهدف هذه الدراسة إلى استكشاف العوامل التي تؤثر على قبول واعتماد مواقع التواصل الاجتماعي من قبل أمناء المكتبات الجامعية من خلال تطبيق نموذج قبول التكنولوجيا. وكشفت النتائج أن المتوقع من الفائدة وسهولة الاستخدام كان بمثابة مؤشرات هامة لقبول واعتماد مواقع التواصل الاجتماعي. كان لعامل الثقة تأثير كبير وغير مباشر على نية أمناء المكتبات لاستخدام مواقع التواصل الاجتماعي. وتسهم هذه الدراسة في نظرية ترابط مجال علم المكتبات، ومواقع التواصل الاجتماعي، ونموذج قبول التكنولوجيا، والتي حظيت باهتمام أقل في كل ما كُتب في هذا الشأن. كما تحاول هذه الدراسة سد الفجوة في ما كُتب في شأن الاعتماد، مع دعم التحقق من نموذج قبول التكنولوجيا في سياق البلدان النامية. وعموما، أوضح نموذج البحث المقترح 58.4% ($R^2 = 0.584$) من التباين في المُتغير المستقل للنوايا وفقًا للسلوك.

الكلمات المفتاحية:
نموذج قبول التكنولوجيا، مواقع التواصل الاجتماعي، المكتبات الجامعية، أمناء المكتبات، القبول والاعتماد، النوايا وفقًا للسلوك

Social media use and information sharing behavior of university students

استخدام وسائل التواصل الاجتماعي وسلوك مشاركة المعلومات لطلاب الجامعات

Iqra Bashir, Amara Malik, Khalid Mahmood
عقرة بشير، أمارة مالك، خالد محمود

مجلة الافلا، 47–4

مستخلص:
تطورت وسائل التواصل الاجتماعي على مدى العقد الماضي كمحرك رئيسي لتبادل المعلومات والحصول عليها في مختلف مجالات الحياة.

تشجع على القراءة كانوا من المرجح أن يحافظوا على موقف إيجابي تجاه القراءة بحلول المرحلة الثانوية.

الكلمات المفتاحية:
خدمات الشباب البالغين، خدمات لجموع المستخدمين، خدمات الأطفال، المراكز الإعلامية في المدارس، المكتبات، أنواع المكتبات ومقدمي المعلومات، المباني، المرافق، الإدارة، أوقيانوسيا، آسيا

Intellectual property information service and the impacts on academic libraries transformation

خدمة معلومات الملكية الفكرية وتأثيراتها على تحول المكتبات الأكاديمية

Wei Yang, Tianlin Liu
وي يانغ، تيانلين ليو
مجلة الإفلا، 47–4

مستخلص:
أسس نحو 100 مركز لخدمات معلومات الملكية الفكرية في مكتبات الجامعات الصينية، وأكثر من 80% من تلك المراكز في الفترة منذ عام 2017. وجاءت طفرة مراكز خدمات معلومات الملكية الفكرية في سياق الزيادة السريعة في عدد طلبات البراءات في الصين، وكذلك نسبة التحويلات المنخفضة بدرجة غير مقبولة. هل تمثل مراكز خدمات معلومات الملكية الفكرية اتجاهًا واعدًا لتحول مكتبات الجامعات؟ هذه هي القضية المحورية التي يتناولها هذا المقال. ويناقش المقال خصائص مسار التطور والقوى الدافعة في الصين، ويدرس الممارسات المتميزة لخدمات معلومات الملكية الفكرية، ويلخصها. كما يعقد مقارنات بينها وبين الولايات المتحدة الأمريكية، والمملكة المتحدة، وأوروبا، والهند. ومع وجود مراكز خدمات معلومات الملكية الفكرية، تستطيع مكتبات الجامعات التطور من كونها أماكن مقدمة للمعلومات إلى أماكن محفزة للابتكار، وتكوين روابط وثيقة بين الجامعات والمجتمعات والصناعات. فلمراكز خدمات معلومات الملكية الفكرية تأثيرات متعددة الأوجه على أمانة المكتبات بالجامعات. كما يناقش المقال الاتجاهات الرائجة لخدمات معلومات الملكية الفكرية والتحديات التي تواجهها.
:الكلمات المفتاحية
خدمات معلومات الملكية الفكرية، خدمات معلومات البراءات، المكتبات الأكاديمية، تحول المكتبات، المكتبات الجامعات الصينية

The information-seeking behaviour of the Egyptian elderly

سلوك البحث عن المعلومات بين كبار السن في مصر

Essam Mansour
عصام منصور
مجلة الإفلا، 47–4

مستخلص:
هذه الدراسة تهدف إلى البحث في سلوك البحث عن المعلومات بين كبار السن في مصر، بما في ذلك احتياجاتهم المعلوماتية. وأجريت الدراسة على عينة مكونة من 63 من كبار السن المقيمين في دور المسنين. وقُسمَت إلى خمس مجموعات نقاش بؤرية. 40 من هؤلاء الـ60 كانوا رجالًا (63.5%) و23 منهم نساءً (36.5%). وتراوحت

Developing future-ready school libraries through design thinking: A case study

تطوير مكتبات مدارس المستقبل من خلال التفكير التصميمي: دراسة حالة

Chin Ee Loh, Elia Binte M. Hamarian, Lisa Lim, Qianwei Lim, Skyler Ng
تشين إي لوه، إليا بنت حمر عين، قيانوي ليم، سكايلر نج
مجلة الإفلا، 47–4

مستخلص:
إن مكتبات المدارس حول العالم بحاجة إلى تنشيط مساحاتها ومجموعاتها وبرمجياتها؛ حتى تظل وثيقة الصلة بالمدرسين والطلاب الذين يعيشون ويتعلمون في عصر تكنولوجي عالمي مشبع بالمعلومات. وتكتسب جهود إعادة النظر في استخدام المكتبات وتصميمها أقصى قدر من الفعالية عندما تنصب في سياقها الصحيح محليًا وفق حاجة المستخدم وميزانية البلد أو المدرسة. ويُعد التفكير التصميمي نهجًا مهمًا للمدارس حتى تعي احتياجات شعوبها، وتخُص مستخدمي مكتباتها بتحسينات محددة. ويوضح هذا المقال كيف تعاونت إحدى المدارس الثانوية مع الباحثين في الجامعات في توظيف التفكير التصميمي؛ من أجل إعادة تصور دور مكتبتها المدرسية ووظائفها. وأدمجت الأدلة المجمعة خلال تلك العملية في إعادة تصميم مكتبة محسنة للطلاب. ويقدم هذا المقال نموذجًا لمشروعات تحسين مكتبات المدارس قائمة على الأدلة.

الكلمات المفتاحية:
مكتبات المدارس، التفكير التصميمي، الممارسات القائمة على الأدلة، مدرسة ثانوية، سنغافورة

Do primary school libraries affect teenagers' attitudes towards leisure reading

هل تؤثر مكتبات المدارس الابتدائية في موقف المراهقين تجاه القراءة الترفيهية؟

Pamela Elizabeth McKirdy
باميلا إليزابيث مكردي
مجلة الإفلا، 47–4

مستخلص:
تستكشف هذه الدراسة كيف أثّرت تجارب طلاب المدارس الابتدائية بمكتبات المدارس في نيوزيلندا في مواقفهم تجاه القراءة بهدف المتعة حالما دخلوا المرحلة الثانوية. أجاب مئتان وستة وسبعون طالبًا من المرحلة الثانوية الأولى على استبيان يتناول مكتبات مدارسهم الابتدائية. وطُلِب منهم تعريف أنفسهم كقراء متحمسين أو قراء حينيين أو غير قراء. وجرى تحليل لنتائج الاستبيان في جدول بيانات، مع مراعاة المتغيرات؛ مثل الموقف تجاه القراءة، والمدرسة السابقة، والخلفية العائلية. وقد كان موقف الطلاب إيجابيًا بالأساس تجاه مكتباتهم، لكنهم كانوا ينزعجون من البيئات المزدحمة والضجيج هناك وكذلك من الكتب التي يرونها طفولية. وكان موقف طلاب المدارس التي بها أمين مكتبة أكثر إيجابية تجاه القراءة للمتعة من طلاب المدارس التي لم تكن المكتبات فيها أولوية. في حين أن الطلاب ذوي الخلفية العائلية التي

ووليستان بيوس تيجا
مجلة الإفلا، 47–4

مستخلص:
تبحث هذه الدراسة في كيفية اختيار قنوات التواصل لتبادل المعلومات الزراعية. وتختص قنوات التواصل التي يستخدمها المزارعون في تنزانيا، وتحدد العوامل المؤثرة في اختيار قنوات التواصل لتبادل المعلومات الزراعية. وتتبنى الدراسة منهجية استعراض قائمة على التحليل التلوي في تحديد الدراسات ذات الصلة بالموضوع محل الاهتمام وتقييمها وتفسيرها. وتشير النتائج إلى أن الراديو، والهواتف المحمولة، والتليفزيون، والمزارعين الزملاء، والمرشدين الزراعيين، والصحف هي قنوات التواصل الشائع استخدامها في نقل المعلومات الزراعية. علاوة على ذلك، تبين أن تأثير تلك القنوات، وتوفرها، والقدرة على تحمل تكاليفها، وتغطية شبكاتها، والمصادر والمرافق المطلوبة لاستخدام إحداها، كلها عوامل مؤثرة في اختيار القنوات. ويُستنتج من هذا أنه من المهم فهم الجمهور وخصائص الرسائل المحيطة واختيار قنوات التواصل المناسبة وذلك من أجل تعزيز سبل الوصول إلى المعلومات الزراعية. ويوصى مقدمو المعلومات الزراعية بضرورة فهم العوامل المحيطة بقنوات التواصل قبل نشر المعلومات الزراعية.

الكلمات المفتاحية:
قنوات التواصل، معلومات زراعية، المزارعين، المناطق الريفية، تنزانيا

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

الكتب الإلكترونية في جمهورية التشيك: تحليل الطلب وسلوك القراء

Viktor Prokop, Jan Stejskal Stejskal
فيكتور بروكوب، جان ستيسكال
مجلة الإفلا، 47–4

مستخلص:
لقد أصبحت الكتب الإلكترونية بديلًا أكثر استخدامًا للكتب في الوقت الحالي؛ فالصيغة الإلكترونية تسهل على القراء قراءة الكتب في مختلف الأماكن. لذلك، أصبحت المكتبات العامة أكثر حرصًا على توفير الكتب الإلكترونية كأحد عناصر خدماتها الرقمية. ولكن، لا تفي هذه الخدمات دائمًا ولو بجزء من متطلبات القراء، وذلك لعدة عوامل؛ منها رسوم الخدمة أو انعدام الوعي. لذلك، يركز كتّاب هذا المقال على جانب الطلب الممثل في قراء الكتب الإلكترونية. ويركزون بالأخص على سلوك قراء الكتب الإلكترونية في مكتبة بلدية براغ. ويقدمون نموذجًا بحثيًا من ثلاث خطوات، ويشمل تحليلات تركز على: (1) مواصفات قراء الكتب الإلكترونية في مكتبة بلدية براغ، (2) واهتمام قراء الكتب الإلكترونية باستعارتها، (3) واهتمام قراء الكتب الإلكترونية بخدمة مكتبة بلدية براغ الإلكترونية عند وجوب دفع رسوم. واستخدم كتّاب المقال بيانات فريدة من استبيان إلكتروني أجرته وكالة سوسيورز Sociores كمصدر 2019 على قراء مكتبة بلدية براغ عام للمعلومات. وأظهرت النتائج أن قراء الخيال العلمي والفانتازيا يمثلون الشريحة الأكبر من قراء الكتب الإلكترونية في مكتبة بلدية براغ، وأن فيسبوك هو قناة التواصل الأهم بينهم. ويؤكد كتّاب المقال أيضا على أهمية قارئات الكتب الإلكترونية والهواتف الذكية كأجهزة ذات تأثير كبير على قرار قراءة الكتب الإلكترونية. ويقدم كتّاب المقال في الجزء أعمار نحو النصف منهم (47.6%) بين 61 و70 عامًا. ويحمل الربع منهم (23%) شهادة ثانوية. أما النسبة الأكبر منهم (28.6%)، فتُصنّف ضمن ذوي الدخل المتوسط. والنسبة الأكبر (60.3%) أرامل من الرجال والنساء. وتتنوع المعلومات الأكثر استخدامًا بين كبار السن بين الصحة البدنية، والاحتياجات الطبية، والاجتماعية، والعقلانية، والترفيهية. وتختلف مصادر المعلومات بين مصادر رسمية وغير رسمية. واتضح أن أهم العقبات التي تواجه نحو ثلثي العينة المنتقاة (63.5%) عند البحث عن المعلومات هي المعرفة المحدودة، وعدم الاهتمام، وقلة الوعي المعلوماتي، والتقدم في السن، والوحدة، والمشكلات الصحية.

الكلمات المفتاحية:
سلوك البحث عن المعلومات، الاحتياجات المعلوماتية، كبار السن، مصادر المعلومات، مصر، دراسة كيفية

Developing Information literacy courses for students through VLEs in Tanzania

تطوير دورات الدراية المعلوماتية للطلاب من خلال بيئات التعلم الافتراضية في تنزانيا

Evans F. Wema
إيفانز ويما
مجلة الافلا، 47–4

مستخلص:
يستعرض هذا المقال المؤلفات عن استخدام بيئات التعلم الافتراضية من خلال تسليط الضوء على إمكاناتها وتحديات استحداث تلك البيئات في تنزانيا. ويقدم المقال مفهوم بيئات التعلم الافتراضي من خلال شرح التطبيقات التي تدعم التعليم والتعلم. يناقش المقال استخدام بيئات التعلم الافتراضية في تدريس دورات الدراية المعلوماتية من خلال تسليط الضوء على نجاح استخدام هذه الأدوات في تسهيل تدريس تلك الدورات لمستخدمي المكتبات. وينصب التركيز بشكل خاص على محاولات مؤسسات التعليم العالي التنزانية إدخال تدريس الدراية المعلوماتية والتحديات التي تواجهها من خلال شبكة الإنترنت. ويستعرض المقال حاجة مؤسسات التعليم العالي التنزانية إلى تطوير بيئات التعلم الافتراضية من أجل تسهيل تدريس دورات الدراية المعلوماتية للطلاب وأعضاء هيئة التدريس، وذلك للوصول إلى العديد من أولئك الذين قد لا يتمكنون من حضور الجلسات وجهًا لوجه عن الدراية المعلوماتية والتي يقدمها أمناء المكتبات بشكل منتظم.

