

DMSI Literature Review

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Introduction

Newcomers to Canada use a variety of technology and online tools and services in their migration and settlement journey. Digital messaging has emerged as a massive phenomenon that is transforming global communication. However, relatively little is known about its use and role in Settlement services in Canada. In particular, WhatsApp has recently emerged as the most well known digital messaging tool in the sector, in spite of its already global popularity. It rivals Facebook Messenger as the top digital messaging platform in the world. More than one billion active daily users share 55 billion messages on a daily basis (WhatsApp Blog, 2017). In 2017, it was the third most popular social media platform after Facebook and YouTube (Statista, 2017).

Digital messaging is popular in Canada. Until recently, this has taken the form mainly of texting/SMS and Facebook Messenger (We Are Social 2018). However, as migration flows change, the digital messaging landscape in the immigrant and refugee-serving sector in particular has been changing. Popular globally, WhatsApp had limited popularity in Canada until the recent arrival of large numbers of Syrian refugees. Their use of WhatsApp as a preferred and priority communication channel has resulted in a scramble among agencies that serve them to equip their staff with the tools and protocols to use WhatsApp to serve clients. This change has revealed other newcomer groups also use digital messaging like WhatsApp as their preferred method of communication. The emerging trend of client use of technology has created a need for more agencies to review their use of tools to communicate with clients.

Overview of the literature review

We look at general research around newcomer information practice. There has been some exceptional work done in Canada looking at Canadian immigrant information practices. This provides an overview of how newcomers find, access and act on information they find. This theme continues in newer research looking at technology use by refugees and immigrants in their migration information practice. This research grounds us in what we know about how newcomers look for and act on information, including where technology fits.

We then look at newcomer use of technology, broadly, in the Canadian and international contexts. From there we narrow in to how technology is used during migration, including how important technology has become for both migration and settlement/integration. Some very interesting studies have furthered Sen's Capacity Approach framework, applying it to technology and the use of technology to enhance the social inclusion of newcomers in their new host societies, including addressing digital divides and other capacity issues. This framework, and the potential for it to be modified and applied to the immigrant and refugee-serving sector's use of technology to serve clients will be briefly outlined in a companion document/appendix.

Research focusing on the use of instant/digital messaging technology by newcomers in the migration and settlement/integration experience is reviewed. The predominant research body here is focused on refugees, and that is focused mainly on the experience in refugee camps, as well as the migration flows into and through Europe recently. The lessons here are likely transferable to other groups of newcomers.

We then explore digital messaging in other human service sectors (social work, health, education & learning), to broaden out the capabilities messaging apps provide, and to explore relevant research that can impact the understanding and study of digital messaging in migration and settlement. In particular, WhatsApp groups have been explored in this context as potential information sources and community development initiatives.

Most research on the use of digital messaging is focused on newcomer use of that technology and less on the service provider perspective and capacity. There is some, and that will be noted.

We look at the technology themes in the Canadian immigrant and refugee-serving sector. We do know some things about how some Canadian settlement agencies use technology, along with research providing recommendations for sector action, in particular working with funders, to enhance the capacity of agencies to incorporate new and emerging technologies into client service work. The research shows that this is not a new conversation in Canada, but one that resurfaces and is studied every few years over the past two decades.

An important theme that is constant and consistent within the literature is a focus on standards, ethics and protocols for using technology to serve clients. There is little literature in the immigrant and refugee-serving sector, but much in other regulated, standardized service sectors, such as Social Work and International Development. Reviewing the literature of how these sectors have established and developed around protocols, guidelines, frameworks and ethical guides for use of technology by front-line, supervisory and at the agency policy level. This research is very much focused on the agency side of the technology service equation and leaves the immigrant and refugee-serving sector with a number of models, frameworks, practical how-to guides and obvious next steps to integrate

technology ethically, effectively, efficiently in client service delivery. The Social Work sector has also outlined the professional development and training needs and approaches needed by educators to ensure that human service workers are incorporating technology into their work with clients ethically and safely, for both clients and workers involved.

In essence, much of these learning and models can be “copied and pasted” into the immigrant and refugee-serving sector, replicated quite easily and effectively. To a lesser degree the role of funders is outlined, but it is addressed in some literature, generally reiterating similar calls to action in immigrant and refugee-serving sector research on technology integration and the role of the funder.

Newcomer information practice

There is rigorous academic work looking at the information seeking behaviour and practice of newcomers and ethnic communities. Nadia Caidi's work in has sought to examine the information needs, sources, and barriers to accessing information experienced by those who immigrate to Canada. Previously, she posited that social inclusion of newcomers is an information problem. This theme has been consistent throughout other research looking at immigrant information behaviour and practice (Caidi 2005, Caidi 2010, Sexsmith 2010, Esses & Medianu 2012). Their findings have “implications for frontline information providers as well as for policymakers interested in programs, policies and funding priorities concerning information provision and access strategies that enable social inclusion of newcomers and longer established immigrants into the social fabric of Canada.” These findings are complemented by research done within the immigrant and refugee-serving sector, on the capacity and use of ICT by Settlement agencies (covered below).

The research increasingly includes context of new and emerging technologies, but also reminds of other methods of information delivery which are important for a heterogeneous diverse newcomer audience.

Key themes:

- Barriers to accessing information for both newcomers and longer established immigrants include language (including fear of speaking in English); suspicion or mistrust of authority (including government and other institutions); isolation and the sense of being an outsider; using children to find information (who may have poor information finding skills); lack of familiarity with many information sources; cultural differences; and, not knowing how to ask for services (Caidi 2010, Esses & Medianu 2012, Dekker et al 2018).
- Redundancy and multiple forms of communication (including the use of multilingual content and media channels popular with newcomers) contributes to an improved provision of information and services (Caidi 2010, Esses & Medianu 2012, Dekker et al 2018).
- The role played by “gatekeepers” (individuals who are considered to be knowledgeable within communities, and can “monitor” flows of information) is emphasized repeatedly within the literature (Caidi 2010, Esses & Medianu 2012, Johnson & Bauml 2016).
- Immigrants make use of transnational network ties to access information. Social networks (both local and transnational) are seen as a means to facilitate the settlement and inclusion process (Caidi 2010, Esses & Medianu 2012, Abujarour et al 2017a, Allard 2015, Veronis 2018)
- Technology is one of the main impetuses enabling transnational practices, but in more general terms, technology does not always benefit all immigrants; online interfaces and services are

found to be difficult for new users to navigate (Caidi 2010, Esses & Medianu 2012, Johnson & Bauml 2016, Acharya 2016).

