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Legal aspects of accessibility and usability of online public services in Quebec and Canada

Serge Kablan[1] · **Arthur Oulaï**[2] · **Emma Elliott**[3]

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Abstract This article discusses the legal requirements which must be taken into account in providing public online services to individuals with a low level of literacy. It will focus on two aspects: the accessibility and usability of these services. The authors propose a twofold theoretical analysis based on two issues raised by government objectives for improving G2C relations. The first one relates to the accessibility of online public services. This concept is not totally unknown in law, particularly regarding the rights of people with physical or cognitive functional disabilities or limitations. It is nonetheless greatly enriched by the peculiarities of the electronic context, as its scope includes circumstantial constraints, among others, imposed by the software or hardware environment. The authors demonstrate that the legal provisions and the standards promoted to frame the deployment of the immaterial relationship with citizens reflect this expanded vision of accessibility. As a result, by choosing a communication tool that implies minimum reading and comprehension skills, the implementation of these provisions and standards should plainly reflect this vision of accessibility by taking factors such as literacy levels into consideration. Secondly, as usability is a corollary to accessibility, the authors suggest that the strategies supporting the penetration of online public services consider the strong appeals from the private sector and, arguably, feedback from

✉ Serge Kablan
serge.kablan@fsa.ulaval.ca

Arthur Oulaï
arthur.oulai@usherbrooke.ca

Emma Elliott
emma.k.elliott@gmail.com

[1] Laval University, Quebec, Canada

[2] University of Sherbrooke, Sherbrooke, Canada

[3] Montreal, Canada

individuals themselves with regard to identification and authentication, which are a prerequisite for the use of these services. Consent to the collection, use or disclosure of personal information is another requirement. Beyond mere compliance with legal obligations, one should consider the conclusions and recommendations of the latest Five-Year Report of the Commission d'accès à l'information du Québec (Quebec access to information commission, hereinafter the "Access Commission") that introduced the use of pictograms, among other proposals, as an avenue to promote the usability of online public services. In this context, designing the process or formalities for disclosure and consent could take into account the situation of people with low literacy levels and, consequently, be accessible to a significant fringe of the population, in addition to being a model for companies as part of their e-commerce process.

Keywords Accessibility · Consent · e-Government · Identification · Literacy · Personal information · Usability

1 Introduction

The delivery of government services over the Internet commonly evokes concepts such as *e-government* and *e-administration* [1]. Both are part of a broader vision, which many institutions of public administration today are attempting to make a reality. In its decision in the case of *Jodhan* versus *Canada (Attorney General)*, the Federal Court of Canada depicted this reality in light of the federal government's ongoing e-governance initiatives, i.e. in view of services at times concerned with the delivery of information and at other times focused on interaction with citizens [2]. Although the legal literature transcends this duality, it has not provided an unambiguous definition of online government. In fact, there is a conceptual triptych within the notion of e-government connecting e-administration to both e-democracy, a domain that views the implementation of information technology as a means to advance G2C and G2G relations [1], and e-society (information society), which considers that technology as aiding the development of social relationships, broadly defined [3].

The Quebec Government's 2004–2005 report on e-governance embraced to a certain extent the core concepts underpinning the definition adopted by the United Nations Public Administration Network (UNPAN), according to which e-government should be considered a "permanent commitment" to "improve the relationship between the private citizen and the public sector through enhanced, cost-effective and efficient delivery of services, information and knowledge" [4]. Therefore, the Quebec report asserts, the two dimensions of online public services and e-democracy must both be taken into account. It is also important to integrate this vision into efforts aimed at the ultimate objective of fostering innovative and efficient public administration [5].

Certain commentators refer to online government as a "new social contract", considering it the median phase of a tripartite process that will culminate in e-democracy [4]. According to this view, along the lines of the concepts cited

above, the provision of public services online is not only an essential component of e-governance, it constitutes its trigger mechanism. Beyond the terminological divergences, the legal literature [6, 7] is both consistent in its attention and varied in its approaches to the subject of online public service delivery, as are other sources. Successive annual editions of the *United Nations Global E-Government Survey* are testimony to this, reporting for the past decade the results of international e-government monitoring [8–10]. The 2010 edition of the Survey focussed in particular on the availability of online services [11]. The Survey ranked Canada third overall after South Korea and the United States, in terms of online public service development and delivery. Notwithstanding this encouraging ranking at the federal level, a careful examination of the specific conditions of Quebec's e-administration remains apposite on several levels in terms of the implementation of e-government initiatives, the emergence of cutting-edge public administration, the realization of e-democracy aims and the achievement of Millennium Development Goals, to which the 2010 UN survey makes Ref. [11].