الكلمات المفتاحية:
الدراية المعلوماتية، بيئات التعلم الافتراضية، التعلم القائم على حل المشكلات، التعليم والتعلم، بيئات التعلم بالوسائل الإلكترونية، مؤسسات التعليم العالي

Communication channels for exchanging agricultural information among Tanzanian farmers: A meta-analysis

قنوات التواصل لتبادل المعلومات الزراعية بين المزارعين التنزانيين: تحليل تلوي

Wulystan Pius Mtega

الأخير بعض التوصيات العملية التي قد تجذب المزيد من قراء الكتب الإلكترونية.

الكلمات المفتاحية:
مكتبة، كتاب إلكتروني، سلوك القارئ، الاستعداد للدفع، استبيان

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

1998–2011 年期间的爱尔兰新自由主义与公共图书馆政策

Maureen Garvey

摘要

本文研究了从1998年第一份政府政策性文件发布到2011年经济衰退后的第一次选举期间，新自由主义意识形态对爱尔兰公共图书馆的影响，审视了信息意识的提升以及人们接受提供公共服务的自由市场原则的背景，分析了这一时期爱尔兰政府的政策性文件　图书馆情报学领域需要对这些变化有一个批判性的认识，从而找出并反对不利于公共图书馆提供服务的政策

关键词

公共图书馆政策，爱尔兰，新自由主义，公共领域

A re-assessment of the design of Carnegie public library buildings

重新评估卡内基公共图书馆建筑设计

Alistair Black，Oriel Prizeman

摘要

本文以档案资料为主要的信息来源，重点研究了美国伊利诺伊州1908年开放的埃文斯顿公共图书馆(Evanston Public Library)的原始设计　在长达半个世纪的历史中，该图书馆被誉为该市最受珍视和尊敬的一座建筑　它与其他一些卡内基图书馆建筑的消亡，以及另外很多卡内基图书馆的存活，促使我们思考卡内基图书馆作为公共建筑不断变化的程度和继续使用的潜力　探索卡内基公共图书馆建筑中固有的建筑进步主义，有助于加深人们对其起源的理解，从而影响对这些建筑的期望　本文以埃文斯顿公共图书馆为案例开展研究，重新评估了卡内基图书馆的原始设计，并印证了一个观点，即在条件允许的情况下，应该做出有意义的努力来保护现存的卡内基图书馆建筑

关键词

卡内基公共图书馆，图书馆与图书馆学史，图书馆建筑，美国图书馆情报学理论

What we talk about when we talk about information literacy

当我们谈论信息素养时，我们谈些什么

Margaret S. Zimmerman，Chaoqun Ni

摘要

信息素养技能是发挥个人潜能的必要条件，且与高质量生活密切相关　然而，人们对于经典学术著作中有关信息素养内容的探索非常有限，而不同的文化视角进一步增加了探索难度　这些文化的分组方式往往依赖于传统的地理划分，而由于社会内部性质的不同，这种划分方式变得越来越复杂　本文针对大量文献计量学数据集采用了文本分析方法，尝试探索世界各地的学者如何在自己的作品中讨论信息素养的概念　作者以“信息素养”(information literacy)为关键词，从Scopus数据库中提取了3658条记录，并对这些数据进行分析，找出使用频率最高的单词和短语，按照国家分组　接下来，作者根据各国的素养水平、“人类发展指数”排名、每篇文章的平均引用次数以及作者自己创建的用于评估各国在可持续发展目标和人口健康方面进展的指标，对这些国家进一步分组　最后，本文探讨了不同文化学者讨论信息素养的不同方式，并列举了一些数据来证明数据差异

关键词

信息素养，信息指导，服务，用户群体，全球视角，图书馆，信息，图书馆情报学，文献计量学，信息计量学，网络计量学，信息系统，信息检索，社会，文化，发展

Acceptance of social network sites by university librarians

大学图书馆员对社交网站的接受情况

Sureni Weerasinghe，Menaka Chandanie Bandara Hindagolla

摘要

技术进步为图书馆服务的创新开辟了新的途径，从而使图书馆陷入了一场革命　图书馆员必须及时掌握社交网站等新技术，以此来证明自己在竞争激烈的数字化世界中的价值　本文运用技术接受模型，探索了影响高校图书馆员对社交网站接受度的因素　研究结果显示，认识到实用性和易用性是判断社交网站接受度的重要因素，信任对图书馆员使用社交网站的意愿有着显著的间接影响　本文对图书馆学交叉领域、社交网站和技术接受模型的理论创新等目前鲜有研究的概念做出了贡献　此外，本文试图填补文中所引用的文献中的空白(其中极少将图书馆员视为用户)，同时支持在发展中国家的背景下检验技术接受模型　最后，本文提出的研究模型显示，行为意向因变量的方差为58.4%(R2=0.584)

关键词
技术接受模型，社交网站，高校图书馆，图书馆员，接受，行为意向

Social media use and information sharing behavior of university students

大学生使用社交媒体的情况与信息共享行为

Iqra Bashir， Amara Malik， Khalid Mahmood

摘要
在过去十年中，社交媒体已经发展成为分享和获取生活各个领域信息的关键途径　社交媒体的日益普及引发了一系列关于其使用范围和共享的信息类型的问题　本文旨在通过调查大学生对社交媒体的使用情况，包括常用社交媒体平台、使用频率和共享的信息类型等方面解答这些问题，并从性别、学科和学习计划等角度听取了不同意见　本文采用了横断面调查的方法，向巴基斯坦费萨拉巴德四所大学的学生分发结构化调查问卷并得到400份反馈　调查结果表明，大多数学生经常使用社交媒体，每天一次或多次访问社交平台　WhatsApp、Facebook和YouTube是使用最广泛的社交媒体平台　男生使用社交媒体的频率高于女生　本文从本地视角探索了一个未经触及的领域，开创了一项原始研究，为进一步研究提供了指导

关键词
社交媒体，使用，社交网站，大学生，巴基斯坦，信息共享

Saudi scholars' perception of open data portals at Shaqra University

沙特学者对沙克拉大学开放数据门户的看法

Ahmed Shehata， Mohamed Elgllab

摘要
本文介绍了一项有关沙特学者使用开放数据的研究结果，调查了这些学者对于开放数据和开放数据门户的看法　本文明确了影响参与者使用开放数据的因素，分享了沙特研究人员在使用和共享开放数据方面的实践和看法　本文采用了定量研究方法，向190名沙特研究人员分发调查问卷并获得反馈，据此了解他们的观点、使用开放数据的情况、开放数据的益处以及显著影响开放数据使用的因素　调查结果显示，42.1%的沙特研究人员使用政府开放数据门户，并定期访问大学和政府提供的开放数据门户，主要用于研究　结果还表明，开放数据门户使沙特研究人员能够找到有用的研究数据，同时获得了整理和分析数据的工具

关键词
开放数据，数据门户，数据共享，开放数据门户，沙特研究人员，沙克拉大学

Developing future-ready school libraries through design thinking: A case study

通过设计思维开发面向未来的学校图书馆　案例研究

Chin Ee Loh，Elia Binte M. Hamarian，Lisa Lim，Qianwei Lim，Skyler Ng

摘要
世界各地的学校图书馆需要重新改造自己的空间，调整馆藏，策划创新的活动，从而在信息饱和的科技全球化时代继续为师生提供服务　根据用户需求、国家提供的经费或学校预算，按照当地的具体情况重新规划图书馆的使用和设计，才能发挥最大效果　设计思维是学校了解师生需求并为学校图书馆用户实施有针对性的改造的一种有效方法　本文以一所中学为例，阐述了该校如何与大学研究人员合作，运用设计思维重新设计学校图书馆的角色和职能　在这一过程中收集到的证据被用于重新设计和改造图书馆　本文为基于实证的学校图书馆改造项目提供了一个模型

关键词
学校图书馆，设计思维，循证实践，中学，新加坡

Do primary school libraries affect teenagers' attitudes towards leisure reading

小学图书馆是否会影响青少年对休闲阅读的态度

Pamela Elizabeth McKirdy

摘要
本文探讨了新西兰小学生在学校图书馆的经历如何影响他们升入中学后对于休闲阅读的态度　作者面向276名高中一年级学生开展了关于调查，并让他们选择自己是否“热爱读书”、“偶尔读书”或“不爱读书”　本文考虑了阅读态度、曾就读的学校和家庭背景等变量，对调查结果展开分析，并整理成表格　受访学生对学校图书馆大多持肯定态度，但对于拥挤嘈杂的环境和在他们眼中过于幼稚的书籍感到困扰　拥有图书馆员的学校学生比不重视图书馆的学校学生对于休闲阅读的态度更为积极　来自鼓励阅读的家庭的学生在上高中时更有可能保持积极的阅读态度

关键词
青少年服务，面向用户群体的服务，少儿服务，学校媒体中心，图书馆，图书馆情报提供者类型，建筑，设施，管理，行政管理，大洋洲，亚洲

Intellectual property information service and the impacts on academic libraries transformation

知识产权信息服务及其对高校图书馆转型的影响

Wei Yang，Tianlin Liu

摘要
中国高校图书馆已建立了大约100家知识产权信息服务中心，其中超过80%是2017年之后建立的　知识产权信息服务中心兴起的背后是中国专利申请数量的快速增长，以及过低的专利转化率　知识产权信息服务中心是否代表着高校图书馆转型的重要方向　这是本文讨论的核心问题　文章探讨了中国发展路径的特点和驱动力，研究和总结了独具特色的知识产权信息服务实践，并与美国、英国、欧洲和印度进行了对比　拥有知识产权信息服务中心的高校图书馆可以从信息提供者转变为创新催化者，并在大学、社区和行业之间建立更紧密的联系　知识产权信息服务中心对高校图书馆事业的影响是多方面的　本文还探讨了知识产权信息服务的趋势和挑战

关键词
知识产权信息服务，专利信息服务，高校图书馆，图书馆转型，中国高校图书馆

The information-seeking behaviour of the Egyptian elderly

埃及老年人的信息检索行为

Essam Mansour

摘要
本文旨在调查埃及老年人的信息检索行为和信息需求　作者采用抽样的方法对63名住在养老院的老年人进行了调查，将他们分成五个小组　在这63名老年人中，40名为男性(63.5%)，23名为女性(36.5%)　近一半(47.6%)的人年龄在61岁至70岁之间　约四分之一(23%)持有高中文凭　28.6%的人达到平均收入水平　60.3%的人丧偶　埃及老年人使用最多的信息涵盖健康、医疗卫生、社会、理性和娱乐需求，信息来源包括正式和非正式渠道　近三分之二(63.5%)的受访者表示，知识有限、缺乏兴趣、信息意识差、年龄增长、孤独和健康问题是他们在搜寻信息的过程中面临的最大障碍

关键词
信息搜寻行为，信息需求，老年人，信息来源，埃及，定性分析

Developing Information literacy courses for students through VLEs in Tanzania

坦桑尼亚通过虚拟学习环境为学生开发信息素养课程

Evans F. Wema

摘要
本文研究了有关虚拟学习环境的文献，重点关注其发展潜力以及在坦桑尼亚创建虚拟学习环境的挑战　本文通过演示虚拟学习环境在支持教学活动方面的作用详细阐述了这一概念，并探讨了虚拟学习环境在信息素养课程教学中的应用，重点介绍了该工具在促进图书馆用户信息素养课程教学中的成功应用　本文着重强调了坦桑尼亚高等教育机构在引入基于网络的信息素养教学方面的尝试以及面临的挑战　结论表明，坦桑尼亚高等教育机构有必要开发虚拟学习环境，进一步推广信息素养课程，从而使无法定期到现场听课的众多用户有机会参与课程

关键词
信息素养，虚拟学习环境，基于问题的学习，教与学，电子学习环境，高等教育机构

Communication channels for exchanging agricultural information among Tanzanian farmers: a meta-analysis

坦桑尼亚农民交流农业信息的渠道　综合分析

Wulystan Pius Mtega

摘要
本文探讨了用于交流农业信息的沟通渠道　本文指出了坦桑尼亚农民使用的沟通渠道，并明确了影响农业信息交流渠道选择的因素　本文采用综合分析方法归纳、评估和解读与本文主题相关的研究内容，结果显示，广播、手机、电视、农民、农业推广机构和报纸是传递农业信息的常用渠道　此外，沟通渠道的影响、普及程度、成本、通信网络覆盖率以及使用特定沟通渠道所需的资源和设施也会影响沟通渠道的选择　本文得出结论，认为了解受众、信息本身的特点以及选择合适的沟通渠道对于提高获取农业信息的便利性至关重要，并建议农业信息提供者在传播农业信息之前首先了解沟通渠道的相关要素

关键词
沟通渠道，农业信息，农民，农村地区，坦桑尼亚

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

捷克的电子书服务　需求和读者行为分析

Viktor Prokop， Jan Stejskal Stejskal

摘要
目前，电子书越来越频繁地取代纸质书籍，提供了一种更加便捷的阅读形式，使读者能够更轻松地在不同的场所读书　因此，公共图书馆更多地将提供电子书作为其数字服务的一项内容　然而，由于收费或缺乏相应的意识等原因，读者对这些服务的需求不大　因此，本文作者重点关注以电子书读者为代表的需求方　具体而言，本文研究了布拉格市图书馆电子书读者的行为，并提出了三步研究模型，包括　第一，布拉格市图书馆电子书读者的具体情况　第二， 电子书读者的借阅兴趣　第三，电子书读者对布拉格市图书馆付费电子服务的兴趣　作者采用了Sociores机构2019年对布拉格市图书馆读者进行的在线问卷调查数据　结果表明，科幻和幻想类小说读者是布

拉格市图书馆最主要的电子书阅读群体，Facebook是与电子书读者交流的最重要渠道　作者还证实，电子书阅读器和智能手机等设备对读者阅读电子书的决定产生了显著影响　在本文最后，作者提出了一些引导更多读者使用电子书的建议
关键词
图书馆，电子书，读者行为，付费意愿，调查

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

Le néolibéralisme et la politique des bibliothèques publiques en Irlande, 1998–2011 : du premier document de politique du gouvernement aux premières élections générales après la grande récession

Maureen Garvey

IFLA Journal, 47–4, 427–443

Résumé :

Cet article traite de l'influence de l'idéologie néolibérale sur les bibliothèques publiques en Irlande, depuis le premier document de politique du gouvernement publié en 1998 jusqu'aux premières élections après la récession en 2011. Le contexte de la montée en puissance de l'idée d'information et l'acceptation parallèle des principes du marché libre pour la fourniture de services publics y sont examinés. Les documents de politique du gouvernement irlandais de cette période y sont analysés. Une prise de conscience critique de ces changements est nécessaire dans le domaine de la bibliothéconomie et des sciences de l'information afin de reconnaître et de s'opposer aux politiques qui nuisent à la prestation publique d'un service de bibliothèque.