- A synthesis of literature on how information can be used to address settlement and integration barriers experienced by newcomers to Canada, evaluating specific core settlement topics, found the emergence of the internet (specifically social media) as an essential channel for information, in a variety of languages, attuned to the cultural differences in both communication styles and media access (Esses & Medianu 2012).
- Newcomers trust new sources of information when it is clear that the source is invested in the interests and welfare of the newcomer (Gillespie et al 2016, Latonero et al 2018).
- A continuum of three stages of newcomer adjustment has been expanded to include the notion of social inclusion (Mwarigha 2002, Omidvar & Richmond, 2003) and pre-arrival to the settlement continuum (Praznick and Shields). All stages have unique information needs and access points. Researchers align and suggest more research should be done on the relationship between information practices and settlement stages (Caidi 2010, Esses & Medianu 2012).
- Information needs, approaches and topics have remained consistent throughout research on immigrant information seeking: employment, health, housing, education and training, cultural adaptation, etc. (Caidi 2010, Esses & Medianu 2012)
- While the stages, information needs and general newcomer information behaviour/practices of has been fairly well documented, until recently research on the information practices of refugees was rare. Early research on refugee information practice hinted at the emerging importance of social media and other online resources in how refugee youth retained connections with friends and relatives abroad, as well as contributed to their socialization locally (Quirke 2011). This has changed rather dramatically in the past three years, in particular with research out of Europe (Abujarour et al 2017a, Veronis 2018).
- A review of Settlement.Org (Chien 2005) points to the importance of consolidated information to help newcomers navigate the complex settlement and information landscape, as well as understand and negotiate the rich, but overwhelming, social service and help systems. Where newcomers identify the internet as their primary information source, Chien recommended that questions of newcomer use of technologies to find and act on settlement and integration information be researched further, including reconceptualizing the notion of settlement are important questions to be addressed. Additional research also explored optimal strategies for providing information to newcomers, including encouraging more active human centred design principles into technology planning (Esses & Medianu 2012).
- Newcomers lack awareness of the services available to them in their local community, both in-person and internet based. While organizations such as community centres, settlement agencies, and government have been identified as significant information sources for immigrants, research has shown that, depending on the support issue, newcomers do not cite settlement services as their primary source of help in a majority of cases. Research has indicated that a relatively small percentage of newcomers to Canada access mainstream in-person government and community services in their initial settlement. In the available research between 30% - to 50% of those surveyed have not accessed local settlement services (Wilkinson & Bucklaschuk 2014, Lo et al 2010, Esses et al 2013a, Esses et al 2013b, Statistics Canada 2003, Vancouver Immigration Partnership, 2015).
- In almost every report, family and friends are identified as the number one information source consulted by all immigrants. This is a theme throughout foundational immigrant information practice research and confirmed in newer research studying refugee information practice using mobile devices and messaging apps. Media sources, such as the mainstream media and the Internet were identified as a second most popular information source. In particular, respondents in many of the studies identified a preference for material in their language as

preferred (Caidi et al 2008, Canada 2003, Wilkinson et al, 2014, Lo et al 2010, Esses et al 2013, Esses et al 2013, Dekker et al 2018, TRIEC 2012, Vancouver Immigration Partnership, 2015).

- Sources of information and the weight newcomers give them have direct impacts on their settlement and integration success. For example, newcomers who found work through family or friends fared worse than those who used more mainstream services (Fang et al 2010).
- Access to the internet, social media and smartphones does not mean awareness of services is automatic. Internet access is not a panacea for success or awareness of services. Awareness of settlement services among a diverse set of newcomers remains a crucial challenge. In one survey 80% of the recent immigrants used the Internet, fewer than 13% had heard of online services available to them (Lo et al, 2010). This was recently confirmed regarding pre-arrival services (IRCC 2018).
- Evaluations of pre-arrival information services suggest that skilled immigrants do not typically carry out pre-arrival research. When they do they continue to rely on friends and family for the information (Johnson & Bauml 2016, Alemasoom et al 2018). This challenge was recently reconfirmed in an IRCC evaluation of online pre-arrival services. 71% of eligible newcomers surveyed about pre-arrival services were not aware of the existence of these services. 83% indicated they would have tried to access these services had they known about them. In fact in a two-year period evaluated, between 7.3% and 12% of eligible newcomers admitted to Canada accessed pre-arrival services. Those who accessed pre-arrival services found them useful (IRCC 2018, Alemasoom et al 2018).

Newcomer use of technology

Canadian research of newcomer use of technology, along with international research illustrates that newcomers are increasingly digitally literate, mobile first and avid users of digital technology and the internet when looking for and acting on migration, settlement and integration information.

- Newcomers use technology for a wide variety of reasons, such as staying connected with family and friends, staying current about news from their countries of origin, connecting and socializing in their new communities, learning about local culture and social norms, connecting with service providers, learning and education. Most studies refer to technology use for bonding (staying connected with family, friends and country) and bridging (integrating and familiarizing themselves with their new country) (Acharya 2016, Allard 2015, Veronis 2018).
- Research over time has confirmed that newcomers use ICT and mobile technologies more frequently and differently than Canadian-born (Statistics Canada 2007, Yahoo! 2014, Agbobli, 2018).
- Newcomers are not just digital first. They're mobile, actively using niche social networks, apps and services that are not necessarily mainstream in Canada (Yahoo! 2014, Agbobli 2018, (Welcoming Center for New Pennsylvanians 2012)). They come from countries where internet growth is explosive, faster, cheaper, and where online learning is becoming popular (We Are Social 2018). It has become easier to research the internet and social media habits and practices of pre-arrival newcomers from Canada's largest source countries of immigrants. It is worth exploring how the internet, social media and mobile devices are accessed and used in these countries, to help understand the potential profile of newcomers to Canada. Ultimately, however, it is up the agencies themselves to survey their clients to determine communication, technology and channel preferences.
- Internationally, newcomers are found to be mobile first, in particular in studies looking at recent

refugee flows through Europe and into Canada. Social media and digital messaging apps are increasingly useful and essential in meeting information, settlement and integration needs by providing practical information relating to everyday life (Veronis et al, 2018, Dekker et al 2018, Mason & Buchmann 2016, Kaufmann 2018, Alemasoom et al 2018, Abujarour et al 2017b, Caidi et al 2007)