The Survey argues, moreover, that the implementation of hardware and software infrastructures is insufficient in and of itself to ensure service efficiency, arguing that "having a great website does little in e-service provision if the majority of people in the country cannot read or write, nor if they have no access to the Internet" [11]. Although we could boldly assert that such conditions are not encountered in Quebec, there are nonetheless underlying questions about how to ensure access to e-services for groups who find themselves on the fringe of society, given the comprehensively inclusive objectives of online government service delivery. In this study we will ask such questions with regard to the population groups consisting of 16 % of Quebec's overall population aged 16–65 years presenting the lowest levels of comprehension of prose texts (approx. 797,000 people); 18 % of the population with the lowest levels of comprehension of schematic texts (approx. 907,000 people); and 20 % who have the lowest numeracy skills (approx. 1,024,000 people) [12] 1010. Below, we will ask what types of measures could be implemented to promote the use of online public services among these populations, bearing in mind that Web-based information resources are overwhelmingly textual in form [13], which makes cognitive skills an essential requirement for their use [14]. From a legal perspective, what concerns could be taken into account to encourage the online providing of services to these vulnerable segments of the population? To answer this question, we will discuss two aspects in turn which, in our view, could be of interest regarding persons with a low level of literacy, namely the accessibility and usability of these services. We will focus on these two notions because they are upstream of the use of the services studied and to a large extent condition access to them. The first step is to determine the legal foundation of accessibility to public online services. More specifically, we must determine how it has been taken into account by the case law and legislative texts, including the various instruments guaranteeing human rights. We must also ensure this accessibility is implemented by the Government of Quebec. Other than defining it, the usability of online public services will be measured by formalities, which ensure that users are protected when they are identified for the purpose of using online services. In some cases, the use of such services requires access to personal

information about citizens. As such access is conditional upon their prior consent, we believe that it is important to highlight what elements will allow individuals with a low level of literacy to give informed consent in the context of information technology.

2 Accessibility of online public services

Relative to the segment of the population with low literacy skills who are among the three quarters of Quebec residents with home Internet access, we will consider public service accessibility, as determined by law and conditioned by accepted norms, before turning to the issues of its implementation.

2.1 The legal foundations of accessibility

In Quebec, the *Public Administration Act* positions the principle of accessibility within the purview of the responsibilities of certain government ministries and bodies,[1] specifically within the domain of the services they provide, i.e. those offered to the population and to businesses [15]. The Act also stipulates that such entities must disclose their objectives relative to the "level" and quality of the services they offer. Moreover, the public bodies in question must publish a statement outlining the nature of the services offered and their *accessibility*, and specify the time frame within which the services are to be provided [15]. The government ministries and bodies subject to these obligations adopt the principles outlined therein, and in particular the principle of accessibility, notwithstanding the lack of an explicit definition of this notion in the law. The *Report on the Implementation of the Public Administration Act* found that 77 % of plans to improve services elaborated by such bodies made reference to accessibility, compared to 80 % of their annual reports for 2001–2002 and 88 % of those for 2003–2004 [16]. The Report discusses accessibility as a function of service quality management and examines such initiatives as, for example, more efficient distribution of service hours and locations, improvements to facilities and their accessibility, and the development of electronic information services [16].

In the U.S., commentators describe the *Architectural Barriers Act* of 1968 (42 U.S.C.A. § 4151 et seq.) as "the first federal law mandating some form of access for individuals with disabilities".[2] The Act was designed to tackle unequal access to buildings and services. Several other provisions followed with a comparable emphasis on the notion of accessibility: section 504 of the *Rehabilitation Act* of 1973 (29 U.S.C.A. § 701 et seq.); the *Americans with Disabilities Act* of 1990 (ADA); the *Individuals with Disabilities Education Act* (IDEA); the *E-government Act* (P.L. 107-347); etc. Section 508 of the *Rehabilitation Act* (amended in 1998) is among those provisions.[3] Olalere and Lazar recall the scope of the law: it

[1] See Article 5.

[2] Jaeger [17].

[3] Section 508 of the Rehabilitation Act—29 U.S.C. § 798 (a) (1).

encompasses the design of websites, operating systems, hardware and telecommunications devices.[4] According to the authors, "*For a website to be considered accessible, it must be flexible enough to work with various input and output devices*", i.e. assistive technologies.[5] The criterion of accessibility is not met when "[…] *people with perceptual or motor impairments cannot technically use the website*".[6]

In Quebec, the *Rapport annual de gestion 2009–2010* of the *Ministère des Services gouvernementaux* helps us define more clearly the scope of the notion of accessibility in the specific context of information technology. More specifically, along with seven other principles, accessibility constitutes the guiding instrument for ministries and organizations towards a "renewed vision of e-government" that establishes the conditions in which to offer "high value added solutions to the state's clientele" [20]. Furthermore, the guiding aim is to "make services available to clienteles in accordance with their preferences, capacities, and natural choices" [20]. With a common understanding of "accessibility" [1], which involves the totality of factors allowing users to access public services, this description seems to be flexible enough for the service offer to be modulated in line with factors such as the population's literacy skills. The legal literature views accessibility as a concept that implies going beyond initiatives likely to mitigate physical and cognitive functional disabilities or limitations (broadly defined):[7] it also calls for consideration of circumstantial constraints imposed by the user's technological environment, such as connection speed and the limitations of specific terminals [25]. A definition formulated by H. S. Lawton succinctly addresses this duality of possible constraints; it is conceptually close to the interpretation of accessibility that Quebec's public administration appears to have adopted [1]: "*Accessibility can be defined as the quality of a web site that makes it possible for people to use it—to find it navigable and understandable—even when they are working under limiting conditions or constraints* [25]".

The World Wide Web Consortium (W3C) is an Internet community organization working to promote Web accessibility for all users. The Consortium's vision is largely congruent with the broad concept of accessibility, although the Web Accessibility Initiative (WAI), which outlines W3C's stance on the issue, emphasizes the distinct situation of persons with disabilities [26]. In its fundamental principles, the Initiative (the explicitly stated standards of which are already extensively followed in a number of jurisdictions) is addressed to all Web users without differentiation, including those who do not live with functional limitations or disabilities [26]. According to W3C, in order to be considered accessible, Web content must comply with four principles, which give central importance to user interface: first, accessibility supposes that Web content is perceivable, both in terms of the information delivered and the various components of the user interface—in short, users must be able to perceive all elements of a given Web site; second,

[4] Olalere and Lazar [18].