Mots-clés

Politique des bibliothèques publiques, Irlande, néolibéralisme, sphère publique

A re-assessment of the design of Carnegie public library buildings

Une réévaluation de la conception des bâtiments de la bibliothèque publique Carnegie

Alistair Black, Oriel Prizeman

IFLA Journal, 47–4, 444–452

Résumé :

Basée principalement sur des sources d'archives, cette étude se concentre sur la conception originale de la bibliothèque publique d'Evanston, Illinois, construite expressément à cette fin et qui a ouvert ses portes en 1908. Au cours de son demi-siècle d'existence, la bibliothèque a acquis la réputation d'être l'un des bâtiments les plus appréciés et les plus vénérés de la ville. Sa disparition, ainsi que celle d'autres bâtiments de la bibliothèque Carnegie, de même que les nombreux bâtiments qui ont survécu, nous incite à réfléchir à l'évolution de la popularité des bibliothèques Carnegie en tant que bâtiments publics par rapport à leur potentiel d'utilisation continue. La célébration de l'héritage du progressisme architectural inhérent aux bâtiments des bibliothèques publiques Carnegie renforce l'image actuelle de leur origine, contribuant ainsi à renforcer les attentes pour leur avenir. La réévaluation de la réputation des conceptions originales des bibliothèques Carnegie à travers des études de cas comme celle d'Evanston ajoute du poids à l'argument selon lequel, lorsque c'est possible, des efforts significatifs devraient être faits pour conserver les bâtiments des bibliothèques Carnegie existants.

Mots-clés

Bibliothèques Carnegie, histoire des bibliothèques et de la bibliothéconomie, architecture des bibliothèques, bâtiments des bibliothèques, principes de la bibliothéconomie et des sciences de l'information, États-Unis

What we talk about when we talk about information literacy

Ce dont nous parlons lorsque nous parlons de la maîtrise de l'information

Margaret S. Zimmerman, Chaoqun Ni

IFLA Journal, 47–4, 453–467

Résumé :

Les compétences en matière de maîtrise de l'information sont indispensables à l'épanouissement de chacun et sont étroitement liées à une bonne qualité de vie. Cependant, les façons dont la maîtrise de l'information est discutée au sein du canon académique sont largement inexplorées, en particulier parce que ces conversations ont lieu à travers des lentilles culturelles différentes. Les modes de regroupement de ces cultures reposent souvent sur des méthodes traditionnelles de regroupement géographique qui sont de plus en plus compliquées par la nature interne disparate des sociétés. En utilisant l'analyse de texte d'un grand ensemble de données bibliométriques, cette recherche tente d'examiner comment les universitaires du monde entier traitent de la maîtrise de

l'information dans leurs publications. Les auteurs ont extrait de la base de données « Scopus » 3658 enregistrements contenant le terme exact « information literacy » (maîtrise de l'information). Ces données ont été analysées pour déterminer les mots et les phrases les plus fréquemment employés, et les regrouper par pays. Les auteurs ont ensuite regroupé les pays en fonction de leur niveau d'alphabétisation, de leur classement dans l'indice de développement humain, du nombre moyen de citations par article et d'un indicateur créé par les auteurs qui évalue les progrès de chaque pays en ce qui concerne les objectifs de développement durable et la santé de la population. Les résultats comprennent une discussion sur les différences dans la façon dont les universitaires de différentes cultures abordent la maîtrise de l'information, ainsi qu'un certain nombre de visualisations de données pour mettre en évidence les différences dans les données.

Mots-clés

Maîtrise de l'information, enseignement de l'information, services, populations d'utilisateurs, perspectives mondiales, bibliothèques, information, sciences de l'information et bibliothéconomie, bibliométrie, informétrie, webométrie, systèmes d'information, recherche d'information, société, culture, développement

Acceptance of social network sites by university librarians

Acceptation des sites de réseaux sociaux par les bibliothécaires universitaires

Sureni Weerasinghe, Menaka Chandanie Bandara Hindagolla

IFLA Journal, 47–4, 468–480

Résumé :

Les bibliothèques sont révolutionnées par les progrès technologiques, qui ouvrent la voie à l'intégration de services de bibliothèque innovants. Il est impératif pour les bibliothécaires de se mettre au diapason des nouvelles technologies telles que les sites de réseaux sociaux, afin de prouver leur valeur dans ce monde numérique compétitif. Cette étude vise à explorer les facteurs affectant l'acceptation des sites de réseaux sociaux par les bibliothécaires universitaires en appliquant le modèle d'acceptation de la technologie. Les résultats ont révélé que l'utilité perçue et la facilité d'utilisation perçue étaient des variables prédictives significatives de l'acceptation des sites de réseaux sociaux. Il a été constaté que la confiance exerce un effet indirect significatif sur l'intention des bibliothécaires d'utiliser les sites de réseaux sociaux. Cette étude contribue à la nouveauté théorique du champ d'intersection de la bibliothéconomie, des sites de réseaux sociaux et du modèle d'acceptation de la technologie, qui a reçu moins d'attention dans la littérature. De plus, cette étude tente de combler une lacune dans la littérature relative à l'adoption, où les bibliothécaires sont rarement reconnus comme des usagers, tout en soutenant la validation du modèle d'acceptation de la technologie dans un contexte de pays en développement. Dans l'ensemble, le modèle de recherche proposé explique 58,4 % (R 2 = 0,584) de la variance de la variable dépendante de l'intention comportementale.

Mots-clés

Modèle d'acceptation de la technologie, sites de réseaux sociaux, bibliothèques universitaires, bibliothécaires, acceptation, intention comportementale

Social media use and information sharing behavior of university students

Utilisation des médias sociaux et comportement de partage d'informations des étudiants universitaires

Iqra Bashir, Amara Malik, Khalid Mahmood

IFLA Journal, 47–4, 481–492

Résumé :

Les médias sociaux ont évolué au cours de la dernière décennie pour devenir un moteur essentiel du partage et de l'acquisition d'informations dans divers domaines de la vie. La popularité croissante des médias sociaux soulève un certain nombre de questions concernant l'étendue de leur utilisation et les types d'informations partagées. Cette étude vise à répondre à ces questions en examinant l'utilisation des médias sociaux par les étudiants universitaires en termes de plateformes de médias sociaux couramment utilisées, de fréquence d'utilisation et de types d'informations partagées. Elle examine également les différences d'opinion en fonction du sexe, de la discipline académique et du programme d'études. L'étude est basée sur une enquête transversale ; un questionnaire structuré a été élaboré et les données ont été recueillies auprès de 400 étudiants de quatre universités de Faisalabad, au Pakistan. Les résultats indiquent que la majorité des étudiants étaient des utilisateurs fréquents des médias sociaux et visitaient les plateformes quotidiennement ou plusieurs fois

par jour. WhatsApp, Facebook et YouTube étaient les plateformes de médias sociaux les plus utilisées. Les étudiants masculins ont tendance à utiliser les médias sociaux plus fréquemment que leurs homologues féminines. Cette étude servira de ligne directrice pour des recherches ultérieures, car elle aborde une zone inexplorée d'un point de vue local et rend compte d'une recherche originale.

Mots-clés

Médias sociaux, utilisation, sites de réseaux sociaux, étudiants universitaires, Pakistan, partage d'informations

Saudi scholars' perception of open data portals at Shaqra University

Perception par les universitaires saoudiens des portails de données ouvertes à l'université de Shaqra

Ahmed Shehata, Mohamed Elgllab

IFLA Journal, 47–4, 493–504

Résumé :

Cet article rapporte les résultats d'une étude sur l'utilisation des données ouvertes parmi les universitaires saoudiens. Cette dernière étudie les perceptions de l'échantillon quant aux données ouvertes et aux portails de données ouvertes. L'étude fait état des facteurs qui influencent la décision des participants d'utiliser des données ouvertes et vise à comprendre les pratiques et les perceptions des chercheurs saoudiens concernant l'utilisation et le partage de données ouvertes. Elle a adopté une approche quantitative, et un questionnaire a été distribué et recueilli auprès de 190 membres du personnel universitaire saoudien pour mesurer leurs perceptions, leur utilisation des données ouvertes, les avantages des données ouvertes et les facteurs qui ont eu un impact significatif sur leur utilisation des données ouvertes. Les résultats révèlent que 42,1 % des chercheurs saoudiens ont utilisé les portails de données ouvertes du gouvernement et ont régulièrement visité les portails de données ouvertes fournis par l'université et le gouvernement, principalement à des fins de recherche. Les résultats indiquent également que les portails de données ouvertes ont permis aux chercheurs saoudiens d'obtenir des données utiles pour leurs recherches tout en leur donnant les outils nécessaires pour visualiser et comprendre les données.

Mots-clés

Données ouvertes, portails de données, partage de données, portails de données ouvertes, chercheurs saoudiens, Université Shaqra

Developing future-ready school libraries through design thinking: A case study

Développer des bibliothèques scolaires prêtes pour l'avenir grâce au « design thinking » : une étude de cas

Chin Ee Loh, Elia Binte M. Hamarian, Lisa Lim, Qianwei Lim, Skyler Ng

IFLA Journal, 47–4, 505–519

Résumé :

Les bibliothèques scolaires du monde entier doivent revitaliser leurs espaces, leurs collections et leurs programmes pour continuer à être pertinentes pour les enseignants et les élèves qui vivent et apprennent dans une ère technologique mondiale saturée d'informations. Les efforts visant à repenser l'utilisation et la conception des bibliothèques sont plus efficaces lorsqu'ils sont contextualisés et localisés, en fonction des besoins des utilisateurs et des budgets des pays ou des écoles. Le « design thinking » est une approche utile aux écoles pour comprendre les besoins de leur population et concevoir des améliorations ciblées pour les utilisateurs spécifiques de leurs bibliothèques. Cet article explique comment un établissement d'enseignement secondaire a collaboré avec des chercheurs universitaires pour utiliser le design thinking afin de repenser le rôle et les fonctions de sa bibliothèque scolaire. Les données recueillies au cours de ce processus ont été intégrées dans la refonte d'une bibliothèque améliorée pour les étudiants. Cet article propose un modèle pour les projets d'amélioration des bibliothèques scolaires fondés sur des données probantes.

Mots-clés

Bibliothèques scolaires, design thinking, pratique fondée sur des données probantes, école secondaire, Singapour

Do primary school libraries affect teenagers' attitudes towards leisure reading

Les bibliothèques des écoles primaires influencent-elles l'attitude des adolescents à l'égard de la lecture pour le plaisir

Pamela Elizabeth McKirdy

IFLA Journal, 47–4, 520–530

Résumé :

Cette étude explore la manière dont l'expérience des élèves d'une école primaire de Nouvelle-Zélande en matière de bibliothèques scolaires a

affecté leur attitude envers la lecture pour le plaisir une fois qu'ils sont entrés dans l'enseignement secondaire. Deux cent soixante-seize élèves de première année du secondaire ont répondu à une enquête portant sur les bibliothèques de leur école primaire. Les élèves ont été invités à s'identifier comme de grands lecteurs, des lecteurs occasionnels ou des non-lecteurs. Les résultats ont été analysés dans une feuille de calcul, en tenant compte de variables telles que l'attitude à l'égard de la lecture, l'ancienne école et le contexte familial. Les élèves sont généralement positifs à l'égard de leurs bibliothèques, mais sont gênés par les environnements exigus et bruyants et les livres qu'ils perçoivent comme enfantins. Les élèves des écoles disposant d'un bibliothécaire étaient plus favorables à la lecture pour le plaisir que ceux des écoles où la bibliothèque n'était pas une priorité. Les élèves issus d'un milieu familial où la lecture était encouragée étaient plus susceptibles de conserver une attitude positive à l'égard de la lecture lorsqu'ils entraient à l'école secondaire.

Mots-clés

Services aux jeunes adultes, services aux populations utilisatrices, services aux enfants, médiathèques scolaires, bibliothèques, types de bibliothèques et de fournisseurs d'information, bâtiments, installations, gestion, administration, Océanie, Asie

Intellectual property information service and the impacts on academic libraries transformation

Le service d'information sur la propriété intellectuelle et ses conséquences sur la transformation des bibliothèques universitaires

Wei Yang, Tianlin Liu

IFLA Journal, 47–4, 531–547

Résumé :

Une centaine de centres de services d'information sur la propriété intellectuelle ont été créés dans les bibliothèques universitaires chinoises, dont plus de 80 % depuis 2017. Le contexte de cet essor des centres de services d'information sur la propriété intellectuelle est l'augmentation rapide du nombre de demandes de brevets en Chine, ainsi qu'un taux de transfert inacceptablement bas. Les centres de services d'information sur la propriété intellectuelle représentent-ils une orientation prometteuse pour la transformation des bibliothèques universitaires ™ C'est la question centrale abordée dans cet article. Les caractéristiques de la trajectoire d'évolution et des forces motrices de la Chine y sont discutées, et les pratiques distinctives des services d'information sur la propriété intellectuelle y sont étudiées et résumées. Des comparaisons sont faites avec les États-Unis, le Royaume-Uni, l'Europe et l'Inde. Grâce aux centres de services d'information sur la propriété intellectuelle, les bibliothèques universitaires peuvent passer du statut de fournisseurs d'informations à celui de catalyseurs de l'innovation, et établir des liens plus étroits entre les universités, les communautés et les industries. L'impact des centres de services d'information sur la propriété intellectuelle sur la bibliothéconomie universitaire est multiple. Les tendances et les défis des services d'information sur la propriété intellectuelle sont également abordés dans cet article.