- Newcomers seek blended services and access to information. Those who are comfortable and digital first also indicate a preference for and the importance of face-to-face interactions. They access people and information through multiple means/channels (Acharya 2016, Veronis 2018). At the same time, it is not possible to overstate the important lifeline that mobile smartphone technology has in newcomers', especially refugee, lives (Vivienne St George 2017, GSMA 2017).
- Emerging research has framed understanding newcomer digital competencies and emerging needs and challenges within Sen's Capability Approach. This approach argues it is not access to technology that matters; it is how people use it to enhance their capabilities and achieve valuable lives. Used initially as a tool to evaluate use of technology in international development, it has been recently used to evaluate newcomer use of smartphone technologies in migration and settlement/integration to evaluate whether smartphones can expand refugees' capabilities, choices and freedoms (Vivienne St George 2017, Abujarour et al 2017a, Diaz Andrade & Doolin 2016).
- Smartphones, social media and digital messaging offer cheap, accessible, timely and media-rich access to information, experts and long-distance communication. They also expand access to information sources, though generally mediated and passed along through personal connections (creating access to "weak ties" through "strong ties") (Dekker et al 2018).
- Information precarity is a concern, along with digital literacy among newcomers. As some researchers note, some newcomers appear to be highly digitally literate in their use of smartphones and messaging apps, including issues of privacy and surveillance, but lack a more general understanding of computers, the internet, world wide web, email, and login ID's and passwords. This complicates and delays access to online services that use unfamiliar technology or have a steep learning curve, including when it comes to expectations of technology use in the Canadian context, such as by employers (Alemasoom et al 2018, Dekker et al 2018, Mason & Buchmann 2016, Caidi et al 2007).
- Researchers have found that because newcomers use messaging apps to communicate with friends and family does not necessarily mean they want to use the same apps to receive services from human service agencies. Information flow are generally peer-to-peer (ICRC, 2017, Veronis et al 2018, Mason & Buchmann 2016, Leurs 2015).

Technology use in migration

There is a large and growing body of more recent research providing evidence of client use of digital messaging and, more broadly, ICT use in migration and settlement/integration processes (Gillespie et al 2016, Gillespie et al 2018, Veronis et al 2018, Witteborn 2015, Alemasoom et al 2018 and more). Research into the use of technology in migration has recently focused heavily on refugee use of mobile technology and smartphone apps. Within the research are foundational lessons about how to design information services and products for all newcomers, primarily taking into account newcomer information practices and communication/technology preferences (Gillespie et al 2016, Techfugees 2017, Diaz Andrade & Doolin 2016).

The idea of the smartphone-holding digitally connected refugee has captured significant media attention, and research space. However, there is still a gap in research focused on other classes of immigrants, as well as specific research on use of digital messaging for non-refugee migrants.

- Information and Community Technologies (ICT) are particularly relevant for refugee integration, in communication with government and service agencies, social connectedness, effective telecommunication, safety and emergency services, accessing education and language learning, mobility, translation services and integration and social inclusion while maintaining cultural identity (Abujarour et al 2016, Abujarour et al 2017a, Andrade and Doolin 2015, Esses & Medianu 2012, Caidi et al 2008, Veronis et al 2018, UNHCR 2016, GSMA 2017, Alemasoom et al 2018).
- Newcomers experience both information overload and information precarity in their migration journey. This continues in their settlement and integration as well (Caidi et al 2008, Esses et al 2013, Esses & Medianu 2012, Gillespie et al 2016, Gillespie et al 2018, Vivienne St George 2017, Dekker et al 2018).
- Digital tools that facilitate access to information and services are also used to track and monitor them. Security is an essential consideration in the design and use of technology to serve newcomers at all points in their migration and settlement journey (Gillespie et al 2016, ICRC 2017, Abujarour et al 2017a, Dekker et al 2018).
- The importance of trust and weight of trusted sources continues with the advent of primarily online/digital information practices. Digital outreach needs to be highly personal via trusted intermediaries and known influencers, not branded as the product of a national or state-funded organizations (Gillespie et al 2016, Dekker et al 2018, Alemasoom et al 2018, Veronis et al 2018, Latonero et al 2018).
- Information and communication technologies (ICTs) are increasingly viewed as a useful resource in programs that provide settlement services or promote participation in society (Diaz Andrade & Doolin 2016).
- Myths about the use of smartphones in migration are being debunked (Gillespie et al 2016). These include the techno-utopian perception of the smartphone as the solution and that newcomers are not vulnerable if they have access to smartphones and internet services.
- Pre-arrival use of technology presents an opportunity to begin orienting newcomers in their source countries and connect them to Settlement service providers before they arrive (UNHCR 2016, IRCC 2018, Alemasoom 2018).
- If digital messaging wasn't a lifeline or useful tool for refugees before they migrated, it became so after they began their journey. Use of both smartphones and digital messaging increased for migrants during their migration process and experience. Email was not widely used. General web surfing was infrequent. The smartphone is the primary communication and connection tool. At the same time, not every migrant had or used a smartphone to navigate the journey or local services. Travelling in groups meant that only a few needed smartphones and internet access (Dekker et al 2018, Mason & Buchmann 2016).
- There continues to be a need for both online and in-person settlement services. 42% of Canadian immigrants eligible for pre-arrival services indicated they would prefer receiving the services online (IRCC 2018).

Digital messaging in human services – general

There is a growing body of research showing the affordances and usefulness of digital messaging use in some sectors, such as education and learning, healthcare and social work. This is a small sample of research on how digital messaging is emerging as a useful service, coordination and community building tool. However, it includes two literature reviews that encompass dozens of research reports (Giordano et al 2017, Tang & Hew 2017).