[5] In this respect, see Fernando et al. [19].

[6] Olalere and Lazar [18].

[7] On physical and cognitive functional disabilities, see for example [21–24].

accessibility places responsibility on Web site editors to ensure that all interface components and navigation tools are operable and that such navigation tools are integrated into the site in a manner that promotes interactivity; third, the information presented and the interface must both be understandable, i.e. clearly intelligible for end users; and fourth, any Web content considered accessible must be of a minimum robustness, i.e. it must be accessible to user agents, in particular to the assistive technologies that certain individuals must use in order to access the content [27].

Moreover, accessibility has also entered the sphere of constitutional rights. The *Jodhan* decision [2], in particular, opened a perspective onto accessibility in light of section 15(1) of the *Canadian Charter of Rights and Freedoms* (hereafter the "*Charter*"); the *Charter* constitutes Part 1 of the *Constitution Act, 1982*. In the case of *Jodhan* versus *Canada (Attorney General)*, the Federal Court was presented with a request for a declaratory judgment in the matter of federal Canadian government norms relating to access to online information and transaction services. It was alleged that the said norms and their implementation not only deprived visually impaired Canadians of their right to equality of access to government information and services, they also violated rights derived from section 15(1) of the *Charter*, which establishes principles of equality. Courts have interpreted this provision as a guarantee of "substantive equality" and of "equal protection and equal benefit" for all, independent of personal characteristics [2, 28]. In practice, their ruling rests on two cumulative criteria, set out in the Court's final analysis: under the provisions of section 15(1), an instance of discrimination exists if a distinction is made on the basis of the enumerated or analogous grounds, both categories of grounds being described in *Corbière* versus *Canada* as "constant markers of suspect decision making or potential discrimination" [29]; second, discrimination is considered to exist when the said distinction imposes a disadvantage based on prejudice or stereotyping [29].

In this case, the Court's reasons aptly called attention to the significance of the term "law", as embodied in section 15(1). The law applies, but is not limited, to government policies and activities. Thus, law includes the *Communications Policy of the Government of Canada* (hereafter, "Communications Policy") and the *Common Look and Feel for the Internet 2.0: Standards and Guidelines* (hereafter, "CLF 2.0"), the two disputed instruments brought into force by the *Financial Administration Act*, which promote, among other things, "universal accessibility which ensures 'equitable access to all content on Government of Canada Web sites'" (emphasis omitted) [29]. Without significant variations on the question of accessibility in comparison with CLF 1.0, brought into force in 2001, the provisions of CLF 2.0, enacted in 2008[8] [30], essentially assimilate the W3C directives issuing from the *Web Content Accessibility Guidelines 1.0* (WCAG 1.0)[9] [31]. Addressed to developers of Web content, the guidelines are classified according to three categories (priorities) of "checkpoints." Priority 1 checkpoints apply to basic

[8] The Standard on Web Accessibility and the Standard on Web Usability, which took effect on August 1 and September 28, 2011 respectively, replaced Parts 1, 2 and 3 of the Common Look and Feel 2.0 guidelines.

[9] WCAG 1.0 was replaced by WCAG 2.0 in 2008.

requirements ensuring that all groups can access Web content, while those of priorities 2 and 3 aim, respectively, to eliminate significant barriers and improve access to content [32]. It follows, for example, that developers must make available textual equivalents of non-textual content, such as images or animations, must make textual content as clear and simple as possible (Priority 1), and should opt for coherent presentation in Web site design (Priority 3).

In light of the first criterion established by section 15(1) of the *Charter*, the Court noted the apparent neutrality of the legal instruments formalizing the guidelines, based on the fact that they concern all users of online government services and seem to ensure true equality of access. Thus, there was no distinction drawn that would signal an instance of discrimination. However, the Court remarked that "[a] law can create a distinction in two ways. First, the law may create the distinction on its face. Second, the law may be facially neutral but may have effects that are discriminatory or differential, and so give rise to 'adverse effects discrimination'" [2]. The Communications Policy and CLF 2.0 did not correspond to the first condition. But did they match the second? The Court concluded in the affirmative. First, in the Court's opinion, the evidence showed that the guidelines designed to ensure the universal accessibility of online public services had not been implemented, had not been enforced and had not "been made a priority by the deputy heads of the estimated 146 government ministries and agencies who are responsible for implementing these standards" [2]. Furthermore, the guidelines had become outdated and could no longer ensure access for individuals with visual impairments to more recent, interactive rich Internet applications now integrated into online Government services [2]. Justice Kelen concluded that the law produced effects that were discriminatory, creating a distinction of treatment on the basis of one of the enumerated grounds, specifically physical disability [2]. Thus, the first criterion of discrimination cited in section 15(1) of the *Charter* was confirmed.