Mots-clés

Services d'information sur la propriété intellectuelle, services d'information sur les brevets, bibliothèques universitaires, transformation des bibliothèques, bibliothèques universitaires chinoises

The information-seeking behaviour of the Egyptian elderly

Le comportement des personnes âgées égyptiennes en matière de recherche d'informations

Essam Mansour

IFLA Journal, 47–4, 548–558

Résumé :

L'objectif de cette étude est d'examiner le comportement des personnes âgées égyptiennes en matière de recherche d'informations, y compris leurs besoins d'information. Un échantillon de 63 personnes âgées vivant dans des maisons de soins a été constitué. Il a été divisé en cinq groupes de discussion. Sur les 63 personnes âgées, 40 étaient des hommes (63,5 %) et 23 des femmes (36,5 %). Près de la moitié (47,6 %) étaient âgés de 61 à 70 ans. Environ un quart (23 %) d'entre eux étaient titulaires d'un diplôme d'études secondaires. Le pourcentage le plus élevé (28,6 %) a été qualifié de personnes à revenu moyen. Le pourcentage le plus élevé (60,3 %) était également celui des veuves ou des veufs. Les types d'informations les plus utilisés par les personnes âgées égyptiennes concernaient les besoins physiques, médicaux/de santé, sociaux, rationnels et récréatifs. Leurs sources d'information varient entre les sources formelles et

informelles. Près des deux tiers (63,5 %) d'entre eux ont montré que des connaissances limitées, un manque d'intérêt, une mauvaise connaissance de l'information, le vieillissement, la solitude et les problèmes de santé étaient les obstacles les plus importants auxquels ils étaient confrontés lorsqu'ils cherchaient des informations.

Mots-clés

Comportement de recherche d'informations, besoins en informations, personnes âgées, sources d'information, Égypte, étude qualitative

Developing information literacy courses for students through VLEs in Tanzania

Développer des cours de maîtrise de l'information pour les étudiants au moyen d'EAV en Tanzanie

Evans F. Wema

IFLA Journal, 47–4, 559–569

Résumé :

Cet article passe en revue la littérature sur l'utilisation des environnements d'apprentissage virtuels en soulignant leur potentiel et les défis de leur introduction en Tanzanie. Il introduit le concept des environnements d'apprentissage virtuels en démontrant leurs applications pour soutenir l'enseignement et l'apprentissage. L'article traite de l'utilisation des environnements d'apprentissage virtuels dans l'enseignement des cours de maîtrise de l'information en soulignant le succès de l'utilisation de ces outils pour faciliter l'enseignement des cours de maîtrise de l'information aux usagers des bibliothèques. Cette étude met l'accent sur les tentatives des établissements d'enseignement supérieur tanzaniens d'introduire un enseignement de la maîtrise de l'information basé sur le Web et sur les difficultés rencontrées. L'étude révèle la nécessité pour les établissements d'enseignement supérieur tanzaniens de développer des environnements d'apprentissage virtuels pour faciliter l'enseignement des cours de maîtrise de l'information aux étudiants et aux professeurs, afin d'atteindre un grand nombre de ceux qui ne sont pas en mesure d'assister aux séances de maîtrise de l'information en présentiel régulièrement proposées par les bibliothécaires.

Mots-clés

Maîtrise de l'information, environnements d'apprentissage virtuels, apprentissage par problèmes, enseignement et apprentissage, environnements d'apprentissage électroniques, établissements d'enseignement supérieur

Communication channels for exchanging agricultural information among Tanzanian farmers: a meta-analysis

Les canaux de communication pour l'échange d'informations agricoles entre agriculteurs tanzaniens : une méta-analyse

Wulystan Pius Mtega

IFLA Journal, 47–4, 570–579

Résumé :

Cette étude examine comment les canaux de communication pour échanger des informations agricoles ont été choisis. Plus précisément, elle identifie les canaux de communication utilisés par les agriculteurs en Tanzanie et détermine les facteurs influençant le choix des canaux de communication pour l'échange d'informations agricoles. Cette étude utilise une méthodologie d'examen par méta-analyse pour identifier, évaluer et interpréter les études relatives au sujet en question. Les résultats indiquent que la radio, les téléphones portables, la télévision, les collègues agriculteurs, les agents de vulgarisation agricole et les journaux étaient les canaux de communication les plus utilisés pour le transfert d'informations agricoles. En outre, il a été constaté que l'influence des canaux, la disponibilité, le caractère abordable, la couverture du réseau de communication, ainsi que les ressources et les installations nécessaires pour utiliser un canal de communication particulier influencent le choix des canaux. Il est conclu que la compréhension du public, les caractéristiques entourant les messages et le choix de canaux de communication appropriés sont importants pour améliorer l'accès aux informations agricoles. Il est recommandé aux fournisseurs d'informations agricoles de comprendre les facteurs entourant les canaux de communication avant de diffuser des informations agricoles.

Mots-clés

Canaux de communication, informations agricoles, agriculteurs, zones rurales, Tanzanie

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

Les e-books en République tchèque : analyse de la demande et du comportement des lecteurs

Viktor Prokop, Jan Stejskal Stejskal

IFLA Journal, 47–4, 580–589

Résumé :

À l'heure actuelle, les livres sont de plus en plus souvent remplacés par des e-books, qui sont devenus un format de plus en plus viable et permettent aux lecteurs de lire plus facilement des livres dans différents

endroits. Les bibliothèques publiques se concentrent donc plus souvent sur la fourniture d'e-books comme l'une des composantes de leurs services numériques. Toutefois, ces services ne font pas toujours l'objet d'une demande adéquate de la part des lecteurs en raison de plusieurs facteurs, tels que les frais de service ou un manque de sensibilisation. C'est pourquoi, dans cet article, les auteurs se concentrent sur l'aspect demande, représenté par les lecteurs d'e-books. Ils se concentrent plus particulièrement sur le comportement des lecteurs d'e-books de la bibliothèque municipale de Prague et proposent un modèle de recherche en trois étapes. Ce dernier se compose d'analyses portant sur : (1) les spécificités des lecteurs d'e-books de la bibliothèque municipale de Prague ; (2) l'intérêt des lecteurs d'e-books pour l'emprunt d'e-books ; et (3) l'intérêt des lecteurs d'e-books pour le service électronique de la bibliothèque municipale de Prague lorsqu'ils doivent payer une redevance. Comme source de données, les auteurs utilisent les données uniques d'une enquête par questionnaire en ligne menée auprès des lecteurs de la bibliothèque municipale de Prague en 2019 par l'agence Sociores. Les résultats montrent que les lecteurs de science-fiction et de fantastique représentent le groupe le plus important de lecteurs d'e-books à la bibliothèque municipale de Prague, et que Facebook est le canal le plus important de communication avec les lecteurs d'e-books. Les auteurs confirment également l'importance des liseuses d'e-books et des smartphones en tant qu'appareils qui influencent de manière significative la décision des lecteurs de lire des e-books. Dans la dernière partie de l'article, les auteurs proposent quelques recommandations pratiques qui pourraient attirer davantage de lecteurs d'e-books.

Mots-clés

Bibliothèque, e-book, comportement du lecteur, disposition à payer, enquête

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

Neoliberalismus und öffentliche Bibliothekspolitik in Irland, 1998-2011: Vom ersten Strategiepapier der Regierung bis zu den ersten Parlamentswahlen nach der Großen Rezession

Maureen Garvey

IFLA Journal, 47–4, 427–443

Zusammenfassung:

Dieser Artikel behandelt den Einfluss der neoliberalen Ideologie auf die öffentlichen Bibliotheken in Irland, und zwar vom ersten politischen Dokument der Regierung, das 1998 veröffentlicht wurde, bis zu den ersten Wahlen nach der Rezession im Jahr 2011. Gegenstand der Untersuchung ist der Zusammenhang zwischen der zunehmenden Bedeutung des Informationsgedankens und der gleichzeitigen Akzeptanz der Grundsätze des freien Marktes für die Erbringung öffentlicher Dienstleistungen. Ferner wird eine Analyse der Strategiepapiere der irischen Regierung durchgeführt. Im Bereich der Bibliotheks- und Informationswissenschaft ist ein kritisches Bewusstsein für diese Veränderungen erforderlich, um politische Maßnahmen, die der öffentlichen Bereitstellung von Bibliotheksdienstleistungen abträglich sind, zu erkennen und abzulehnen.

Schlüsselbegriffe:

Öffentliche Bibliothekspolitik, Irland, Neoliberalismus, öffentlicher Bereich

A re-assessment of the design of Carnegie public library buildings

Eine Neubewertung der Gestaltung der öffentlichen Bibliotheksgebäude von Carnegie

Alistair Black, Oriel Prizeman

IFLA Journal, 47–4, 444–452

Zusammenfassung:

Diese Studie, die sich in erster Linie auf Archivquellen stützt, befasst sich mit dem ursprünglichen Entwurf der 1908 eröffneten öffentlichen Bibliothek von Evanston, Illinois (USA), einem Zweckbau. Im Laufe ihres fünfzigjährigen Bestehens erwarb sich die Bibliothek den Ruf als eines der am meisten geschätzten und verehrten Gebäude der Stadt. Ihr Untergang, zusammen mit dem anderer Carnegie-Bibliotheksgebäude, und die vielen, die erhalten geblieben sind, regt uns dazu an, über die wechselnde Beliebtheit von Carnegie-Bibliotheken als öffentliche Gebäude in Bezug auf ihr Potenzial für eine dauerhafte Nutzung nachzudenken. Die Würdigung des Erbes des architektonischen Progressivismus, der den öffentlichen Bibliotheksgebäuden von Carnegie innewohnt, stärkt das heutige Bild ihres Ursprungs und trägt so dazu bei, die Erwartungen für ihre Zukunft zu erhöhen. Die Neubewertung des Ansehens der ursprünglichen Entwürfe von Carnegie-Bibliotheken anhand von Fallstudien wie Evanston stärkt das Argument, dass, wo immer dies möglich ist, sinnvolle Anstrengungen zur Erhaltung der bestehenden Carnegie-Bibliotheksgebäude unternommen werden sollten.

Schlüsselbegriffe:
Carnegie-Bibliotheken, Geschichte von Bibliotheken und Bibliothekswissenschaften, Architektur von Bibliotheken, Bibliotheksgebäude, Grundlagen der Bibliotheks- und Informationswissenschaft, USA

What we talk about when we talk about information literacy

Worum es bei der Informationskompetenz geht

Margaret S. Zimmerman, Chaoqun Ni

IFLA Journal, 47–4, 453–467

Zusammenfassung:
Informationskompetenz ist eine Grundvoraussetzung für die Entfaltung des eigenen Potenzials und steht in engem Zusammenhang mit einer guten Lebensqualität. Die Art und Weise, wie Informationskompetenz innerhalb des akademischen Kanons diskutiert wird, ist jedoch weitgehend unerforscht, zumal diese Gespräche durch unterschiedliche kulturelle Linsen geführt werden. Die Art der Gruppierung solcher Kulturen stützt sich häufig auf traditionelle Methoden der geografischen Clusterbildung, die durch die unterschiedliche interne Natur der Gesellschaften zunehmend kompliziert werden. Anhand der Textanalyse eines großen bibliometrischen Datensatzes wird in dieser Studie untersucht, wie Wissenschaftler weltweit in ihren Veröffentlichungen über Informationskompetenz diskutieren. Die Autoren zogen 3658 Einträge mit dem genauen Begriff 'Informationskompetenz' aus der Scopus-Datenbank. Diese Daten wurden auf die am häufigsten verwendeten Wörter und Ausdrücke analysiert und nach Ländern gruppiert. Anschließend gruppierten die Autoren die Länder nach ihrem Alphabetisierungsgrad, dem Human Development Index, der durchschnittlichen Anzahl der Zitate pro Artikel und einer von den Autoren erstellten Metrik, die den Fortschritt jedes Landes in Bezug auf die Ziele für nachhaltige Entwicklung und die Gesundheit der Bevölkerung bewertet. Die Ergebnisse umfassen eine Diskussion über die Unterschiede in der Art und Weise, wie Wissenschaftler aus verschiedenen Kulturen über Informationskompetenz diskutieren, sowie eine Reihe von Datenvisualisierungen zur Hervorhebung der Unterschiede in den Daten.

Schlüsselbegriffe:
Informationskompetenz, Informationsvermittlung, Dienstleistungen, Nutzerpopulationen, weltweite Perspektiven, Bibliotheken, Bibliotheks- und Informationswissenschaften, Bibliometrik, Infometrik, Webmetrik, Informationssysteme, Informationsabfrage, Gesellschaft, Kultur, Entwicklung

Acceptance of social network sites by university librarians

Akzeptanz von sozialen Netzwerken durch Universitätsbibliothekare/ Universitätsbibliothekarinnen

Sureni Weerasinghe, Menaka Chandanie Bandara Hindagolla

IFLA Journal, 47–4, 468–480

Zusammenfassung:
Bibliotheken haben sich durch technologische Fortschritte, die neue Möglichkeiten für innovative Bibliotheksdienste eröffnen, einschneidend verändert. Für Bibliothekare und Bibliothekarinnen ist es daher unbedingt erforderlich, mit neuen Technologien wie sozialen Netzwerken Schritt zu halten, um sich in dieser wettbewerbsorientierten digitalen Welt zu bewähren. Ziel dieser Studie ist es, die Faktoren zu untersuchen, die die Akzeptanz von Social-Network-Sites durch Universitätsbibliothekare/Universitätsbibliothekarinnen beeinflussen, indem das Modell der Technologieakzeptanz angewandt wird. Die Ergebnisse zeigten, dass die wahrgenommene Nützlichkeit und die Benutzerfreundlichkeit signifikante Prädiktoren für die Akzeptanz von sozialen Netzwerken sind. Es wurde festgestellt, dass Vertrauen einen signifikanten indirekten Einfluss auf die Bereitschaft der Bibliothekare/Bibliothekarinnen hat, soziale Netzwerke zu nutzen. Diese Studie leistet einen Beitrag zur theoretischen Neuheit der sich überschneidenden Felder der Bibliothekswissenschaft, der sozialen Netzwerke und des Technologieakzeptanzmodells, die in der Literatur bisher noch wenig Beachtung gefunden haben. Darüber hinaus versucht diese Studie, die Lücke in der Adoptionsliteratur zu schließen, in der Bibliothekare und Bibliothekarinnen nur selten als NutzerInnen anerkannt werden, und gleichzeitig die Validierung des Technologieakzeptanzmodells in einem Entwicklungslandkontext zu unterstützen. Insgesamt erklärte das vorgeschlagene Forschungsmodell 58,4 % (R 2 = 0,584) der Varianz in der abhängigen Variable der Verhaltensabsicht.