- As of January 2018, WhatsApp had 1.3 Billion monthly active users, sending 55 billion text messages a day, sharing 4.5 billion photos and 1 billion videos each day. WhatsApp is the top messenger app in 128 countries around the world, compared to Facebook Messenger's 72. 11 of the world's most active social platforms are messenger apps (We Are Social 2018).
- More than two-thirds of the world's population now have a mobile device, with most people now using a smartphone. Smartphones are the world's preferred choice for going online, accounting for a greater share of web traffic than all other devices combined (We Are Social 2018).
- A recent comprehensive literature review of mobile instant messaging for teaching and learning found offers a very convenient, low cost, user-friendly, multi-modal (eg. Text, audio, video) mode of communication that offers a range of positive technological, pedagogical, and social affordances to teachers (service providers) and students (clients) (Tang & Hew 2017).
- WhatsApp Messenger app is a promising system, whether used as a communication tool between human service professionals, as a means of communication between human service professionals and the general public, or as a learning tool for providing information to professionals or to the general population (Giordano et al 2017).
- Mobile apps are an ideal tool for quick reference and learning purposes or for communication between human service workers and their clients. Studies have reported the increased presence of WhatsApp in medicine and many other health care fields, which reflects the increased acceptance of its use. (Giordano et al 2017).
- Research shows significant usefulness of a WhatsApp group in creating a performing community - a community with common focus where resources are allocated efficiently, with processes in place to ensure final objectives are achieved, and a common sense of responsibilities (Owoseni et al 2017).
- Researchers found WhatsApp more appropriate as a delivery medium than BBM, Twitter, Email and SMS in a mobile learning environment when it comes to content richness, accuracy and adaptability. Developers and designers of an m-learning environment could adopt WhatsApp as a suitable information delivery medium to support corresponding learning activities in a mobile learning environment (K. Boyinbode et al 2017, Adelere 2017, Godwin-Jones 2017).
- There have been numerous studies in recent years on the impact of mobile learning and mobile assisted language learning (MALL). The opportunity is to leverage those digital devices and online experiences to enable and encourage in our students life-long learning, learner autonomy, and critical digital literacy (Godwin-Jones 2017, Castrillo et al 2014, Golonka et al 2017).

Digital messaging and smartphones in human services for newcomers

There is a large and growing body of research focused on the benefits and possibilities of digital messaging technology to serve refugee clients. Current research and activities on refugees use of mobile technology focus largely on the following themes: connectivity, digital tools and platforms, family re-connection, education, and livelihoods and mobile money. It is, however, mainly focused on

the use of digital messaging by refugees during their migration, and less focused on how service providers can and should integrate digital messaging into their service channels or offerings. There are few studies about how digital messaging can continue to play a role in the integration and settlement of newcomers once they arrive in Canada, from a service provider perspective.

The research that does exist, however, provides a useful lens on the current landscape and how it can be managed for the benefit of newcomers:

- Research shows that designing digital messaging services should: incorporate human centred design, ensure security and privacy, have curated, checked and collaborative information-gathering and provision, be accessible to clients, be sustainable, involve newcomers in design and iteration, be aligned with organizational service goals and mission (Caidi et al 2008, Esses & Medianu 2012, Gillespie et al 2016, Techfugees 2017, ICRC 2017, Latonero et al 2018, Alemasoom et al 2018, Cities of Migration 2016).
- Refugees describe their smartphones as an essential tool for survival: “As Important to Me as Water,” or as their “assistant”, “friend”, “direction” or “right hand” or “It is my entire life” (Kaufmann 2018, Vivienne St George 2017, Abujarour et al 2017a, Dekker et al 2018, Alemasoom et al 2018).
- Some researchers suggest that smartphones be re-framed from a luxury item to a mandatory device for immigrant education in the hands of new arrivals (Leurs & Ponzanesi, 2018, Kaufmann 2018).
- Researchers have found that many digital resources, websites, apps and services have been recently designed for immigrants and refugees. However, most are not sustainable, are fragmented, not built on a coherent information and service strategy incorporating the direct participation of refugees themselves, difficult to navigate, or were simply not known or discovered by refugees (Gillespie et al 2016, Kaufmann 2018, Dekker et al 2018, IRCC 2018, GSMA 2018, Benton 2016, Alemasoom et al 2018, Abujarour et al 2017b, Cities of Migration 2016).
- Newcomers adapt to new and local communication channels, critically blending new apps and services with those they already use. Researchers have found that newcomers, refugees in particular, rely on the apps they are already familiar with and use on a daily basis when they navigate their integration into new host cities, in contrast to the landscape of apps and online services created for refugee information and navigation. This includes informal learning of both location and language using their smartphones, such as YouTube videos for language learning (Kaufmann 2018, Veronis et al 2018, Abujarour et al 2017a, Dekker et al 2018, Mason & Buchmann 2016, Abujarour et al 2017b, Abujarour et al 2018, Cities of Migration 2016).
- Mobile phones are a tool to help newcomers navigate local systems, institutions, social and cultural norms, language and integration (Gillespie et al 2016, Veronis et al 2018, Abujarour et al 2017a, Abujarour et al 2018, Cities of Migration 2016)
- Newcomers use their smartphones to stay connected to friends, family and news in their countries of origin, as well as to navigate local information and new social connections (Gillespie et al 2016, Veronis et al 2018, Abujarour et al 2017a, Mason & Buchmann 2016).
- Mainstream service organizations have an important and sustainable role to play in providing not only accurate, timely, reliable and authoritative information to newcomer clients using smartphone technology such as digital messaging, but also in ensuring client digital literacy, connectivity and access to affordable technology (Gillespie et al 2016, Alemasoom et al 2018, Flagler-George & Lafreniere 2015, Cities of Migration 2016).
- Settlement service organizations and funders need to reconsider how they might re-imagine and integrate smartphone and digital messaging use into settlement services focused on integration, care, protection, and outreach (Gillespie et al 2018, Kaufmann 2018, Veronis et al

- 2018, Abujarour et al 2017a, Dekker et al 2018, Mason & Buchmann 2016).
- Newcomer illiteracy and lack of English language skills are an issue in providing information and services. Digital messaging and other technologies allow for information to be provided in audio/video formats that can transcend literacy issues (Abujarour et al 2016, Esses & Medianu 2012, Gillespie et al 2016, Cities of Migration 2016).
 - Mobile technology, using text, audio, images and video can be used in conjunction with translation, cultural mediators and training to address intercultural problems in access to services to successfully establish trust and support, verbal and non-verbal patient communication and serve as a means for patient education (Pimmer et al 2013, Cities of Migration 2016).
 - Use of digital messaging has grown in use by both clients and service providers. However, there is still relatively little research done regarding the role of digital messaging in settlement service delivery and a lack of understanding of its potential. The sector is not alone in this. Only fairly recently have other human service sectors begun to investigate how digital messaging and technology more broadly is being used, how it could be used to serve clients and its benefits to both agencies and clients (Tang & Hew, 2017, Graham & Wagner 2014, Idealware 2017a, Idealware 2017b, Bernard et al 2012).