Does a low level of literacy, perhaps even illiteracy, therefore also constitute a ground of distinction defined as discriminatory? In other words, can section 15(1) of the *Charter* be invoked to demonstrate that guidelines on access to online public services are inadequate and that their implementation infringes the rights of persons with low literacy skills or those who are illiterate? Since neither criterion is cited as grounds for discrimination under section 15(1) of the *Charter*, can either be considered to constitute analogous grounds? Without attempting to exhaust the question, we will nevertheless recall how the Supreme Court framed its qualification of analogous grounds: "To identify a ground of distinction as analogous, one must look for grounds of distinction that are like the grounds enumerated in s. 15. These grounds have in common the fact that they often serve as the basis for stereotypical decisions made not on the basis of merit but on the basis of a personal characteristic that is immutable or changeable only at unacceptable cost to personal identity. This suggests that the thrust of identification of analogous grounds at the second step of the analysis is to reveal grounds based on characteristics that we cannot change or that the government has no legitimate interest in expecting us to change to receive equal treatment under the law [29, 33]".

It is important to note here that, in the wake of *R.* versus *Crète*, the illegibility of government information is considered to be an inevitable condition for certain

persons, notably those who are illiterate. This limit on access is not, however, recognized as discriminatory under the regime of section 15(1) [34] and this is also the case for the majority of socio-economic considerations and rights. The legal literature has noted the reticence of courts to include these criteria within the purview of the provision: "[…] the *Charter of Rights* has not proven to be an effective vehicle for the advancement and protection [from] unequal treatment on the basis of social and economic disadvantage. Not only have courts been reluctant to interpret *Charter* rights as having positive socio-economic dimensions (with a few notable exceptions), but the section 15 *Charter* jurisprudence has shied away from recognizing socio-economic grounds alone as analogous in the context of negative rights claims (thou shalt not) rather than those proposing the positive allocations of economic resources [35]".

By contrast, section 10 of the *Quebec Charter of Human Rights and Freedoms* lists social conditions among the prohibited grounds for discrimination. Case law developments stemming from this provision suggest a possible evolution of the concept towards the inclusion of education levels as well: "[…] while the definition of social condition has remained relatively stable over the last decade or so and has emphasized a purposive approach in protecting vulnerable socio-economic groups, the cases have also tended to confine social condition almost exclusively to the receipt of social assistance. The *Bia-Domingo* case recognized that low income associated with precarious types of work could also fall under social condition and the door to recognizing level of education as the basis for social condition has not been closed [35, 36]".

In addition, the second discrimination criterion established by section 15(1) of the *Charter* leads to the consideration of whether a disadvantage has arisen because of a failure to provide reasonable means of accommodation that would allow disadvantaged groups to benefit from equal access to government services [2]. Such "reasonable accommodations" are specific measures, the implementation of which does not create excessive constraints. They are obligatory, except in cases where their absence is successfully justified and defended on the basis of section 1 of the *Charter*. In the *Jodhan* decision, a disadvantage was found to exist, since the court considered that the alternative means proposed by the government (services by telephone, mail, etc.) "did not constitute substantively equal treatment" and "were so under-inclusive as to be discriminatory". The decision goes on to state that, given the absence of a justification defensible on the basis of the *Charter*, the failure to provide reasonable accommodation "perpetuates a disadvantage which undermines the dignity of the visually impaired. This differentiation perpetuates the stereotyping and prejudice that blind persons cannot access and benefit from online government information and services which sighted persons can" [2]. Justice Nadon of the Federal Court of Appeal upheld the decision on this aspect.[10]

Undoubtedly, the standards and norms adopted by the government of Quebec, according to the CLF's example, would be seen as "means of accommodation". They must, however, pass the test of the *Charter* and be implemented in practice, as the Court noted: "[f]ailure to implement or enforce the CLF Standard has the same

[10] *Canada (Attorney General)* v. *Jodhan*, 2012 FCA 161 (CanLII), 150 and 161.

effect as failure to have accessibility standards at all. In this way, the CLF Standard is so under-inclusive as to be discriminatory" [2].

2.2 Implementation

The Quebec government has adopted three accessibility standards, which were given the status of binding directives of the *Conseil du trésor* (Treasury Board) on May 10, 2011. They are: *Accessibility standard for websites* (SGQRI 008-01), updated in 2012) [37]; *Accessibility standard for downloadable documents* (SGQRI 008-02) [38]; and *Accessibility standard for multimedia websites* (SGQRI 008-03) [39]. We will focus our analysis on the first standard (hereafter "Standard 008-01"), since it has universal implications. Standard 008-01 establishes the regulatory framework of accessibility for all public, intranet and extranet Web sites maintained by the Ministries and agencies defined under section 64 of the *Public Administration Act.*[11] The standard expresses an ambivalence as to its beneficiaries, citing "all persons, whether handicapped or not" [37], which implies the prospect of provisions sufficiently extensive to safeguard against the concerns of specific groups which might invoke its provisions. Yet Standard 008-01, although it does not adopt it outright, is certainly inspired by W3C's WCAG 2.0 standard, the authors of which describe the regulations it contains as having limited scope, despite their aim of implementing the four universal principles of accessibility: "There are many general usability guidelines that make content more usable by all, including persons with functional limitations. However, *in WCAG 2.0, we only include those guidelines that address problems particular to people with disabilities* [27]" [emphasis added]. Should we consider this to be an element likely to undermine the objectives of Standard 008-01, which, it should be noted, the most recent annual management report filed by the Secretariat of the *Conseil du trésor* cited as an instrument that favors "the accessibility of government Web sites to handicapped individuals"? [40].