Schlüsselbegriffe:
Technologieakzeptanzmodell, Social-Network-Sites, Universitätsbibliotheken, Bibliothekare/Bibliothekarinnen, Akzeptanz, Verhaltensabsicht

Social media use and information sharing behavior of university students

Nutzung sozialer Medien und Informationsaustauschverhalten von Universitätsstudierenden

Iqra Bashir, Amara Malik, Khalid Mahmood

IFLA Journal, 47–4, 481–492

Zusammenfassung:

In den letzten zehn Jahren haben sich die sozialen Medien zu einer wichtigen Triebkraft für den Austausch und die Beschaffung von Informationen in verschiedenen Lebensbereichen entwickelt. Die zunehmende Beliebtheit sozialer Medien wirft eine Reihe von Fragen hinsichtlich des Umfangs ihrer Nutzung und der Art der geteilten Informationen auf. Die vorliegende Studie soll diese Fragen beantworten, indem sie die Nutzung sozialer Medien durch Universitätsstudierende im Hinblick auf die am häufigsten genutzten Plattformen, die Häufigkeit der Nutzung und die Art der geteilten Informationen untersucht. Dabei werden auch Meinungsunterschiede aufgrund von Geschlecht, akademischer Disziplin und Studiengang untersucht. Die Studie basiert auf einer Querschnittserhebung; es wurde ein strukturierter Fragebogen entwickelt, mit dem Daten von 400 Studierenden an vier Universitäten in Faisalabad, Pakistan, erhoben wurden. Die Ergebnisse zeigen, dass die Mehrheit der Studierenden häufig soziale Medien nutzt und die Plattformen täglich oder mehrmals am Tag besucht. Am häufigsten wurden die Social-Media-Plattformen WhatsApp, Facebook und YouTube genutzt. Männliche Studierende nutzten soziale Medien tendenziell häufiger als ihre weiblichen Kommilitonen. Diese Studie wird als Leitfaden für weitere Forschungen dienen, da sie sich mit einem unberührten Gebiet aus lokaler Sicht befasst und originelle Forschungsergebnisse liefert.

Schlüsselbegriffe:

Soziale Medien, Nutzung, Social-Networking-Sites, Universitätsstudierende, Pakistan, Informationsaustausch

Saudi scholars' perception of open data portals at Shaqra University

Die Wahrnehmung von offenen Datenportalen durch saudische Wissenschaftler an der Shaqra University

Ahmed Shehata, Mohamed Elgllab

IFLA Journal, 47–4, 493–504

Zusammenfassung:

Dieser Artikel berichtet über die Ergebnisse einer Studie zur Nutzung offener Daten unter saudischen Wissenschaftlern. Es wird untersucht, wie die Stichprobe offene Daten und offene Datenportale wahrnimmt. Die Studie berichtete über die Faktoren, die sich auf die Entscheidung der Teilnehmer zur Nutzung offener Daten auswirken, und zielte darauf ab, die Praktiken und Wahrnehmungen saudischer Forscher in Bezug auf die Nutzung und gemeinsame Nutzung offener Daten zu verstehen. Dazu wurde ein quantitativer Ansatz gewählt und ein Fragebogen an 190 saudische Hochschulmitarbeiter verteilt und von ihnen ausgefüllt, um ihre Wahrnehmungen, ihre Nutzung offener Daten, die Vorteile offener Daten und die Faktoren, die ihre Nutzung offener Daten maßgeblich beeinflussen, zu messen. Die Ergebnisse zeigen, dass 42,1 % der saudischen Forscher offene Datenportale der Regierung nutzen und regelmäßig offene Datenportale, die von der Universität und der Regierung bereitgestellt werden, hauptsächlich zu Forschungszwecken besuchen. Ferner deuten die Ergebnisse darauf hin, dass offene Datenportale es saudischen Forschern ermöglichten, nützliche Daten für ihre Forschung zu erhalten und ihnen gleichzeitig die Werkzeuge zur Visualisierung und zum Verständnis der Daten an die Hand gaben.

Schlüsselbegriffe:

Offene Daten, Datenportale, gemeinsame Datennutzung, offene Datenportale, saudische Forscher, Shaqra University

Developing future-ready school libraries through design thinking: A case study

Entwicklung zukunftsfähiger Schulbibliotheken durch Design Thinking: eine Fallstudie

Chin Ee Loh, Elia Binte M. Hamarian, Lisa Lim, Qianwei Lim, Skyler Ng

IFLA Journal, 47–4, 505–519

Zusammenfassung:

Schulbibliotheken auf der ganzen Welt müssen ihre Räumlichkeiten, Sammlungen und Programme erneuern, um für Lehrer- und Schülerschaft, die in einem informationsgesättigten, technologischen globalen Zeitalter leben und lernen, weiterhin relevant zu sein. Die Bemühungen um ein Umdenken bei der Bibliotheksnutzung und -gestaltung sind am wirksamsten, wenn sie kontextbezogen und lokalisiert sind und auf den Bedürfnissen der Nutzer und Nutzerinnen und den Budgets der Länder oder Schulen basieren. Design Thinking ist ein praktischer Ansatz für Schulen, um die Bedürfnisse ihrer Bevölkerung zu verstehen und gezielte Verbesserungen für die spezifische

Nutzerschaft ihrer Bibliotheken zu entwickeln. In diesem Artikel wird beschrieben, wie eine Sekundarschule in Zusammenarbeit mit Universitätsforschern Design Thinking einsetzte, um die Rolle und die Funktionen ihrer Schulbibliothek neu zu gestalten. Die dabei gesammelten Erkenntnisse wurden in die Neugestaltung einer verbesserten Bibliothek für die Studierenden integriert. Dieser Artikel bietet ein Modell für faktengestützte Projekte zur Verbesserung von Schulbibliotheken.

Schlüsselbegriffe:

Schulbibliotheken, Design Thinking, faktengestützte Projekte, Sekundarschule, Singapur

Do primary school libraries affect teenagers' attitudes towards leisure reading

Haben Grundschulbibliotheken Einfluss auf die Einstellung von Jugendlichen zum Lesen als Freizeitbeschäftigung

Pamela Elizabeth McKirdy

IFLA Journal, 47–4, 520–530

Zusammenfassung:

In dieser Studie wird untersucht, wie sich die Erfahrungen neuseeländischer GrundschülerInnen mit Schulbibliotheken auf ihre Einstellung zum Lesen zum Vergnügen auswirken, sobald sie in die Sekundarstufe wechseln. Zweihundertsechsundsiebzig Schülerinnen und Schüler in ihrem ersten Jahr an der High School füllten eine Umfrage über ihre Grundschulbibliotheken aus. Die SchülerInnen wurden gebeten, sich selbst als eifrige LeserInnen, GelegenheitsleserInnen oder NichtleserInnen einzustufen. Die Ergebnisse wurden in einem Tabellenkalkulationsprogramm unter Berücksichtigung von Variablen wie Einstellung zum Lesen, frühere Schule und familiärer Hintergrund analysiert. Die Schüler/Schülerinnen äußerten sich überwiegend positiv über ihre Bibliotheken, störten sich aber an der beengten und lauten Umgebung und an Büchern, die sie als kindisch empfanden. Schülerinnen und Schüler aus Schulen mit einer Bibliothekarin oder einem Bibliothekar waren positiver gegenüber dem Lesen zum Vergnügen eingestellt als diejenigen aus Schulen, in denen die Bibliothek keinen hohen Stellenwert hat. Schülerinnen und Schüler, die aus einem Elternhaus stammen, in dem das Lesen gefördert wurde, hatten eine höhere Wahrscheinlichkeit, bis zum Erreichen der High School eine positive Einstellung zum Lesen beizubehalten.

Schlüsselbegriffe:

Dienste für junge Erwachsene, Dienste für Nutzergruppen, Dienste für Kinder, Schulmedienzentren, Bibliotheken, Arten von Bibliotheken und Informationsanbietern, Gebäude, Einrichtungen, Management, Verwaltung, Ozeanien, Asien

Intellectual property information service and the impacts on academic libraries transformation

Informationsdienst für geistiges Eigentum und die Auswirkungen auf die Umgestaltung wissenschaftlicher Bibliotheken

Wei Yang, Tianlin Liu

IFLA Journal, 47–4, 531–547

Zusammenfassung:

Rund 100 Informationszentren für geistiges Eigentum wurden in chinesischen Universitätsbibliotheken eingerichtet, mehr als 80 % von ihnen seit 2017. Hintergrund dieses Booms bei den Zentren für Informationsdienste für geistiges Eigentum ist die rasant steigende Zahl der Patentanmeldungen in China sowie eine unannehmbar niedrige Transferquote. Sind diese Zentren eine vielversprechende Richtung für die Umgestaltung von Universitätsbibliotheken™ Dies ist die zentrale Frage, die in diesem Artikel behandelt wird. Die Merkmale des chinesischen Entwicklungspfads und die treibenden Kräfte werden erörtert, und die besonderen Praktiken der Informationsdienste für geistiges Eigentum werden untersucht und zusammengefasst. Außerdem werden Vergleiche mit den USA, dem Vereinigten Königreich, Europa und Indien angestellt. Mit den Zentren für Informationsdienste für geistiges Eigentum können sich die Universitätsbibliotheken von Informationsanbietern zu Innovationskatalysatoren entwickeln und engere Verbindungen zwischen Universitäten, Gemeinden und Unternehmen herstellen. Die Auswirkungen der Zentren für Informationsdienste für geistiges Eigentum auf das Universitätsbibliothekswesen sind vielfältig. Auch werden in dem Artikel die Trends und Herausforderungen bei den Informationsdiensten für geistiges Eigentum erörtert.

Schlüsselbegriffe:

Zentren für Informationsdienste für geistiges Eigentum, Patentinformationsdienste, wissenschaftliche Bibliotheken, Umgestaltung von Universitätsbibliotheken, chinesische Universitätsbibliotheken

The information-seeking behaviour of the Egyptian elderly

Das Verhalten bei der Informationssuche von Senioren in Ägypten

Essam Mansour

IFLA Journal, 47–4, 548–558

Zusammenfassung:

Ziel dieser Studie ist es, das Informationssuchverhalten älterer Menschen in Ägypten zu untersuchen, einschließlich ihres Informationsbedarfs. Dazu wurde eine Stichprobe von 63 älteren Menschen, die in Pflegeheimen leben, gezogen. Diese wurde in fünf Fokusgruppen aufgeteilt. Von den 63 Senioren waren 40 Männer (63,5 %) und 23 Frauen (36,5 %). Fast die Hälfte (47,6 %) war zwischen 61 und 70 Jahre alt. Etwa ein Viertel (23 %) von ihnen hatte einen Sekundarschulabschluss. Der höchste Prozentsatz (28,6 %) wurde als Personen mit mittlerem Einkommen eingestuft. Außerdem waren die meisten (60,3 %) verwitwet. Die von den ägyptischen Senioren am häufigsten genutzten Informationsarten beziehen sich auf körperliche, medizinische/gesundheitliche, soziale, rationale und freizeitbezogene Bedürfnisse. Ihre Informationsquellen variierten zwischen formellen und informellen Quellen. Fast zwei Drittel (63,5 %) der Befragten gaben an, dass begrenztes Wissen, mangelndes Interesse, mangelndes Informationsbewusstsein, Alter, Einsamkeit und Gesundheitsprobleme die größten Hindernisse bei der Informationssuche darstellen.

Schlüsselbegriffe:

Informationssuchverhalten, Informationsbedürfnisse, Senioren, Informationsquellen, Ägypten, qualitative Studie

Developing information literacy courses for students through VLEs in Tanzania (Entwicklung von Informationskompetenzkursen für Studenten durch VLEs in Tansania)

Evans F. Wema

IFLA Journal, 47–4, 559–569

Zusammenfassung:

Dieser Artikel vermittelt einen Überblick über die Literatur zum Einsatz virtueller Lernumgebungen und zeigt deren Potenzial und die Herausforderungen bei der Einführung in Tansania auf. Das Konzept virtueller Lernumgebungen wird eingeführt, indem deren Anwendungen zur Unterstützung des Lehrens und Lernens demonstriert werden. Der Artikel erörtert den Einsatz virtueller Lernumgebungen bei der Vermittlung von Informationskompetenz, indem er den Erfolg des Einsatzes solcher Tools bei der Erleichterung der Vermittlung von Informationskompetenz an Bibliotheksbenutzer hervorhebt. In diesem Überblick liegt der besondere Schwerpunkt auf den Versuchen tansanischer Hochschulen, webbasierten Unterricht zur Vermittlung von Informationskompetenz einzuführen, und auf den damit verbundenen Herausforderungen. Die Untersuchung zeigt die Notwendigkeit tansanischer Hochschulen zur Entwicklung virtueller Lernumgebungen, um die Vermittlung von Informationskompetenz an Studierende und Lehrkräfte zu erleichtern und möglichst viele derer zu erreichen, die nicht in der Lage sind, an den regelmäßig von Bibliothekaren angebotenen Präsenzveranstaltungen zur Informationskompetenz teilzunehmen.