Canadian immigrant and refugee-serving sector – general technology use and themes

"The immigrant and refugee-serving sector and CIC should initiate a joint project whose goal would be to establish technical parameters to guide settlement agencies and to promote coherence in ICT development and use. The goal would be to ensure that data from different agencies and locales could be easily integrated and aggregated; also, that ICT-enabled services could be freely exchanged" (Burststein & Qayyum 2014).

Use of technology in the immigrant and refugee-serving sector is not new. Nor are innovative uses of technology to serve clients. However, research on the impact and effectiveness of technology use in service delivery, as well as the digital capacity of Settlement organizations to provide services to clients using technology such as digital messaging is sparse.

Throughout this research themes have remained fairly similar:

- Agencies lack capacity to effectively integrate technology consistently across the organization – they're unsure how to implement and manage
- Funders lack capacity to evaluate, manage and monitor technology requests
- There is a large and varied continuum of formal technology adoption in the sector, with pockets of innovation
- Technology-mediated interactions are not considered direct service by some funders
- Agencies lack suitable policies and guidelines for technology use to serve clients
- Different models exist in how agencies roll out technology to serve clients - virtual worker vs frontline worker, vs blended worker
- There is a lack of knowledge sharing and transfer of promising and successful practices within the sector around digital service delivery
- The sector lacks standards, ethical guidelines and protocols around digital service delivery

Research themes:

- Research about technology to serve clients in the immigrant and refugee-serving sector spans almost two decades. In 1997, IRCC (then CIC)'s Ontario regional office initiated a Computerization Project to build the capacity of agencies delivering its ISAP (Immigrant Settlement and Adaptation Services), HOST, and LINC (Language Instruction for Newcomers to Canada) programs (Kerr et al 2002). An evaluation report found that IRCC's investment “radically transformed the capacities of ISAP/HOST-funded agencies and enhanced LINC language training.” Over time, LINC and ESL provider technology capacities have continued to grow nationally, while the Ontario investment did not spread across the country among IRCC funded agencies or continue in Ontario (Kerr et al 2002).
- In 2002, Executive Directors (ED) and senior managers of these agencies were consulted to discuss the opportunities and challenges of managing in a computerized environment (MICE 2) and to provide recommendations to funders on future computerization priorities. A key recommendation to the funder resonates today: “if the agencies are to manage technology effectively in support of CIC-funded programs, their funding agreements must account for all of their technology expenses. This includes management time, a new level of administration, and new human resource requirements throughout the agency” (OCASI 2002).
- These reports found that increased technology investment “allows their agencies to serve clients better. At this stage of computerization in the sector, this most often means they can access and process information faster. The prevailing view is that the essence of client services is still the human touch, and that computers are merely tools that influence how work is done, not what work is done or the outcomes.” Agencies called for flexibility in technology choices and capacity to ensure they could meet client confidentiality and information security. The forty-two recommendations made by ED's and senior managers include elements that are relevant in the current climate: decentralized IT training for the sector, decentralized, “just-in-time” IT training or coaching, a study of actual Total Cost of Ownership (TCO) in the sector based on minimum standards for hardware and software, alternative models of technical support and training, and consultation on agency capacity and readiness for decentralized IT management (Kerr et al 2002, OCASI 2002, Boydell et al 2013, Flagler-George & Lafreniere 2015).
- In 2007, Nova Scotian settlement agencies collaborated with Nova Scotia Community College to research and successfully launched online ESL and labour market workshops that have since grown into the Settlement Online Pre-Arrival (SOPA) system (Mills & Legault, 2007).
- In 2010, Burstein outlined a service provider innovations strategy that builds on the unique sector strategic capacities to jumpstart innovation and disseminate best practice information. This included ideas about how technology could facilitate access to services for newcomers in smaller or more isolated settings where formal in-person services were not available: “Newcomer volumes are, in many cases, too small for efficient operations and delivery specialization. Instead, there will need to be some combination of greater training of mainstream institutions to address newcomer needs coupled with itinerant and alternative, perhaps electronic, forms of service delivery. These will require sustained investments both in local capacity and in the capacities of settlement organizations in larger centres to export their services. A number of pilots are underway – such as delivering LINC by telephone or over the internet – but they have not yet been assessed. Along with improved local services, there will also need to be a stronger focus on engagement aimed at leveraging support and removing barriers to social and economic participation.” He recommended “a pan-Canadian review of agency best practices in delivering support to remote, underserved locations. The study should explicitly target the use of itinerant services, new communication technologies, self-instruction and third- party, contracted delivery.” (Burstein 2010, Flagler-George &

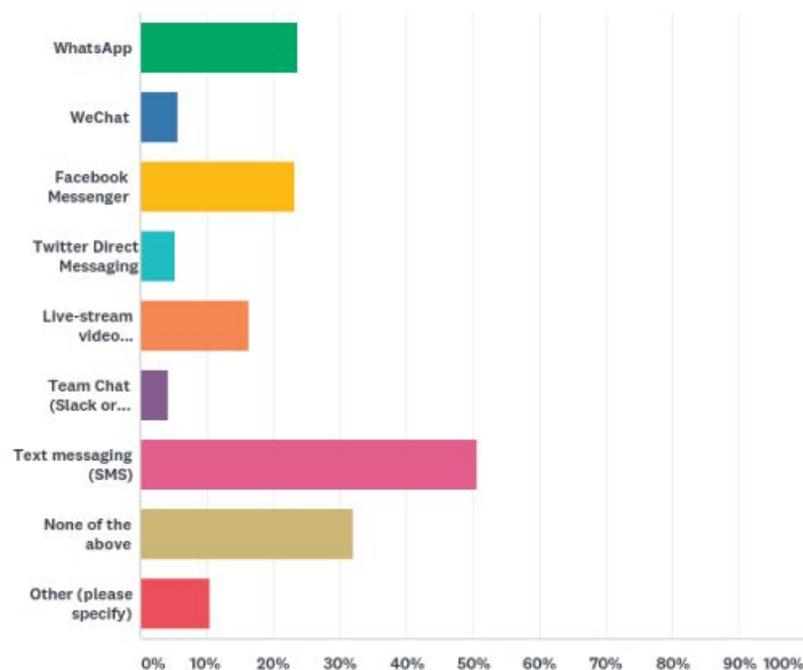
Lafreniere 2015, Mills & Legault, 2007)