Before attempting to give a clear answer, we note firstly that section 13 of Standard 008-01 may be invoked to address concerns specific to persons with low literacy skills. The provision establishes the rule that "all Web site content must be formulated so as to be understandable to the individuals to whom it is addressed, with respect to its nature." The threshold described in the accompanying commentary refers to persons whose reading skills correspond to the lower secondary school level, i.e. 7–9 years of education. The scope of section 13, however, is clearly narrower than that of WCAG 2.0, on which the section is based. For example, it exempts ministries and agencies from the obligation to provide certain means of accommodation, such as mechanisms facilitating the definition of words and expressions used only rarely or in unusual ways, context-sensitive help, and mechanisms specifying the pronunciation of words of ambiguous significance. These measures, considered to represent criteria of success in terms of content understandability, were judged "too constraining" to be implemented [37]. The drafters of the Standard opted instead to advocate the formulation or summary of the

[11] This section has been repealed, however (Repealed, 2011, c. 19, s. 24).

content in such a way as to be understandable to persons having reading skills corresponding to the lower secondary school level or, alternatively, the development of substitute versions in audio format [37].

Does Standard 008-01 encourage persons with low literacy skills to register for online public services? Given that the notion of accessibility authorizes initiatives to counter disabilities or functional limitations, whether physical or cognitive, circumstantial or technological, and given that the approach expressed in the government's *Accessibility standard for websites* espouses this approach by mandating the neutrality of services relative to beneficiaries, which carries the risk of falling short of the expectations of certain specific groups; the question formulated above is no longer exclusive to persons with low literacy skills, but must now be considered as applying to all users of online government services.

Notwithstanding our remarks on the content of the legislation, to which we could add the need to strengthen section 13 of Standard 008-01 by extending the threshold beyond "reading skills" to include, among other elements, the "comprehension" of prose and schematic text, as well as numeracy skills, it is nevertheless premature to pass judgment on the effectiveness of the Standard. The provision came into force only relatively recently: on May 10, 2012 for all public Web sites and on May 10, 2013 for all intranet and extranet content (section 32). Moreover, section 31 schedules the assessment of the Standard's implementation and potential need for adjustments for, at the latest, May 9, 2016. In the meantime, it is useful to consider some of Justice Kelen's conclusions in the *Jodhan* case as a form of *vade mecum*, given that accessibility may involve constitutional rights and that failure on the part of the government to monitor and ensure compliance with its standards may be the cause of the violation of section 15 rights (though the failure does not constitute in and of itself a violation, as the Court of Appeal ruled) [2].

The first stage in our analysis was to define the concept of *accessibility* as it appears in the Quebec[12] and Canadian law, as well as in informal standards such as those issued by the W3C. Among other limitations, we found that the concept encompasses literary skills. Although the Government of Quebec agrees with the core of this definition, the instruments enacted to oversee the implementation of *accessibility* appear to be minimal and may be more constraining. The observation also applies to the concept of *usability*.

3 Usability of online public services

Usability is commonly perceived as "a system's capacity to allow its users to achieve efficiently the ends towards which they use that system" [1]. Accessibility therefore does not operate in isolation, but must be linked to the principle of usability, which is considered to have been achieved when: (1) users are able to use a given Web site on the first attempt; (2) users can repeatedly use the Web site on

[12] Section 1 of Standard 008-01 establishes that the standard "sets out the rules allowing any website, public, intranet or extranet, to be *accessible in order to make its use easier* for any person, with a disability or not."

subsequent visits; (3) the Web site's design respects the principle of effectiveness, guaranteeing the understandability of both content and presentation; (4) the Web site's design allows users to achieve the ends towards which the site was designed within a reasonable time following their initial connection (efficiency criterion); and (5) the Web site provides opportunities for users to evaluate their experience on the site [25]. G2C relations generally involve exchanges of information, the scope of which varies according to the nature of the services involved [41]. Much of the information exchanged in this manner is termed "personal information", i.e. information about a natural person that can be used to identify that person [42]. Such personal information is confidential, except in cases where: (1) "the person to whom the information relates consents to its disclosure"; and (2) "it relates to information obtained by a public body in the performance of an adjudicative function; the information remains confidential, however, if the body obtained it when holding a sitting *in camera* or if the information is contemplated by an order not to disclose, publish or distribute" [42]. The law allows for additional exceptions, particularly in relation to personal information that is public by law or represents the name of a natural person [42].

In many instances, whether in accessing a personal record or producing a declaration addressed to the government, G2C relations must be accompanied by certainty in at least two domains: first, there must be certainty in the identification of both parties, a formality that is preliminary to any transaction and allows its initialization; second, certainty in terms of other subsequent (at times concomitant) formalities, including the consent that may be required of a citizen when the transaction involves personal information. What is the scope of these formalities? How are they implemented by providers of online public services? And does this implementation benefit the usability of the offered services, especially for people with low literacy skills? We will now analyze these concerns by considering in turn the two dimensions of certainty that accompany G2C relations.

3.1 Upstream formalities: identification of parties

Identification, according to P. Trudel and F. Abran, is an "[…] information process in which information is compared in order to establish a necessary degree of certainty towards the attributes of the person with whom contact is established" [43]. The *Act to establish a legal framework for information technology* (hereafter the "LFIT Act") [44] provides the detailed requirements for such recognition, which regulate the process leading to the requisite certainty of identity. According to section 40, the verification of a person's identity may be carried out on given premises or remotely, on the basis of characteristics, or knowledge of certain facts or of objects in the person's possession. This process of factual corroboration, which may involve consulting registers pursuant to the Civil Code or the *Act respecting the legal publicity of enterprises*, must be carried out in accordance with the law, without intruding on an individual's private life. The confirmation of identity is established upon completion of the process by means of a document in the specific form of a certificate [44] transmitted exclusively through secure media. As in the

case of verification, the confirmation of identity may be carried out on premises or remotely.