Schlüsselbegriffe:

Informationskompetenz, virtuelle Lernumgebungen, problembasiertes Lernen, Lehren und Lernen, elektronische Lernumgebungen, Hochschulen

Communication channels for exchanging agricultural information among Tanzanian farmers: A meta-analysis

Kommunikationskanäle für den Austausch von landwirtschaftlichen Informationen unter tansanischen Landwirten: eine Meta-Analyse

Wulystan Pius Mtega

IFLA Journal, 47–4, 570–579

Zusammenfassung:

In dieser Studie wird untersucht, wie die Kommunikationskanäle für den Austausch landwirtschaftlicher Informationen ausgewählt wurden. Insbesondere werden die von den Landwirten in Tansania genutzten Kommunikationskanäle ermittelt und die Faktoren bestimmt, die die Wahl der Kommunikationskanäle für den Austausch von landwirtschaftlichen Informationen beeinflussen. Zur Identifizierung, Bewertung und Interpretation von Studien, die für das Thema von Interesse sind, verwendet die Studie eine metaanalytische Überprüfungsmethodik. Die Ergebnisse zeigen, dass Radio, Mobiltelefon, Fernsehen, andere Landwirte, landwirtschaftliche Berater und Zeitungen die am häufigsten genutzten Kommunikationskanäle für die Weitergabe landwirtschaftlicher Informationen sind. Darüber hinaus wurde festgestellt, dass der Einfluss des jeweiligen Kanals, die Verfügbarkeit, die Erschwinglichkeit, die Abdeckung des Kommunikationsnetzes sowie die für die Nutzung eines bestimmten Kommunikationskanals erforderlichen Ressourcen und Einrichtungen die

Wahl der Kanäle beeinflussen. Die Schlussfolgerung lautet, dass das Verständnis der Zielgruppe, die Merkmale der Botschaften und die Wahl geeigneter Kommunikationskanäle wichtig sind, um den Zugang zu landwirtschaftlichen Informationen zu verbessern. Anbieter von landwirtschaftlichen Informationen sollten daher diese Faktoren der Kommunikationskanäle unbedingt verstehen, bevor sie landwirtschaftliche Informationen verbreiten.

Schlüsselbegriffe:

Kommunikationskanäle, landwirtschaftliche Informationen, Landwirte, ländliche Gebiete, Tansania

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

E-Books in der tschechischen Republik: Analyse der Nachfrage und des Leserverhaltens

Viktor Prokop, Jan Stejskal Stejskal

IFLA Journal, 47–4, 580–589

Zusammenfassung:

Immer häufiger werden heute Bücher durch E-Books ersetzt, die sich mehr und mehr durchsetzen und es den Lesern erleichtern, Bücher an verschiedenen Orten zu lesen. Öffentliche Bibliotheken konzentrieren sich daher zunehmend auf die Bereitstellung von E-Books als eine der Komponenten ihrer digitalen Dienstleistungen. Allerdings werden diese Dienste von den Lesern nicht immer genügend nachgefragt, was auf verschiedene Faktoren zurückzuführen ist, z. B. auf die Höhe der Gebühren oder auf mangelnden Bekanntheitsgrad. Daher konzentrieren sich die Autoren in diesem Artikel auf die Nachfrageseite, d. h. auf die E-Book-Leserschaft. Insbesondere nehmen sie das Verhalten der E-Book-Leserschaft in der Stadtbibliothek Prag ins Visier und schlagen ein dreistufiges Forschungsmodell vor. Es beinhaltet Analysen mit den folgenden Schwerpunkten: (1) die Besonderheiten der E-Book-Leserschaft der Stadtbibliothek Prag; (2) das Interesse der E-Book-Leserschaft an der Ausleihe von E-Books; und (3) das Interesse der E-Book-Leserschaft am kostenpflichtigen E-Service der Stadtbibliothek Prag. Als Datenquelle verwenden die Autoren einzigartige Daten aus einer Online-Fragebogenerhebung unter den LeserInnen der Stadtbibliothek Prag im Jahr 2019 durch die Agentur Sociores. Die Ergebnisse zeigen, dass Science-Fiction- und Fantasy-LeserInnen die wichtigste Gruppe von E-Book-Leserschaft in der Stadtbibliothek Prag darstellen und dass Facebook der wichtigste Kanal für die Kommunikation mit E-Book-LeserInnen ist. Darüber hinaus bestätigen die Autoren die Bedeutung von E-Book-Readern und Smartphones als Geräte, die die Entscheidung der LeserInnen, E-Books zu lesen, erheblich beeinflussen. Im abschließenden Teil des Artikels geben die Autoren einige praktische Empfehlungen, die mehr E-Book-LeserInnen anziehen könnten.

Schlüsselbegriffe:

Bibliothek, E-Book, Leserverhalten, Zahlungsbereitschaft, Befragung

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

Неолиберализм и политика публичных библиотек в Ирландии, 1998-2011 годы: от первого правительственного программного документа до первых всеобщих выборов после мирового экономического кризиса

Морин Гарви

IFLA Journal, 47–4, 427–443

Аннотация:

В этой статье рассматривается влияние неолиберальной идеологии на публичные библиотеки Ирландии, начиная с первого правительственного программного документа, опубликованного в 1998 году, и заканчивая первыми выборами после экономического кризиса 2011 года. Рассматривается контекст повышения значимости идеи информации и параллельного принятия принципов свободного рынка для предоставления государственных услуг. Анализируются программные документы правительства Ирландии того периода. Критическое понимание этих изменений необходимо в области библиотечного дела и информатики, с целью их распознавания и противостояния политике, которая наносит ущерб публичному предоставлению библиотечных услуг.

Ключевые слова

Политика публичных библиотек, Ирландия, неолиберализм, государственная сфера

A re-assessment of the design of Carnegie public library buildings

Переоценка дизайна зданий Публичной библиотеки Карнеги

Алистер Блэк, Ориел Призман

IFLA Journal, 47–4, 444–452

Аннотация:

Данное исследование посвящено оригинальному дизайну специально построенной публичной

библиотеки Эванстона, штат Иллинойс, открытой в 1908 году, и основано на архивных источниках. На протяжении своей полувековой жизни библиотека заслужила репутацию одного из самых важных и почитаемых зданий города. Ее исчезновение, наряду с исчезновением других зданий библиотеки Карнеги, а также многие сохранившиеся здания побуждают нас задуматься об изменении популярности библиотек Карнеги как общественных зданий в связи с потенциалом их постоянного использования. Высокая оценка прогрессирующего наследия в области архитектуры, отраженного в зданиях публичной библиотеки Карнеги, укрепляет сегодняшнее представление об их происхождении, тем самым помогая оценить перспективы в отношении их будущего. Переоценка оригинальных проектов библиотек Карнеги с помощью тематических исследований, таких как Эванстон, придает вес аргументу о том, что там, где это возможно, следует приложить значительные усилия для сохранения существующих зданий библиотек Карнеги.

Ключевые слова

Библиотеки Карнеги, история библиотек и библиотечного дела, библиотечная архитектура, библиотечные здания, принципы библиотечного дела и информатики как науки, США

What we talk about when we talk about information literacy

О чем мы говорим, когда говорим об информационной грамотности

Маргарет С. Циммерман, журнал Чаокун Ни

IFLA Journal, 47–4, 453–467

Аннотация:

Навыки информационной грамотности необходимы для реализации человеком своего потенциала и тесно связаны с хорошим качеством жизни. Однако способы обсуждения информационной грамотности в рамках академического контекста в значительной степени не изучены, особенно в связи с тем, что эти беседы проходят через различные культурные призмы. Способы группировки таких культур часто основаны на традиционных методах географической кластеризации, которые все более усложняются из-за несопоставимой внутренней природы обществ. Путем использования текстового анализа большого набора библиометрических данных в данном исследовании осуществляется попытка изучения процесса обсуждения информационной грамотности учеными во всем мире, а также ее отражение в публикациях ученых. Авторы извлекли 3658 записей с точным термином “информационная грамотность” из базы данных Скопус. Эти данные были проанализированы на предмет наиболее часто используемых слов и фраз и сгруппированы по странам. Затем авторы далее сгруппировали страны по уровню грамотности, рейтингу Индекса развития человеческого потенциала, среднему числу цитирований на статью и разработанному авторами показателю, который оценивал прогресс каждой страны в отношении Целей устойчивого развития и здоровья населения. Результаты включают обсуждение различий в том, как ученые из разных культур обсуждают информационную грамотность, а также ряд визуализаций данных, с целью выявления их различий.

Ключевые слова

Информационная грамотность, информационное обучение, услуги, состав пользователей, глобальные перспективы, библиотеки, информация, библиотечно-информационные науки, библиометрия, информатика, вебометрия, информационные системы, поиск информации, общество, культура, развитие

Acceptance of social network sites by university librarians

Использование сайтов социальных сетей Университетскими библиотекарями

Сурени Вирасингхе, Менака Чандани Бандара Хиндаголла

IFLA Journal, 47–4, 468–480

Аннотация:

Благодаря техническим достижениям, открывающим возможности для внедрения инновационных библиотечных услуг, библиотеки претерпевают настоящую революцию. Библиотекарям крайне важно идти в ногу с новейшими технологиями, такими как сайты социальных сетей, чтобы доказывать свою ценность в этом конкурентном цифровом мире. Это исследование направлено на изучение факторов, влияющих на использование сайтов социальных сетей университетскими библиотекарями путем использования новейших технологий. Результаты показали, что явная польза и достаточная простота использования являются предопределяющими факторами пользования сайтами социальных сетей. Было установлено, что значительное косвенное влияние на намерение библиотекарей использовать сайты

социальных сетей оказал и рост доверия. Это исследование способствует теоретической новизне предмета библиотечного дела в области его пересечения с сайтами социальных сетей и моделью использования технологий, чему в литературе уделяется меньше внимания. Кроме того, это исследование пытается заполнить пробел в литературе по внедрению новых технологий, в которой библиотекари редко признаются пользователями, поддерживая тем самым проверку модели принятия технологий в контексте развивающихся стран. В целом, предложенная исследовательская модель показала 58,4% (R 2 = 0,584) дисперсии зависимой переменной поведенческого намерения.

Ключевые слова

Модель принятия технологий, сайты социальных сетей, университетские библиотеки, библиотекари, принятие, поведенческие намерения

Social media use and information sharing behavior of university students

Использование социальных сетей и поведение обмена информацией студентов университетов

Икра Башир, Амара Малик, Халид Махмуд

IFLA Journal, 47–4, 481–492

Аннотация:

За последнее десятилетие социальные сети превратились в ключевую движущую силу для обмена и получения информации в различных сферах жизни. Растущая популярность социальных сетей поднимает ряд вопросов, касающихся масштабов их использования и типов распространяемой информации. Это исследование предназначено для ответа на эти вопросы путем изучения использования студентами университетов социальных сетей с точки зрения часто используемых платформ социальных сетей, частоты использования и типов распространяемой информации. В нем также рассматриваются различия во мнениях по признаку пола, академической дисциплины и программы обучения. Исследование основано на перекрестном опросе; при этом была разработана структурированная анкета, и были собраны данные от 400 студентов четырех университетов в Фейсалабаде, Пакистан. Результаты показывают, что большинство студентов были частыми пользователями социальных сетей и посещали платформы ежедневно или несколько раз в день. WhatsApp, Facebook и YouTube были наиболее широко используемыми платформами социальных сетей. Студенты мужского пола, как правило, чаще пользовались социальными сетями, чем их коллеги-женщины. Это исследование послужит руководством для дальнейших исследований, поскольку оно рассматривает нетронутую область с точки зрения местных жителей и содержит оригинальные исследования.

Ключевые слова

Социальные сети, использование, сайты социальных сетей, студенты университетов, Пакистан, обмен информацией

Saudi scholars' perception of open data portals at Shaqra University

Восприятие саудовскими учеными порталов открытых данных в Университете Шакра

Ахмед Шехата, Мохаммед Эльгллаб

IFLA Journal, 47–4, 493–504

Аннотация:

В этой статье представлены результаты исследования учеными Саудовской Аравии об использовании данных, находящихся в открытом доступе. В ней путем выборки исследуется восприятие открытых данных и порталов открытых данных. В исследовании сообщалось о факторах, влияющих на решение участников использовать открытые данные, и оно было направлено на понимание практики и представлений саудовских исследователей, связанных с использованием и обменом открытыми данными. В ходе исследования был применен количественный подход, при котором анкету распространили среди 190 саудовских преподавателей. Данные анкетирования были собраны с целью оценить восприятие опрошенных, использование ими открытых данных, преимущества открытых данных и факторы, которые существенно повлияли на использование открытых данных ими. Результаты показывают, что 42,1% саудовских исследователей использовали государственные порталы открытых данных и они регулярно посещали порталы открытых данных, предоставляемые университетом и правительством, главным образом в исследовательских целях. Результаты также показывают, что открытые порталы данных позволили саудовским исследователям получать полезные данные для своих исследований, предоставляя им инструменты для визуализации и понимания этих данных.

Ключевые слова

Открытые данные, порталы данных, обмен данными, порталы открытых данных, саудовские исследователи, Университет Шакра

Developing future-ready school libraries through design thinking: A case study

Разработка Школьных библиотек, Готовых к будущему, с помощью Дизайн-Мышления: Тематическое исследование

Чин И Ло, Элия Бинте М Хамарян, Лиза Лим, Цяньвэй Лим, Скайлер Нг

IFLA Journal, 47–4, 505–519

Аннотация:

Школьным библиотекам по всему миру необходимо обновить свои помещения, коллекции и программы, чтобы они по-прежнему не теряли своей актуальности для учителей и учащихся, живущих и обучающихся в информационно насыщенный технологический глобальный век. Усилия по переосмыслению использования и дизайна библиотек наиболее эффективны, когда они контекстуализированы и локализованы, исходя из потребностей пользователей и бюджетов стран или школ. Дизайн-мышление-это полезный подход для школ, позволяющий понять потребности своего населения и разработать целевые улучшения для конкретных пользователей своих библиотек. В этой статье объясняется, как одна средняя школа сотрудничала с университетскими исследователями, чтобы использовать дизайн-мышление для переосмысления роли и функций своей школьной библиотеки. Доказательства, собранные в ходе этого процесса, были интегрированы в переработку улучшенной библиотеки для студентов. В этой статье представлена модель для проектов по улучшению школьной библиотеки, основанных на фактических данных.

