

Law of Evidence in the Digital Environment (LEDE)

LAW OF EVIDENCE IN THE DIGITAL ENVIRONMENT (LEDE) User Survey Report

Finding Solutions to Present and Future Challenges
LEDE Project
University of British Columbia

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Executive Summary

Does digital technology raise concerns for the administration of justice? If so, what are these issues and how can they best be addressed? In order to understand the current perceptions of the legal issues raised by digital technology, the Law of Evidence in the Digital Environment (LEDE) Project conducted an online survey of those involved with digital evidence in legal proceedings. The survey was conducted in the spring of 2013. Eighty-four responses were collected, with a completion rate of 58.76%. The largest proportion of responses came from lawyers in British Columbia, with records managers as the second most represented occupational group. This report details the major findings of the survey.

Major Findings

- **There is uncertainty and apprehension about the impact of rapidly changing digital technology on the administration of justice. There is also concern that the law is not keeping up with technology.** Ninety-three percent of respondents agreed with the statement that the law must be continuously monitored in order to stay current with advances in digital technology. Concerns about electronic fraud or forgery were on the minds of sixty-seven percent of respondents, followed by fifty-eight percent who were concerned about the introduction of new forms of digital evidence.
- **How to deal with digital evidence is an emerging issue for those concerned with the administration of justice.** Sixty percent of respondents have encountered issues of identification, admissibility or weight of digital evidence.
- **Issues with digital evidence are encountered most often in discovery, disclosure of evidence or other proceedings before trial. Civil trials and, to a lesser extent, criminal trials also raise issues of digital evidence.** Fifty-five percent of respondents have faced issues with digital evidence on discovery or disclosure. Another thirty-eight percent have faced such issues in other pre-trial proceedings. Sixty percent of respondents have faced digital evidence issues in a civil trial. Digital evidence in criminal trials was an issue for thirty-two percent of respondents.
- **The issues encountered in these proceedings cover the gamut of evidentiary rules, but authentication, relevance and the hearsay rule and its exceptions, such as business records, are frequently mentioned.**
- **Email and social media are the types of digital evidence in which issues are most frequently encountered in litigation.** In legal proceedings, sixty-eight percent of respondents encountered issues with email as digital evidence, followed closely by social media at sixty-one percent. Survey respondents also experienced issues in litigation with text messages (56%) and digital photographs (46%).
- **Dissatisfaction is widespread with the current state of specific areas of the law concerning digital evidence. The most serious deficiencies are felt to be inadequate protection of personal information and privacy and e-Discovery (i.e., the aspect of**

identifying, collecting and producing electronically stored information in response to a request for production in a law suit or investigation). Seventy percent of respondents felt that the law did not adequately protect personal information and privacy in the digital environment. Another sixty-two percent expressed dissatisfaction with the law governing e-Discovery. There was no consensus as to the solutions to these problems by way of proposals for law reform.

Acknowledgements

This survey forms part of the Law of Evidence in the Digital Environment (LEDE) project. The Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grant has generously provided support for the LEDE project. The survey and additional LEDE research was conducted by graduate students in the School of Library, Archival and Information Studies (SLAIS) and students in the Faculty of Law at the University of British Columbia. Past and present members of the LEDE research team include: Jessica Bushey, Ken Cavalier, Nichole DeMichelis, Elissa How, Victor Liang, Scott Owens, Sahasra Pederson, Maziar Peihani, Stuart Rennie, Joy Rowe, Will Suvak, Isabel Taylor and Samuel Zhang. We gratefully acknowledge the many contributions from team members and the invaluable suggestions from volunteers in the pilot test of the survey. The LEDE project acknowledges Ken Chasse's voluntary contribution of his time and expertise, which is valued and greatly appreciated.

1. Law of Evidence in the Digital Environment (LEDE) Project

Law of Evidence in the Digital Environment (LEDE) (2012-2015)¹ is a 3-year collaboration between the Faculty of Law and the School of Library, Archival and Information Studies (SLAIS) at the University of British Columbia. The project involves a further collaboration with the University of Washington, Center for Information Assurance and Cybersecurity. An Insight Grant from the Social Sciences and Humanities Research Council of Canada (SSHRC) financially supports the LEDE project.