- A 2012 report evaluated the innovation capacity and practices of immigrant and refugee-serving sector agencies identifying significant barriers to sector innovation. The report recommended an annual innovation cycle to be implemented by the funder that would also increase knowledge sharing and transfer. Priorities could focus on target groups and services, geographic location, scale, and local infrastructure, in collaboration with IRCC. Both this study and an earlier companion report built on previous observations that action be taken based on a shared interest by governments and the sector to build agency capacity to analyze and innovate. (OCASI 2002, Burstein 2010, Burstein & Esses 2012).
- By 2014, the Pathways to Prosperity project had convened the sector to discuss the Agency of the Future. The project also recognized the emerging use and benefits of technology to serve clients. The study provides a rich summary of examples of how the sector has incorporated technology in client services. For example, in Alberta, the provincial umbrella organization asserted that all agencies use ICT in their settlement and integration services (Burstein & Qayyum, 2014).
- A common theme in this body of research acknowledges challenges around individual agency capacity to adopt and integrate new technologies into client service and recommends this be addressed at the sector level (Kerr et al 2002, OCASI 2002, Burstein 2010, Burstein & Esses 2012, Mills & Legault, 2007, Gay 2018).
- At the same time reports acknowledge the potential for increased accessibility of services for newcomers, there is also recognition of sector discomfort with a shift in service modalities, primarily based on a fear of larger more techno-literate organizations displacing local agencies by providing online services (Burstein & Qayyum 2014).
- Researchers recommend the sector act collectively, to share resources, protocols, promising practices and investments while funders provide the support necessary for such capacity building, including “research, knowledge dissemination, and experimentation with new technologies and new organizational arrangements” to promote consistent technology development, capacity building and rollout in services to clients. Once again, collaboration between the sector and its core funder, IRCC is recommended (Kerr et al 2002, OCASI 2002, Burstein 2010, Burstein & Esses 2012, Mills & Legault, 2007, Gay 2018).
- Digital capacity has been recognized as an ongoing issue in the sector (Mills & Legault, 2007, Open North 2017, Gay 2018). In a recent national survey of the digital capacity of Settlement organizations 92% of agencies surveyed rated digital capacity (tools, skills, training, infrastructure, applications, processes) as important to accomplish their mission and work (7 out of 10 or higher). At the same time, only 40% of agencies had a digital strategy (with 23% answering “don't know, hard to say”) (Open North 2017). This is not outside the norm for other nonprofit sectors and organizations.
- A recent environmental scan focused on establishing a national immigrant and refugee-serving sector Community of Practice included “a snapshot of current ICT practices, to gauge levels and types of use within the sector.” (Gay, 2018) As with other research findings (Karpman & Drisko, 2016, Mishna et al 2015, Boydell et al 2013, Boydell et al 2013, Sage et al 2017, Goldkind et al 2016), the scan revealed a lack of technology planning competency across many agencies, a need for professional development in general communications and technical skills, questions about confidentiality and security, data overload, time and resource challenges, and the complexities of managing technology. It also revealed the existence of a number of existing online hubs and communities of practice already active in the sector, using technology. Practitioners are also looking for best practice and knowledge co-creating opportunities.
- It is felt that funders do not set aside significant funding resources to technology planning or use by organizations they fund and can do more to support agencies. In particular agencies identified funding support for digital capacity development and skills training for both front-line

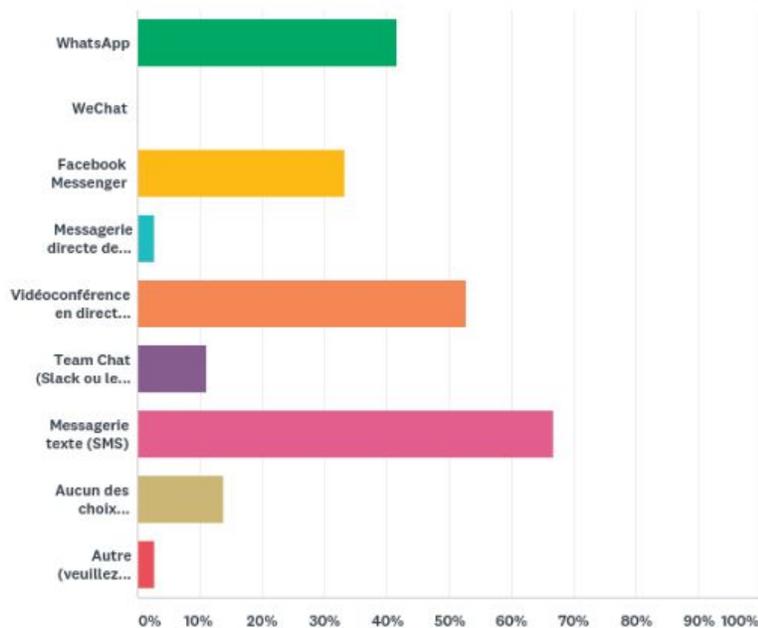
workers and agency leadership as priorities (Open North 2017, Goldkind et al 2016). It is also clear that agencies have struggled to make the technology case and to provide specific impacts of technology in service provision to funders. This is not a problem only in the immigrant and refugee-serving sector (Kleine 2010).

- The national survey did not specifically ask about digital messaging other than use of text message/SMS, which it found 34.3% of agencies used to serve clients. The survey also asked about use of Facebook (53.5%), Twitter (35.2%) and Mobile Apps (14.3%) but it is not clear where digital messaging fits in sector use of these platforms. Other potential social media and digital messaging channels used to serve clients were not asked about (Open North 2017). A more recent survey found that text messaging (French 66.67%; English 50.69%) and WhatsApp (French 41.67%; English 23.61%) were communication tools front-line workers used to perform their work (Facebook Messenger rated almost as high as WhatsApp, although a specific percentage was not provided). “Video and audio conferencing apps such as Skype, GotoMeeting, Google Hangout, Zoom are all tools being used. Social media tools are also used to communicate as a way of direct messaging (Twitter DM, Facebook messenger, Instagram)” (Gay 2018).

**Q26 Do you use other communication tools (such as Apps) in the course of your work?
(Please select all that apply).**



Q26 Utilisez-vous d'autres outils de communication (tel que des applications) pour vous aider à exécuter votre travail ?(Veuillez sélectionner toutes les réponses applicables).