Ключевые слова

Школьные библиотеки, дизайн-мышление, научно обоснованная практика, средняя школа, Сингапур

Do primary school libraries affect teenagers' attitudes towards leisure reading

Влияют ли библиотеки начальной школы на отношение подростков к досуговому чтению™

Памела Элизабет Маккирди

IFLA Journal, 47–4, 520–530

Аннотация:

В этом исследовании проводится анализ того, как опыт новозеландских учащихся начальных классов в школьных библиотеках повлиял на их отношение к чтению для удовольствия, как только они поступили в среднюю школу. Двести семьдесят шесть учащихся первого года обучения в средней школе приняли участие в опросе, в ходе которого им задавали вопросы об их библиотеках в начальной школе. Студентам было предложено идентифицировать себя как увлеченных читателей, случайных читателей или не читателей. Результаты были проанализированы в электронной таблице с учетом таких переменных, как отношение к чтению, бывшая школа и семейное происхождение. Студенты в основном положительно относились к своим библиотекам, но их беспокоила тесная и шумная обстановка, а также книги, которые они воспринимали как детские. Учащиеся школ, в которых работает библиотекарь, более позитивно относились к чтению для развлечения, чем учащиеся школ, в которых библиотека не была приоритетной. Учащиеся из семей, где поощрялось чтение, с большей вероятностью сохраняли позитивное отношение к чтению к тому времени, когда они поступали в среднюю школу.

Ключевые слова

Услуги для молодежи, услуги для пользователей, услуги для детей, школьные медиа-центры, библиотеки, типы библиотек и поставщики информации, здания, сооружения, управление, администрация, Океания, Азия

Intellectual property information service and the impacts on academic libraries transformation

Информационная служба интеллектуальной собственности и влияние на трансформацию академических библиотек

Вэй Ян, Тяньлинь Лю

IFLA Journal, 47–4, 531–547

Аннотация:

В китайских университетских библиотеках было создано около 100 Центров информационных услуг в области интеллектуальной собственности, более 80% из них возникли с 2017 года. Контекстом этого бума в Центрах информационных услуг в области интеллектуальной собственности является быстрое увеличение числа патентных заявок в Китае, а также неприемлемо низкий коэффициент передачи. Являются ли Центры информационных услуг в области интеллектуальной собственности перспективным направлением трансформации университетских библиотек™ Это центральный вопрос, рассматриваемый в этой статье.

Обсуждаются характеристики китайского эволюционного пути и движущие силы, а также изучаются и обобщаются отличительные практики предоставления информационных услуг в области интеллектуальной собственности. В статье проводятся сравнения с США, Великобританией, Европой и Индией. Благодаря Центрам информационных услуг в области интеллектуальной собственности университетские библиотеки могут превратиться из поставщиков информации в катализаторы инноваций и установить более тесные связи между университетами, сообществами и отраслями промышленности. Влияние Центров информационных услуг в области интеллектуальной собственности на библиотечное дело университетов многогранно. В статье также обсуждаются тенденции и проблемы информационных услуг в области интеллектуальной собственности.

Ключевые слова

Информационные услуги в области интеллектуальной собственности, патентно-информационные услуги, академические библиотеки, преобразование библиотек, библиотеки китайских университетов

The information-seeking behaviour of the Egyptian elderly

Поведение пожилых египтян в поисках информации

Эссам Мансур

IFLA Journal, 47–4, 548–558

Аннотация:

Цель этого исследования-изучить поведение пожилых египтян, стремящихся получить информацию, включая их информационные потребности. Была взята выборка из 63 пожилых людей, проживающих в домах престарелых. Общая группа была разделена на пять фокус-групп. Из 63 пожилых людей 40 были мужчинами (63,5 процента) и 23 женщинами (36,5 процента). Почти половина (47,6%) были в возрасте от 61 до 70 лет. Около четверти (23%) из них имели диплом средней школы. Самый высокий процент (28,6%) был отмечен как люди со средним уровнем дохода. Самый высокий процент (60,3%) также был выявлен среди вдов или вдовцов. Типы информации, наиболее часто используемой пожилыми египтянами, связаны с физическими, медицинскими, социальными, рациональными и рекреационными потребностями. Их источники информации варьировались от официальных до неофициальных. Почти две трети (63,5%) из них показали, что ограниченные знания, отсутствие интереса, плохая осведомленность об источниках информации, старение, одиночество и проблемы со здоровьем были наиболее значительными препятствиями, с которыми они сталкивались при поиске информации.

Ключевые слова

Поведение, связанное с поиском информации, информационные потребности, пожилые люди, источники информации, Египет, качественное исследование

Developing Information literacy courses for students through VLEs in Tanzania

Разработка курсов информационной грамотности для студентов через VLEs в Танзании

Эванс Вема

IFLA Journal, 47–4, 559–569

Аннотация:

В этой статье рассматривается литература по использованию разных видов виртуальной учебной среды, освещается их потенциал и проблемы внедрения подобных видов виртуальной учебной среды в Танзании. Он знакомит с концепцией виртуальной учебной среды, демонстрируя их приложения для поддержки преподавания и обучения. В статье обсуждается использование разных видов виртуальной учебной среды при обучении на курсах информационной грамотности, подчеркивая успех использования таких инструментов в деле содействия обучению пользователей библиотек на курсах информационной грамотности. В этом обзоре особое внимание уделяется попыткам танзанийских высших учебных заведений внедрить обучение информационной грамотности на основе Интернета и стоящим перед ними проблемам. Обзор показывает, что высшим учебным заведениям Танзании необходимо разработать виртуальную учебную среду для облегчения преподавания на курсах информационной грамотности студентам и преподавателям, с тем чтобы охватить многих из тех, кому, возможно, не удастся посещать очные занятия по информационной грамотности, которые регулярно проводятся библиотекарями.

Ключевые слова

Информационная грамотность, виртуальная среда обучения, проблемное обучение, преподавание и обучение, электронная среда обучения, высшие учебные заведения

Communication channels for exchanging agricultural information among Tanzanian farmers: A meta-analysis

Каналы связи для обмена сельскохозяйственной информацией между танзанийскими фермерами: метаанализ

Вулистан Пий Мтега

IFLA Journal, 47–4, 570–579

Аннотация:

В данной работе проводится исследование на предмет того, как были выбраны каналы связи для обмена информацией в области сельского хозяйства. В частности, в нем определяются каналы связи, используемые фермерами в Танзании, а также определяются факторы, влияющие на выбор каналов связи для обмена сельскохозяйственной информацией. В исследовании используется методология обзора метаанализа для выявления, оценки и интерпретации исследований, имеющих отношение к интересующей теме. Результаты показывают, что радио, мобильные телефоны, телевидение, коллеги-фермеры, агенты по распространению сельскохозяйственной информации и газеты были широко используемыми каналами связи для передачи сельскохозяйственной информации. Кроме того, было установлено, что влияние каналов, простота подключения, доступность по цене, охват сети связи, а также ресурсы и средства, необходимые для использования конкретного канала связи, влияют на выбор каналов. Сделан вывод о том, что понимание аудитории, характеристик, окружающих сообщения, а также выбор соответствующих каналов связи важны для расширения доступа к информации в области сельского хозяйства. Даются рекомендации, чтобы лица, дающие информацию в области сельского хозяйства, понимали факторы, связанные с каналами связи, прежде чем они занимаются распространением данной информации.

Ключевые слова

Каналы связи, сельскохозяйственная информация, фермеры, сельские районы, Танзания

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

Электронные книги в Чешской Республике: Анализ спроса и поведения читателей

Виктор Прокоп, Ян Стейскал Стейскал

IFLA Journal, 47–4, 580–589

Аннотация:

В настоящее время происходит более частая замена книг электронными книгами, которые становятся все более жизнеспособным форматом и облегчают читателям чтение книг в самых разных местах. Поэтому публичные библиотеки чаще сосредотачиваются на предоставлении электронных книг в качестве одного из компонентов своих цифровых услуг. Однако эти услуги не всегда удовлетворяют адекватный спрос со стороны читателей из-за ряда факторов, таких как плата за обслуживание или недостаточная осведомленность. Поэтому в данной статье авторы акцентируют внимание на стороне спроса со стороны читателей электронных книг. В частности, они сосредоточены на поведении читателей электронных книг Муниципальной библиотеки Праги и предлагают трехэтапную модель исследования. Она состоит из анализа, посвященного: (1) особенностям читателей электронных книг Муниципальной библиотеки Праги; (2) интересу читателей электронных книг к заимствованию электронных книг; и (3) интересу читателей электронных книг к электронному сервису Муниципальной библиотеки Праги, когда они должны вносить плату. В качестве источника информации авторы используют уникальные данные онлайн-опроса читателей Муниципальной библиотеки Праги, проведенного агентством Sociores в 2019 году. Результаты показывают, что читатели научной фантастики и фэнтези представляют наиболее значительную группу читателей электронных книг в Муниципальной библиотеке Праги, и что Facebook является наиболее важным каналом общения с читателями электронных книг. Авторы также подтверждают важность читателей электронных книг и смартфонов как устройств, которые существенно влияют на решение читателей читать электронные книги. В заключительной части статьи авторы предлагают некоторые практические рекомендации, которые могли бы привлечь больше читателей электронных книг.

Ключевые слова

Библиотека, электронная книга, поведение читателя, готовность платить, опрос

Neoliberalism and public library policy in Ireland, 1998–2011: From the first government policy document to the first general election after the Great Recession

Neoliberalismo y política de bibliotecas públicas en Irlanda, 1998-2011: desde el primer documento de políticas públicas hasta las primeras elecciones generales después de la Gran Recesión

Maureen Garvey

IFLA Journal, 47–4, 427–443

Abstract:

En este artículo se analiza la influencia de la ideología neoliberal sobre las bibliotecas públicas en Irlanda, desde el primer documento de políticas públicas publicado en 1998 hasta las primeras elecciones generales después de la recesión en 2011. Se examinan el contexto del aumento de la importancia de la idea de información y la aceptación paralela de los principios del libre mercado para la prestación de los servicios públicos. Se analizan los documentos de políticas públicas irlandeses del período. Para reconocer y oponerse a las políticas que perjudican la prestación de un servicio de bibliotecas públicas se requiere un conocimiento crítico de estos cambios en el ámbito de la biblioteconomía y documentación.

Palabras clave

Política de bibliotecas públicas, Irlanda, neoliberalismo, esfera pública

A Re-assessment of the design of Carnegie public library buildings

Una reevaluación del diseño de los edificios de bibliotecas públicas Carnegie

Alistair Black, Oriel Prizeman

IFLA Journal, 47–4, 444–452

Abstract:

Este estudio, basado principalmente en fuentes de archivos, se centra en el diseño original de la Biblioteca Pública de Evanston (Illinois), inaugurada en 1908. A lo largo de su medio siglo de vida, la biblioteca se convirtió en uno de los edificios más valorados y venerados de la ciudad. Su desaparición, junto con la de otros edificios de bibliotecas públicas Carnegie, así como las que han sobrevivido, nos invitan a reflexionar sobre la popularidad cambiante de las bibliotecas Carnegie como edificios públicos en relación con su potencial para el uso continuado. La celebración del legado del progresismo arquitectónico inherente a los edificios de bibliotecas públicas Carnegie refuerza la imagen actual de su origen, lo que ayuda a mejorar sus expectativas de futuro. La reevaluación de la reputación de los diseños originales de las bibliotecas Carnegie a través de casos de estudio como Evanston aporta peso al argumento de que debe hacerse todo lo posible por conservar los edificios de bibliotecas Carnegie existentes, siempre que sea posible.

Palabras clave

Bibliotecas Carnegie, historia de las bibliotecas y la biblioteconomía, arquitectura de bibliotecas, edificios de bibliotecas, principios de biblioteconomía y documentación, EE. UU.

What we talk about when we talk about information literacy

De qué hablamos cuando hablamos de alfabetización informacional

Margaret S. Zimmerman, Chaoqun Ni

IFLA Journal, 47–4, 453–467

Abstract:

Las habilidades de alfabetización informacional son imprescindibles para explotar el potencial personal y están muy relacionadas con una buena calidad de vida. Sin embargo, apenas se han explorado las formas en que se debate sobre ella dentro del canon académico, teniendo en cuenta que estas conversaciones tienen lugar a través de distintas lentes culturales. La forma en que se agrupan estas culturas suele basarse en métodos tradicionales de agrupación geográfica, que se complican debido a la dispar naturaleza interna de las sociedades. A través del análisis de textos de un gran conjunto de datos bibliométricos, esta investigación trata de examinar la forma en la que los eruditos analizan la alfabetización informacional en sus publicaciones. Los autores extrajeron 3 658 registros con el término exacto «alfabetización informacional» de la base de datos Scopus. Analizaron estos datos para hallar las palabras y frases empleadas con mayor frecuencia y las agruparon por país. Los autores siguieron agrupando los países según sus niveles de alfabetización, el ranking del Índice de Desarrollo Humano, el promedio de citas por artículo y un indicador creado por los autores que evaluaba los progresos de cada país con respecto a los Objetivos de Desarrollo Sostenible y la salud de la población. Los resultados incluyen un debate de las diferencias existentes en las formas en las que los eruditos de distintas culturas debaten sobre la alfabetización informacional, y una serie de visualizaciones de datos para destacar las diferencias que existen en ellos.

Palabras clave
Alfabetización informacional, instrucción informacional, servicios, poblaciones de usuarios, perspectivas mundiales, bibliotecas, información, biblioteconomía y documentación, bibliometría, informetría, cibermetría, sistemas de información, recuperación de información, sociedad, cultura, desarrollo

Acceptance of social network sites by university librarians

Aceptación de las redes sociales por parte de los bibliotecarios universitarios

Sureni Weerasinghe, Menaka Chandanie Bandara Hindagolla

IFLA Journal, 47–4, 468–480

Abstract:
Los avances tecnológicos están revolucionando las bibliotecas y abriendo vías para integrar servicios innovadores. Es esencial que los bibliotecarios conozcan nuevas tecnologías como las redes sociales, para demostrar su valía en este mundo digital competitivo. Este estudio tiene por objeto analizar los factores que afectan a la aceptación de las redes sociales por parte de los bibliotecarios universitarios mediante la aplicación del modelo de aceptación de la tecnología. Las conclusiones revelaron que la percepción de utilidad y facilidad de uso era un indicador importante de la aceptación de las redes sociales. Se descubrió que la confianza ejerce un importante efecto indirecto sobre la intención de los bibliotecarios de usar las redes sociales. Este estudio contribuye a la novedad teórica en la intersección de los ámbitos de la biblioteconomía, las redes sociales y el modelo de aceptación de la tecnología, que ha recibido menos atención en la bibliografía. Además, este estudio trata de cerrar la brecha en la literatura de adopción, que no reconoce a los bibliotecarios como usuarios, además de respaldar la validación del modelo de aceptación de la tecnología en el contexto de un país en desarrollo. En general, el modelo de investigación propuesto explicó la varianza del 58,4 % (R 2 = 0,584) en la variable dependiente de la intención conductual.