The LEDE project explores the problem of how the law of evidence can address the widening gap between advances in digital recordkeeping and the traditional rules of evidence. It is understood that traditional rules of evidence were developed in the paper-based era, before digital recordkeeping became routine. The LEDE project aims to examine existing approaches to digital evidence and gain an understanding of the changes to the law of evidence that may be necessary to bridge the gap between digital recordkeeping and the traditional rules of evidence.

The objectives of the project are as follows:

1. To develop criteria and methods for
 - a) Establishing the accuracy and authenticity of digital documents;
 - b) Determining when digital entities fall under the business records exception to the hearsay rule; and
 - c) Identifying the most authoritative and trustworthy manifestation of a digital record in the absence of the original, for the purpose of articulating a new rule able to fulfill the function of the best evidence rule;
2. To develop procedures for documenting the chain of continuity for digital documentary evidence from the moment it is identified to the moment it is admitted as evidence;
3. To develop guidelines for maintaining the authenticity of digital documentary evidence over the long term, irrespective of technological obsolescence; and
4. To propose new and revised rules for the law of evidence with enough flexibility to accommodate future changes in digital technology and its products.

¹ To read more about the project, visit <http://www.lawofevidence.org>.

2. Methodology

This is a qualitative research project that assumes an inductive relationship among legal, archival and diplomatic theory, and research findings. Research data will result from a close analysis of relevant case law, and from the use of a combination of survey and interview protocols directed to legal professionals and the judiciary.

The first stage of research involved a literature review, in which we identified articles and briefs written by legal scholars expressing concerns about the suitability of existing rules of evidence to address the complexity of digital evidence, such as email, digital photographs and websites. The next stage of research involved a review of case law in North America and Europe specific the admissibility and authentication of digital evidence. We identified a number of discrepancies in the opinions and rulings involving the admissibility and authentication of digital evidence, as well as a lack of precedence.

In order to get a clearer view of the issues and gain an understanding of the actual experiences of legal professionals and the judicial when dealing with digital evidence, we drafted a questionnaire. After receiving approval from the University of British Columbia's Behavioral Research Ethics Board (BREB), we piloted the questionnaire in early 2013 and launched the final online questionnaire in spring 2013. The final questionnaire is composed of eleven questions aiming to elicit basic information related to types of digital evidence and issues with the identification, admissibility, weight or relevance of digital evidence. The majority of questions were open-ended, designed to invite respondents to share their experiences with us and provide additional information.² Questions about the law of evidence were also included, as well as three additional questions at the end of the survey asking respondents if they would be interested in receiving a summary of the survey results and if they would be willing to participate in follow-up interviews.

The questionnaire was launched in May 2013 through an on-line survey service (Fluid Surveys). Initially it was open for one month, but after low responses it was decided to extend the survey through summer 2013 to encourage more participation. Invitations to participate in the survey were sent by email to collective professional groups such as judges, records managers and lawyers and posted to legal listservs primarily in British Columbia.³ Personal invitations were sent via email to specific individuals who were considered to be experts in the field of digital evidence. A reminder email was sent when the survey deadline approached.

In total, there were 84 respondents with a completion rate of fifty-nine percent. Respondents are distributed among four countries with the majority from North America. These responses will serve as the basis of this report's analysis.

² The questionnaire can be found in Appendix A.

³ The online invitation to complete the survey and the survey itself may be seen at <http://fluidsurveys.com/s/law-of-evidence/>.

3. Findings

3.1 Respondent Demographics

Questions 1 and 2 asked respondents to identify their professions and any legal jurisdictions that affected their work. The majority of survey respondents selected a single profession; however, five out of the eighty-four respondents selected more than one profession (e.g., defense counsel and records manager). The three major professions represented by survey respondents were lawyers (64%), records managers (15%) and defence counsel (10%) (Figure 1).