- Technology trends and advancements, such as cloud computing, social media and mobile technology and their increasing uptake in the nonprofit sector have implications for increasing service effectiveness and improved work processes. (Kwan & Rice 2014, Gay 2018)
- Research that looked at technology to serve clients also reiterated findings from research on immigrant information behaviour and practices: “Immigrants seeking information are likely to be under stress, face multiple barriers, and may be unfamiliar with the Canadian system. Therefore, it is essential that the information provided to immigrants is clear, easy to understand, and easy to locate. Immigrants may also need to have access to information in their own language, located in an environment easy to navigate, and culturally friendly” (Sexsmith, 2010, Jacot 2010, Mills & Legault, 2007, Cortinois 2015).
- This research also recommend multi-modal communication and information provision, both when using technology and in-person services (Abujarour et al 2018, Veronis et al 2018, Jacot 2010, Esses & Medianu 2012).
- As with previous research, these reports found information sources (and how newcomers weigh the credibility of competing sources), trust and pathways chosen to convey information to newcomers essential to the success of persuasion for newcomers to both access services and trust the information they receive (Dekker et al 2018, Veronis et al 2018, GSMA 2018, Alemasoom et al 2018, Latonero et al 2018, Cortinois 2015, Sexsmith 2010).
- More recent research with Syrian refugees in the Netherlands confirms Caidi and Esses & Medianu's summaries about how newcomers weigh source credibility, finding that “migrants prefer social media information that originates from existing social ties and information that is based on personal experiences” (Dekker et al 2018)
- Importantly, research about the sector that has also reviewed research in other fields recommends strongly that decisions made about technology to serve clients be based on client and organizational needs, not the novelty or affordances of emerging technologies themselves (Burstein & Qayyum 2014).
- The Settlement ESL/language learning sector has made greater strides with the integration of

technology in language learning. However, recent findings suggest that they also suffer from capacity and technology infrastructure issues (McBride 2018). Echoing concerns within the immigrant and refugee-serving sector, the research cites a lack of resources and agency infrastructure, inadequate equipment and training, and the absence of cohesive strategies to integrate technology into services (Mills & Legault, 2007).

- Service providers and funders need to engage more actively and directly to raise awareness of the benefits and challenges of technology integration in direct client service provision, including flexible approaches to technology decision-making, implementation and iteration (McBride 2018, Mills & Legault, 2007, Burstein & Qayyum 2014).
- While a general focus of technology to serve clients is on innovation, human service organizations are more adept and able to use technology initially in an iterative way, allowing them to perform traditional tasks more effectively, rather than focusing on innovation or new methods to serve clients (Goldkind et al 2016, Sage et al 2017, Mills & Legault, 2007).

Standards, ethics and protocols

Perhaps the most accurate statement about the intersection between technology and human services, including Settlement services is: “The encounter between social work and technology has generated debate, dialogue, and literature. Yet documentation of actual use among agencies and practitioners is rare, and no census mechanism exists to chart how (or how effectively) practitioners in the United States are adapting practice to meet a changing culture” (Goldkind et al 2016).

Importantly, the literature agrees that **not** using technology to serve clients is no longer an option: “Denying services to people in need simply because social workers are not comfortable with reputable digital and electronic technology is not consistent with social workers’ ethical obligation to meet the needs of vulnerable people” (Reamer 2013).

In the Canadian Settlement context, much debate and dialogue has occurred, but little literature. However, the literature, including service, regulatory and ethical frameworks are more advanced in other human service sectors (including in Canada) and it is from these that the Canadian immigrant and refugee-serving sector can borrow, replicate and introduce. At the same time, Ontario and federal government work on Digital Service Standards offer opportunities for learning as well.

Key themes:

- Offering clients therapeutic treatment online is not new, it is a phenomenon dating back to the 1990s (Mishna et al 2015). Research has shown that online therapies are effective and generally as effective and satisfying as face- to-face therapy (Attridge 2011; Murphy et al. 2009; Penate 2012, Caldwell et al 2017, Boydell et al 2013).
- Newer technologies have greatly expanded the online human service landscape. Human service workers can make use of a multitude of technologies and channels, alone or in concert: online counselling, live online chat, telephone counselling, video counselling, cybertherapy and avatar therapy, self-guided web-based interventions, smartphone apps, electronic social networks, email, text messaging (Reamer 2014, Boydell et al 2013).
- Use of new technologies raise ethical and risk-management issues. Human service workers and agencies, regardless of their use of new technologies to serve clients, must be aware of

them and the issues, including benefits and risks they pose (Reamer 2014, Mishna et al 2015, Hitchcock et al 2018, NASW 2017, Caldwell et al 2017, Boydell et al 2013).

- There was no research found when it comes to the specifics of ethical guidelines, standards, protocols or regulatory frameworks for the use of digital messaging in the Canadian immigrant and refugee-serving sector. There are also none of these documents found for broader use of technology to serve clients in the immigrant and refugee-serving sector that specifically provides guidance for Settlement agencies to follow. However, much has been written, identified and codified in other human service sectors (Boydell et al 2013). Most notably, the U.S. Social Work sector has recently outlined standards for Technology in social work practice that can and should be easily transferred to the immigrant and refugee-serving sector (NASW 2017).
- Beyond standards, there is also a recent and growing body of research assessing the impact of emerging technology on social workers, supervisors and social work educators. From “it just crept in” to evaluations of literature in managing regulated social work use of technology, there is both a practice and research gap in best practices and models for the roll out, management and evaluation of technology to serve clients. There is a need to develop guidelines for professional practice on the use of technology in human service delivery (Boydell et al 2013, Sage et al 2017, Goldkind et al 2016).
- There is also a need to create a knowledge mobilization strategy to share learnings and successes from within Canada, and from international case studies and examples. A recent OCASI-led environmental scan focused on establishing a national Community of Practice suggests there is potential for this strategy to be implemented (Boydell et al 2013, Burstein 2010, Burstein & Esses 2012, Burstein & Qayyum 2014, Gay 2018).
- The typical use of Information and Communication Technologies (ICTs) in human service agencies is governed by agency policy directives that are reinforced in training and supervision. However, social media has crept into most human service workplaces through employee use and from the requests of clients (Sage et al 2017, Mishna et al 2012, Goldkind et al 2016, Boydell et al 2013).
- As client preferences shift to technology as a primary channel to access service, human service agencies and workers must also shift, reflecting the values of meeting the client where they are (Mishna et al 2015, Boydell et al 2013, Mills & Legault, 2007).
- Cyber counselling or e-Therapy is considered a realistic and legitimate way of providing social, health and mental health services and has for almost two decades (Mishna et al 2015, Murphy & Mitchell 1998, Boydell et al 2013).
- The literature cites greater accessibility, flexibility and options for clients when provided with technology-mediated options for service delivery (Mishna et al 2015, Murphy & Mitchell 1998, Mills & Legault, 2007)
- Client demand of use of technology to access human services is expected to increase (Mishna et al 2015).
- Social work and other human service workers must develop competencies to incorporate technology in their work with clients (Mishna et al 2015, Reamer 2014, Boydell et al 2013).
- Unique ethical considerations exist when using technology to serve clients, including confidentiality, dealing with technology issues during sessions, worker competence using technology, online security, privacy and encryption, boundaries (both for clients and workers), and dealing with emergencies. Human service workers must explore the ethical and competence implications of using technology to serve clients, including informed consent, privacy and confidentiality, boundaries, conflicts of interest, and their own competencies (Mishna et al 2015, Reamer 2014, ICRC 2017, Latonero et al 2018).
- There are still gaps in educational programs preparing social workers to effectively use technology to serve clients (Mishna et al 2015, Mishna et al 2013, Boydell et al 2013). These