Palabras clave
Modelo de aceptación de la tecnología, redes sociales, bibliotecas universitarias, bibliotecarios, aceptación, intención conductual

Social media use and information sharing behavior of university students

Uso de las redes sociales y conducta de intercambio de información de los estudiantes universitarios

Iqra Bashir, Amara Malik, Khalid Mahmood

IFLA Journal, 47–4, 481–492

Abstract:
Las redes sociales han evolucionado mucho durante la última década, convirtiéndose en un motor clave para compartir y adquirir información en diversos ámbitos. El auge de la popularidad de las redes sociales plantea una serie de preguntas relacionadas con el alcance de su uso y los tipos de información compartida. Este estudio está diseñado para responder a estas preguntas mediante la investigación del uso que hacen los estudiantes universitarios de las redes sociales en términos de las plataformas más utilizadas, la frecuencia de uso y los tipos de información compartida. También se analizan las diferencias de opinión basadas en el sexo, la disciplina académica y el programa de estudios. El estudio se basa en una encuesta transversal; se elaboró un cuestionario estructurado y se recogieron datos de 400 estudiantes de cuatro universidades de Faisalabad (Pakistán). Las conclusiones revelan que la mayoría de los estudiantes eran usuarios frecuentes de las redes sociales y visitaban las plataformas a diario o varias veces al día. WhatsApp, Facebook y YouTube eran las plataformas de redes sociales más utilizadas. Los chicos tendían a usar las redes sociales con mayor frecuencia que las chicas. Este estudio servirá para guiar otras investigaciones, ya que aborda un área intacta desde una perspectiva local y ofrece investigación original.

Palabras clave
Redes sociales, plataformas de redes sociales, estudiantes universitarios, Pakistán, intercambio de información

Saudi scholars' perception of open data portals at Shaqra University

Percepción de los eruditos saudíes sobre los portales de datos abiertos en la Universidad de Shaqra

Ahmed Shehata, Mohamed Elgllab

IFLA Journal, 47–4, 493–504

Abstract:
En este artículo se examinan las conclusiones de un estudio sobre el uso de datos abiertos entre los eruditos saudíes. Se investigan las percepciones de la

muestra en relación con los portales de datos abiertos y los propios datos. Se analizan los factores que afectan a la decisión de los participantes de usar datos abiertos y se pretende entender las prácticas y las percepciones de los investigadores en relación con el uso y el intercambio de datos abiertos. Se adoptó un enfoque cuantitativo y se distribuyó un cuestionario entre 190 profesores saudíes para calibrar sus percepciones, su uso de datos abiertos, los beneficios de este tipo de datos, y los factores que afectaban de forma significativa a su utilización. Las conclusiones revelaron que el 42,1 % de los investigadores saudíes utilizaban portales públicos de datos abiertos y visitaban con regularidad portales de datos abiertos proporcionados por la universidad y el gobierno, principalmente con fines de investigación. Los resultados también señalan que los portales de datos abiertos permitían a los investigadores saudíes obtener datos útiles para sus investigaciones, además de dotarles de herramientas para visualizar y entender los datos.

Palabras clave

Datos abiertos, portales de datos, intercambio de datos, portales de datos abiertos, Universidad de Shaqra

Developing future-ready school libraries through design thinking: A case study

Desarrollo de las bibliotecas escolares del futuro a través del pensamiento de diseño: estudio de caso

Chin Ee Loh, Elia Binte M. Hamarian, Lisa Lim, Qianwei Lim, Skyler Ng

IFLA Journal, 47–4, 505–519

Abstract:

Las bibliotecas escolares de todo el mundo deben revitalizar sus espacios, sus fondos y su programación para seguir siendo pertinentes para los profesores y los alumnos que viven y aprenden en una era tecnológica global saturada de información. Las iniciativas para repensar el uso y el diseño de las bibliotecas son más eficaces cuando se contextualizan y localizan sobre la base de las necesidades de los usuarios y los presupuestos nacionales o escolares. El pensamiento de diseño permite a las escuelas entender las necesidades de las poblaciones y diseñar mejoras específicas para los usuarios de sus bibliotecas. En este artículo se explica el modo en que un instituto de secundaria colaboró con investigadores universitarios para utilizar el pensamiento de diseño para reformular el papel y las funciones de su biblioteca escolar. Las pruebas recogidas durante el proceso se integraron en el rediseño de una biblioteca mejorada para los estudiantes. En este artículo se ofrece un modelo para proyectos de mejora de bibliotecas escolares basados en las pruebas.

Palabras clave

Bibliotecas escolares, pensamiento de diseño, práctica basada en pruebas, instituto de secundaria, Singapur

Do primary school libraries affect teenagers' attitudes towards leisure reading

¿Las bibliotecas de los colegios afectan al gusto de los adolescentes por la lectura

Pamela Elizabeth McKirdy

IFLA Journal, 47–4, 520–530

Abstract:

En este estudio se analiza el modo en que las experiencias de los estudiantes de primaria de Nueva Zelanda relacionadas con las bibliotecas escolares afectaron a su gusto por la lectura una vez en el instituto de secundaria. Doscientos setenta y seis estudiantes de primero de educación secundaria rellenaron una encuesta en la que se preguntaba por las bibliotecas de sus escuelas de primaria. Se pedía a los estudiantes que se autoidentificaran como lectores asiduos, lectores ocasionales o no lectores. Los resultados se analizaron en una hoja de cálculo, considerando variables como la actitud hacia la lectura, el colegio al que habían acudido y el entorno familiar. Los estudiantes hablaron bien de sus bibliotecas, aunque se quejaron de entornos reducidos y ruidosos y libros demasiado infantiles. Los estudiantes de los colegios que contaban con un bibliotecario eran más proclives a la lectura por diversión que los de aquellos en los que no priorizaba la lectura. Los estudiantes de entornos familiares en los que se fomentaba la lectura eran más proclives a mantener una actitud positiva hacia la lectura una vez en el instituto.

Palabras clave

Servicios para jóvenes, servicios para poblaciones de usuarios, servicios infantiles, centros de medios escolares, bibliotecas, tipos de bibliotecas y proveedores de información, edificios, instalaciones, gestión, administración, Oceanía, Asia

Intellectual property information service and the impacts on academic libraries transformation

Servicio de información sobre la propiedad intelectual y efectos sobre la transformación de las bibliotecas académicas

Wei Yang, Tianlin Liu

IFLA Journal, 47–4, 531–547

Abstract:

Alrededor de 100 centros de servicios de información sobre la propiedad intelectual se han establecido en bibliotecas universitarias chinas, más del 80 % de ellos desde 2017. El contexto del auge de estos centros es el rápido aumento del número de solicitudes de patentes en China, así como una relación de transferencia inaceptablemente baja. ¿Los centros de servicios de información sobre la propiedad intelectual representan una promesa para la transformación de las bibliotecas universitarias™ Este es el tema central de este artículo. Se exploran las características del camino evolutivo y las fuerzas motrices en China y se analizan y resumen las prácticas distintivas de los servicios de información sobre la propiedad intelectual. Se realizan comparaciones con EE. UU., el Reino Unido, Europa e India. Gracias a los centros de servicios de información sobre la propiedad intelectual las bibliotecas universitarias pueden pasar de ser meros proveedores de información a ser catalizadores de innovación, y entablar relaciones entre universidades, comunidades y sectores. Los impactos de los centros de servicios de información sobre la propiedad intelectual sobre las bibliotecas universitarias son múltiples. También se comentan en este artículo las tendencias de los servicios de información sobre la propiedad intelectual y los retos a los que estos se enfrentan.

Palabras clave

Servicios de información sobre la propiedad intelectual, servicios de información sobre patentes, bibliotecas académicas, transformación de las bibliotecas, bibliotecas universitarias chinas

The information-seeking behaviour of the Egyptian elderly

La conducta de búsqueda de información de las personas mayores en Egipto

Essam Mansour

IFLA Journal, 47–4, 548–558

Abstract:

El objetivo de este estudio es investigar la conducta de búsqueda de información de las personas mayores en Egipto, incluidas sus necesidades de información. Se trabajó con una muestra de 63 personas mayores que vivían en residencias. La muestra se dividió en cinco grupos de interés. De las 63 personas mayores, 40 eran hombres (63,5 %) y 23 mujeres (36,5 %). Casi la mitad (47,6 %) tenía entre 61 y 70 años. Alrededor de un cuarto (23 %) tenía un título de bachillerato. La mayoría (28,6 %) eran personas con ingresos medios. La mayoría (60,3 %) eran viudos/as. Los tipos de información más utilizados por las personas mayores egipcias estaban relacionados con necesidades físicas, médicas/sanitarias, sociales, racionales y recreativas. Sus fuentes de información variaban entre formales e informales. Casi dos tercios (63,5 %) demostraron que la limitación de los conocimientos, la falta de interés, la información deficiente, y los problemas de envejecimiento, soledad y salud son los principales obstáculos para buscar información.

Palabras clave

Conducta de búsqueda de información, necesidades de información, personas mayores, fuentes de información, Egipto, estudio cualitativo

Developing Information literacy courses for students through VLEs in Tanzania

Desarrollo de cursos de alfabetización informacional para estudiantes a través de EVA en Tanzania

Evans F. Wema

IFLA Journal, 47–4, 559–569

Abstract:

En este artículo se revisa la bibliografía que se usa en entornos virtuales de aprendizaje (EVA), destacando su potencial y los retos para su introducción en Tanzania. Se presenta el concepto de entornos virtuales de aprendizaje demostrando sus aplicaciones para promover la enseñanza y el aprendizaje. Se comenta el uso de los entornos virtuales de aprendizaje en los cursos de alfabetización informacional, destacando el éxito del uso de dichas herramientas para facilitar la enseñanza de cursos de alfabetización informacional a los usuarios de bibliotecas. En esta revisión, se hace especial hincapié en los intentos de introducir la enseñanza virtual de la alfabetización informacional por parte de las instituciones tanzanas y los retos que esto supone. La revisión revela que es necesario que las instituciones de enseñanza superior tanzanas desarrollen entornos virtuales de aprendizaje para facilitar la impartición de cursos de alfabetización informacional a estudiantes y personal docente con el fin de llegar a todos aquellos que no puedan

asistir a las sesiones presenciales que los bibliotecarios ofrecen periódicamente.

Palabras clave

Alfabetización informacional, entornos virtuales de aprendizaje, aprendizaje basado en problemas, enseñanza y aprendizaje, entornos electrónicos de aprendizaje, instituciones de enseñanza superior

Communication channels for exchanging agricultural information among Tanzanian farmers: A meta-analysis

Canales de comunicación para el intercambio de información agrícola entre los agricultores tanzanos: un metaanálisis

Wulystan Pius Mtega

IFLA Journal, 47–4, 570–579

Abstract:

En este estudio se analiza la forma en que se eligen los canales de comunicación para intercambiar información agrícola. En concreto, se identifican los canales de comunicación utilizados por los agricultores de Tanzania y se determinan los factores que influyen en la elección de estos canales. El estudio emplea una metodología de meta-análisis para identificar, evaluar e interpretar estudios pertinentes para el tema de interés. Los resultados indican que la radio, los teléfonos móviles, la televisión, otros agricultores, los agentes de extensión agrícola y los periódicos eran los canales de comunicación más utilizados para transferir información agrícola. La elección de los canales venía determinada por la influencia, la disponibilidad y la asequibilidad de los canales, la cobertura de las redes de comunicación y los recursos e instalaciones necesarios para usar un canal de comunicación concreto. Se concluyó que es importante entender a la audiencia, las características que rodean a los mensajes y la elección de los canales de comunicación apropiados para mejorar el acceso a la información agrícola. Se recomienda a los proveedores de información agrícola entender los factores que rodean a los canales de comunicación antes de difundir dicha información.

Palabras clave

Canales de comunicación, información agrícola, agricultores, zonas rurales, Tanzania

E-books in the Czech Republic: Analysis of demand and readers´ behaviour

Libros electrónicos en Chequia: análisis de la demanda y comportamiento de los lectores

Viktor Prokop, Jan Stejskal Stejskal

IFLA Journal, 47–4, 580–589

Abstract:

Cada vez es más frecuente leer libros electrónicos, que se han convertido en un formato cada vez más viable que permite a los lectores leer en cualquier sitio. Por tanto, las bibliotecas públicas se centran en el suministro de libros electrónicos como uno de los componentes de sus servicios digitales. Sin embargo, estos servicios no siempre satisfacen adecuadamente la demanda de los lectores por diversos motivos, como los cargos del servicio o la falta de conocimientos. Por tanto, en este artículo los autores se centran en el aspecto de la demanda, representado por los lectores de libros electrónicos. En concreto, se centran en la conducta de los lectores de libros electrónicos de la Biblioteca Municipal de Praga y proponen un modelo de investigación de tres pasos. Consiste en análisis centrados en: 1) las especificidades de los lectores de libros electrónicos de la Biblioteca Municipal de Praga; 2) el interés de los lectores por el préstamo de libros electrónicos; y 3) el interés de los lectores por el servicio de préstamo de libros electrónicos de la Biblioteca Municipal de Praga cuando deben pagar una cuota. Como fuente de datos, los autores utilizan datos exclusivos de un cuestionario en línea entre lectores de la Biblioteca Municipal de Praga en 2019 realizado por la agencia Sociores. Los resultados revelan que los lectores de ciencia ficción y fantasía representan el grupo de lectores de libros electrónicos más significativo en la Biblioteca Municipal de Praga, y que Facebook es el canal de comunicación más importante para los lectores de libros electrónicos. Los autores también confirman la importancia de los dispositivos de lectura de libros electrónicos y los smartphones a la hora de decidir leer un libro electrónico. En la última parte del artículo, los autores proponen algunas recomendaciones prácticas que podrían atraer a más lectores.

Palabras clave

Biblioteca, libro electrónico, conducta de los lectores, voluntad de pagar, encuesta