In 2004, the Government of Quebec adopted a set of policy directions outlining the authentication measures and processes to be implemented by ministries and agencies in their electronic communications with citizens and enterprises (hereafter the "Government Authentication Policy"). At the outset, the reference to the notion of authentication causes service providers to make a distinction that opens a process consisting of two phases, to be undertaken either successively or alternately: one phase is concerned with the preliminary verification of identity and culminates in the assignment of an identifier that allows the user to communicate with the authority in question through electronic means; another phase, that of subsequent identity verification, is completed on the basis of the same identifier and constitutes the authentication *per se* [45]. In the case of the first phase, the Government Authentication Policy reiterates the stipulations of section 40 LFIT Act (verification on premises or remotely). The nature of the information on the basis of which identity is verified depends on the requisite degree of confidence to which the authentication is subject. The degree of necessary confidence is low when the sensitivity and value of the information to be transmitted to a person are low. In such cases, a formal verification of identity is not essential, although it may be useful to identify the user for purposes of customization (for example, to recover browsing or payment option preferences during subsequent sessions). This identification may be based on an identifier (such as a user name) issued by the ministry or agency providing the services. The information a citizen must provide for the purposes of such low-confidence identification is optional [45].

By contrast, during a preliminary verification of identity of moderate confidence level, the assignment of an identifier requires the person to confirm shared secrets[13] [45], including information previously delivered to the person by mail other means (email, telephone, etc.). The provider of government services must verify the user's identity with a "reasonable" degree of certainty in order to guarantee the confidentiality and integrity of the exchanged information. In addition, in cases where the required confidence level is high, the service provider must acquire a "very high degree of certainty," notably when transactions involve government employees or partners or, in the case of public or business services, when the information exchanged is highly sensitive or confidential and represents a high or very high risk, as in the case of health issues [45]. In such cases, the Government Authentication Policy recommends that preliminary verification of identity be carried out on given premises (in person), on the basis of two official identification documents, at least one of which bears a photograph of the holder [45].

In theory, the Quebec government's authentication service (hereafter "SQAG") oversees the preliminary verification of identity. As set out by the Government Authentication Policy, the process executed through SQAG culminates in the assignment of an identifier that can then be used throughout a number of

[13] According to the Government Authentication Policy, shared secrets are "information known only to the citizen, or likely to be known to a limited number of persons known to the citizen, as well as the ministry or agency." The document cites line 220 of the citizen's income tax return as one example of a shared secret.

government services. Specifically, the identifier is an electronic certificate, as stated under section 40 LFIT Act, which meets moderate confidence level requirements and may achieve high confidence levels [45]. The *Gautrin Report* [46] noted the government's commitment to simplifying access to its services: the clicSÉQUR service [47], integrated into SQAG, is its most tangible manifestation.[14] Although the plan to use digital certificates has been shelved in favor of a password-based system [48], the process citizens must complete using ClicSÉQUR remains essentially the same. We therefore question whether identification and authentication, the prerequisites for access to certain online services for the reasons outlined above, are in practice accessible to all citizens, and in particular those with low literacy skills.

It is worth noting that the number of people registered with the clicSÉQUR service increased from 534,945 in 2009–2010 to 711,083 in 2010–2011. According to the Services Québec annual management report for 2010–2011, this 33 % rise in registrations was due to the addition of new partners, as well as a generalized increase in the use of electronic services and the launch of the "My Quebec Services Account" portal [49]. It is difficult to establish the proportion of service users who have low literacy skills or to obtain their assessment of the identification process. There are also no indicators which would provide an estimate of the percentage of users who have abandoned the service due to its level of complexity. However, the final report of the "NetGouv citoyens" project conducted by Centre Facilitating Research and Innovation in Organizations (CEFRIO) in 2010 found that a "large number of Internet users who report having carried out online transactions with the government also report that they are not aware of ClicSÉQUR, the Quebec government's authentication service, or do not remember having used it." However, the report cites positive assessments of the service collected from among "young users," who found the process "easy to use," although they would prefer to avoid the identification requirement [50].

Our assessment of the service must also take into account the government's own data on the use of the service, which indicate that, in 2009–2010, citizens' complaints and comments filed with Services Québec (other than complaints relating to services provided by the Quebec Registrar of Civil Status) mainly involved three points: "the technical problems and complexity of the Service québécois de changement d'adresse [Quebec change of address service] (SQCA) and the government authentication service clicSÉQUR; and problems of

[14] For the citizen, the use of SQAG involves a five-step process, initiated upon making first contact online with the ministry or agency whose services require identification (hereafter "M/A"). The M/A may then launch a process of identity verification by comparing knowledge provided by the citizen and information already in the M/A's possession. When the result of the verification is positive, the user's session is redirected towards a designated provider for issuance of a (digital) certificate. At this second stage, the user must select a user name and password, respecting certain limitations, most frequently in the form of rules of composition. The user may also define personal security options before agreeing, at the third step, to the service's terms and conditions. Users confirm their agreement by means of a newly generated key, leading to the confirmation that concludes the certificate attribution process. The session is then once again redirected back to the M/A in question, which will proceed to register the user for given services. Such registration is carried out according to procedures and additional conditions specific to the M/A in question.

accessibility related to means of electronic communication, notably while using certain Web browsers and operating systems" [51]. During the period 2009–2010, Services Québec employees answered a total of 10,624 requests for assistance, by email and telephone, related to the use of clicSÉQUR and the "My Quebec Services Account" portal [49]. In 2010–2011, technical problems and the complexity of the clicSÉQUR service remained among the principal reasons of dissatisfaction reported by citizens to Services Québec. Over the same period, the agency processed 12,556 requests for assistance, both by email and telephone, in relation to clicSÉQUR and the "My Quebec Services Account" portal [49].