gaps include the transfer of worker competencies and communication differences into the online space, which workers struggle with and can be addressed by training and orientation to communication norms using specific tools (Tour 2015, Shin 2015).

- Based on the revised Standards for Technology in Social Work Practice (NASW 2017), U.S. Social work educators created a document interpreting the use of technology in social work education, outlining the need for social work educators to have a working knowledge of how to use technology ethically, and model those skills for their students (Hitchcock et al 2018).
- The majority of online client service is complemented by face-to-face services, a blended approach to client service delivery (Mishna et al 2015,
- Agencies and human service workers must assess the appropriateness of online services for each client, but the literature suggests that online services are particularly beneficial for those who may not have access do to location, age, mobility, child care/family situation, financial or other barriers (Mishna et al 2015, Mills & Legault, 2007).
- The role of agency management is crucial, as is the technical competency of supervisors (Sage et al 2017). However, there is a lack of policy development to ensure that all stakeholders (clients, workers, management, broader community, etc.) are represented and that policies reflect both the benefits and risks of technology use to serve clients. Managing risk is a key theme emerging in related research, for all service agency actors (Reamer 2014).
- Adopting and adapting to technology change in organizations is an ongoing challenge. Some researchers have proposed looking at phased-in models of technology adoption to serve clients. One model describing technology innovation in public services outlines three phases of “experimentation, constructive chaos, and institutionalization” of new tools and technologies (Sage et al 2017, Mergel & Bretschneider 2013).
- Workers have identified the need for additional training, along with policy development in their agencies, in order to feel comfortable and competent using technology to serve clients. Training should also extend to supervisors and managers (Sage et al 2017).
- Policies should reflect the actual and day-to-day use of technology to serve clients rather than broad commentary on do's and don'ts of technology use. They must also reflect the realities of fast moving technological innovation and changes in technology use by clients (Sage et al 2017).
- Organizations moving client service, data and technology infrastructure to the cloud in Canada must increasingly assess the privacy and security implications of doing so, taking their organization and its IT infrastructure through a thorough risk analysis (Bohaker et al 2015, Information & Privacy Commissioner for British Columbia 2004, BCCLA, CIPPIC 2018).
- Human service workers are using technology to serve clients before regulations or professional standards have been developed regarding their use (Caldwell et al et al 2017, Karpman & Drisko, 2016).
- Messaging apps, in particular, offer significant benefits and opportunities, but require organizations to establish strategies and standards to ensure appropriate use, including responsible use of data collected (ICRC 2017)

Best practice principles and how-to documents

Creating information products and services for newcomers, especially vulnerable newcomers (not only refugees) requires a similar rigour as creating in-person services. Research suggests a fairly common set of practices and approaches any digital messaging or technology for service delivery project should follow. The reports cited below should be reviewed in depth as starting points for the immigrant and refugee-serving sector's digital messaging strategy:

- Organizations should not rely on any one specific messaging app, but create multi-platform, multi-channel communications strategies rooted in the actual use of messaging apps by clients. Field research with refugees recommends putting people, not technology at the centre of the strategy (ICRC 2017, Mason & Buchmann 2016).
- Develop a set of guiding principles that starts with a response to the needs of your clients and the technologies they are using to ensure that any service solutions meet their identified needs, preferences, technology access and literacy (Techfugees 2017, ICRC 2017, Idealware 2017a, Idealware 2017b, Mason & Buchmann 2016, Hitchcock et al 2018, NASW 2017)
- Build in privacy by design. Use tools that ensure the safety and security of communication with clients. Don't collect data that is not useful to provide service and be clear and transparent with clients what, how and why data is being collected (Techfugees 2017, Gillespie et al 2016, ICRC 2017, ICRC 2017, Idealware 2017a, Idealware 2017b, Mason & Buchmann 2016, Hitchcock et al 2018, NASW 2017, Hitchcock et al 2018, NASW 2017).
- Mobile technologies offer rich affordances for newcomers and service providers. However, they are also targets of surveillance, especially in the area of refugee migration. Service providers must be aware of newcomer experiences with technical surveillance and design, provide and communicate the security of their technical services to newcomers (Gillespie et al 2016, Latonero & Kift 2018, ICRC 2017, Idealware 2017a, Idealware 2017b, Mason & Buchmann 2016).
- Designing digital messaging services should: incorporate human centred design, ensure security and privacy, have curated, checked and collaborative information-gathering and provision, be accessible to clients, be sustainable, involve newcomers in design and iteration, be aligned with organizational service goals and mission (Gillespie et al 2016, Techfugees 2017, ICRC 2017, Idealware 2017a, Idealware 2017b, Mason & Buchmann 2016, Hitchcock et al 2018, NASW 2017).

It is recommended that these practical reports with case studies, actionable recommendations and workplans be deeply reviewed with an eye for practical models, frameworks, guidelines and protocols that can be extracted for Canadian settlement agencies to implement, in conjunction with IRCC and other funders.

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