In summary, we analyzed the methods for identifying users, especially how the legal formalities are implemented in Quebec. Our goal was to determine whether the implementation supports the usability of online services, particularly for people with low literacy skills. We noted above the increase in the number of users registered with clicSÉQUR. However, this increase should not be interpreted prematurely as confirmation of the system's accessibility or usability. The overall picture needs to be filled in, not only for the benefit of citizens with low literacy skills. Corporate citizens, too, must authenticate their identity through an exercise not unlike the process described above. This requirement was among the points cited in the recent conclusions of the Working Group on Regulatory and Administrative Simplification, which expressed its opinion on this issue succinctly in Recommendation 15 of its report, stating that "[t]he clicSÉQUR authentication service should be made more user-friendly," establishing the year 2015 as the targeted timeline. This recommendation was made in response to the overall opinion of businesses, who wished the system to be "easier to use" [52, 53]. Perhaps this recommendation can equally be applied to the implementation of the various other formalities that affect the use of online government services.

3.2 The consequential obligations of service providers

The law establishes as a cardinal rule the consent of the person to whom the personal information relates for such information to be processed [54]. In examining the issue, P. Trudel and V. Gautrais note that "consent constitutes the 'Open Sesame', the passport that administrators of personal information can use to do in all legality that which otherwise would be prohibited" [55]. It is for good reason that various statutes on the protection of personal information in use around the world enshrine the requirement of consent. The *Act respecting access to documents held by public bodies and the protection of personal information* (hereafter, the "Access Act") reiterates this principle and confirms the importance of an individual's prior consent. Section 53 of the Access Act imposes the rule that personal information must remain confidential[15] [42] and indicates that the disclosure of such information is contingent upon the consent of the person whom it concerns. Though the obligation to obtain consent is not absolute[16] [42], it incites service providers to establish mechanisms through which users can express consent in a manner that is

[15] See section 54 of the Access Act.

[16] See section 55, 57, 61 of the Access Act.

"explicit, free, informed, specific, and limited in time," and which allow users to revoke their consent at any time [54]. As regards Quebec's policy on these matters, the Access Commission published its Five-Year Report in 2011. The document positions two fundamental principles as the cornerstones of the protection of information: the facts that must be communicated to the citizen prior to consent and the citizen's consent as such [56]. Moreover, the Commission's report strives to alert public bodies (and enterprises) to the necessity of recognizing these principles; in fact, the Commission argues that these principles should be taken into account as early as the design phase of Web site development [56].

As its name indicates, the *Act respecting the protection of personal information in the private sector* (RSQ, c. P-39.1) does not apply to the public bodies being discussed here. Nevertheless, section 14 defines the process whereby consent is to be expressed in relation to personal information, including in the public sector [56]. Under this provision, "[c]onsent to the collection, communication or use of personal information must be manifest, free, and enlightened, and must be given for specific purposes. Such consent is valid only for the length of time needed to achieve the purposes for which it was requested. Consent given otherwise than in accordance with the first paragraph is without effect". The phrasing emphasizes the importance of information to be provided to citizens prior to consent. This should constitute a core concern in e-governance, especially in relation to people with low literacy skills. Section 65 of the Access Act lists what information is required for a citizen to provide adequately informed consent. In considering these elements we must take into account the specificities of the electronic environment in which such (informed) consent is given. First, beyond highlighting the differences between the reading of paper-based documents and those projected by a computer screen, the legal literature has noted the risk of digression posed by an overabundance of information [55, 57]. S. I. Becher and E. Unger-Aviram discuss this risk in examining the standard form contracts that regulate various transactions, including those completed over electronic networks, to which their conclusions are very relevant. The study points to the length of contracts as the second most important factor influencing consumers to read contracts *ex ante*, and the sixth factor in terms of reasons to do so *ex post* [58]. It may be said that the more Internet users are "bombarded" with information, the less inclined they are to familiarize themselves with it. In such situations, the objective to inform a citizen's consent is therefore not only not achieved, but possibly compromised as well. In addition, there have been calls from some circles demanding that the information that must be disclosed in these instances be limited [54, 55] to such elements of information that are essential and relevant to the decision to grant or withhold consent. In light of these remarks, the elements listed under section 65, above, do not appear overly excessive provided the provision's application in practice is motivated by the objective of inducing citizens to familiarize themselves with the information provided to them.

Other complications, of a qualitative nature, which can hinder the understanding of information have been identified as well. Such hindrances appear, for example, when information is weighed down by arcane jargon and especially when it is also couched in a style that combines an excess of legal terminology with vocabulary that is inaccessible to the general public. Other hindrances include the lack of

uniformity in the placement of information on Web sites and the fact that pertinent information is at times located under headings that are insufficiently clear as to the nature of the information placed below them. The excessive use of hyperlinks by some sites is another example of the difficulties that can hinder access to information [55, 59]. Approaches to e-governance should steer well clear of relying on hyperlinks when providing contract details, given the Supreme Court's directive of "reasonable accessibility", as formulated in the *Dell* decision [60, 61].

Addressing the importance of both the information necessary prior to consent and its accessibility, the Access Commission formulated two recommendations which, if they are implemented in practice, will undoubtedly benefit users with low literacy skills. The Commission recommends the adoption of legislation that would oblige public bodies and enterprises to adopt "simplified confidentiality policies that set out, in clear and understandable terms, the full scope of their commitments relative to the protection of personal information" [56] and which should not be presented in linear form. The Commission has also tabled an innovative proposal for the use of security pictograms on the home pages of Web sites and "on pages that lead to the collection of personal information and on consent forms" [56]. The Commission's recommendations to legislators are very clear and present potential avenues of action which public bodies attentive to the accessibility of information necessary for consent would do well to consider. In our opinion, the recommendations carry added cogency for the accessibility of information to persons with low literacy skills. For example, the report states that: "The Commission recommends that legislators require public bodies and enterprises to use protection pictograms to inform citizens of their commitments in terms of personal information protection [56]". On the issue of adopting concise policies on the protection of private information, as with the use of pictograms, the Commission does not repudiate the availability of detailed policy information to Internet users; indeed, such information must always be made available to users through, for example, links activated by clicking the pictograms in question. In view of concerns over accessibility and usability, the modes of disclosure of such detailed information could be founded on proposals put forward in the legal literature [55].

In summary, it is important to reiterate the responsibility of online public service providers to allow users to formulate their consent in a manner that is "explicit, free, informed, specific, and limited in time" and which can be revoked at any moment [62]. Consent is considered explicit when attested by a document, whether on paper or technology-based; consent is free when it is expressed without condition and is not vitiated; consent is informed when the consenting individual understands its meaning; consent is specific when attached to a specified activity requiring specific elements of personal information and the beneficiaries and objectives of which are clearly identified; consent is limited in time when its validity expires upon the achievement of the objectives for which it was granted. Whereas some of these criteria tie into issues already analyzed above, others require further clarification, notably the notion of "explicit" consent and its expression. Solutions based on user actions, such as clicking on an icon, may be preferable to implicit consent deriving from the use of a Web site alone.

4 Conclusion

The increasingly widespread use of the Internet has been viewed by many as an opportunity for businesses to explore new markets and multiply their commercial transactions. Indeed, this outlook remains to be disproved by future developments. By contrast, similar opportunities open to governments have been underestimated at best and at worst ignored. Yet the Internet can be an outstanding communications tool that could produce significant benefits in weaving closer G2C relations. Aside from other lingering concerns, in this specific context, the medium's democratization inevitably raises issues of availability and accessibility of the public services that can be delivered through electronic networks. The notion of accessibility is certainly not new to case law, particularly in matters of the protection of the rights of citizens with physical or cognitive functional disabilities or limitations, whether physical or cognitive. However, the notion is considerably broadened by the specific characteristics of electronic communications, going so far as to take into account circumstantial constraints, such as users' software and hardware environments. In addition, when governments opt to rely on these means of communication, which require minimal reading skills (and perhaps minimal comprehension skills as well), the standards the government promotes in setting the framework that will define its virtual relationship with citizens must clearly reflect this broadened understanding of accessibility so as to open avenues for outreach measures specifically addressing citizens with low literacy skills.

Since usability is a corollary to accessibility, the ongoing and future positioning of government strategies to develop the electronic delivery of public services will gain by taking into account private sector input, as well as the necessary feedback from citizens on the current processes of identification and authentication that constitute the essential conditions for access to those services. The other basic condition of the delivery of services is the prior informed consent of citizens for the communication of their personal information. In addition to a fundamental respect for legal requirements, the observations made above and the (desirable) implementation of the recommendations tabled by the Quebec Access Commission point to paths leading towards the facilitation of citizen participation in state affairs. Furthermore, the condition of citizens with low literacy skills can serve as a point of reference for government measures to secure prior consent. This would increase the likelihood that a larger proportion of the population will enjoy equal access to the formalities necessary to ascribe the quality of "informed" to the consent of citizens and would also present a laudable e-commerce model for private business.

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Serge Kablan is an Associate Professor of Law at the Faculty of Business Administration at Laval University, Quebec, as well as Visiting Professor at the University of Montpellier Law Faculty in France, where he teaches international trade law in the Master's program. His fields of teaching and research interests include cyberspace law and the legal aspects of e-business.

Arthur Oulaï is an Associate Professor at the University of Sherbrooke's Law Faculty, where he teaches domestic and international commercial and economic law. After examining international economic law in his Master's thesis, his doctoral research at Laval University focussed on banking law. His teaching interests include corporate law, e-commerce law and Quebec commercial arbitration law. His current research focuses on banking and international trade law as well as e-commerce.

Emma Elliott studied law at the University of Montreal and has been a member of the Quebec Bar since 2008. In private practice, she has pleaded civil and commercial cases at the provincial and federal levels and acted as legal counsel for various businesses. Since 2011 she has been the project leader and client services manager for one of Canada's leading legal information providers. Her clients include the Supreme Court of Canada and the International Telecommunication Union. Ms. Elliott holds a law degree from the University of Montreal, where she focused on information technology law.