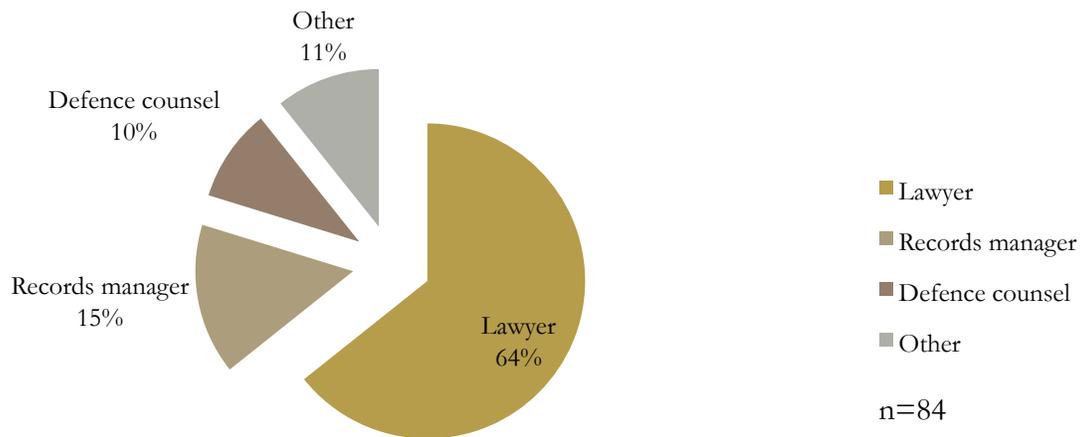


Figure 1. What is your profession?

A number of professions were listed in the other category, including paralegals and computer forensics examiner (Figure 2).

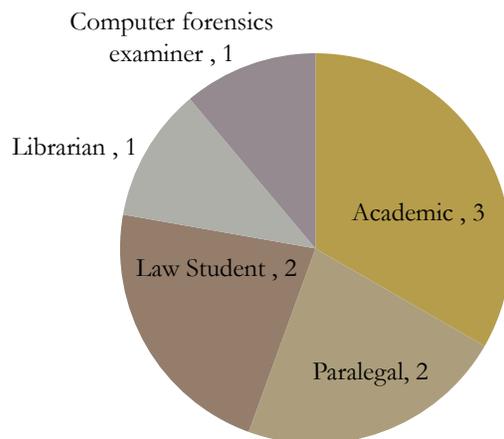


Figure 2. Other professions represented.

The majority of survey respondents are working within the jurisdictions of Canada (federal laws) and British Columbia (Figure 3). The laws of Canada affect fifty-one percent of respondents and the laws of British Columbia affect seventy-eight percent. International jurisdictions (including countries outside of Canada) that were identified by survey respondents were primarily in the United States, with a small number of respondents active in European Union and Asiatic countries.

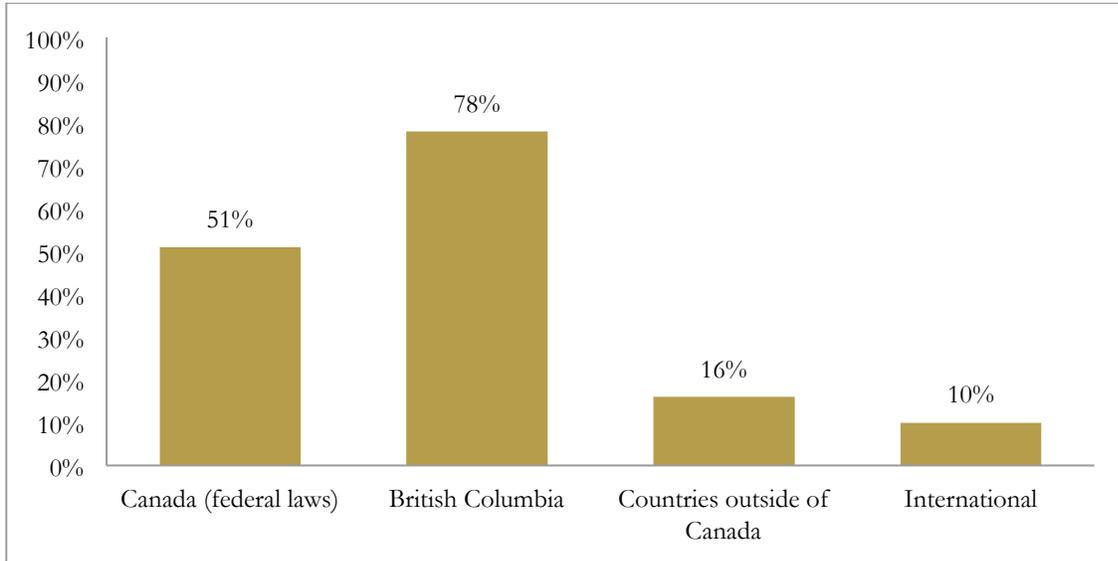


Figure 3. Which jurisdiction’s laws affect you in your profession? (Check all that apply)

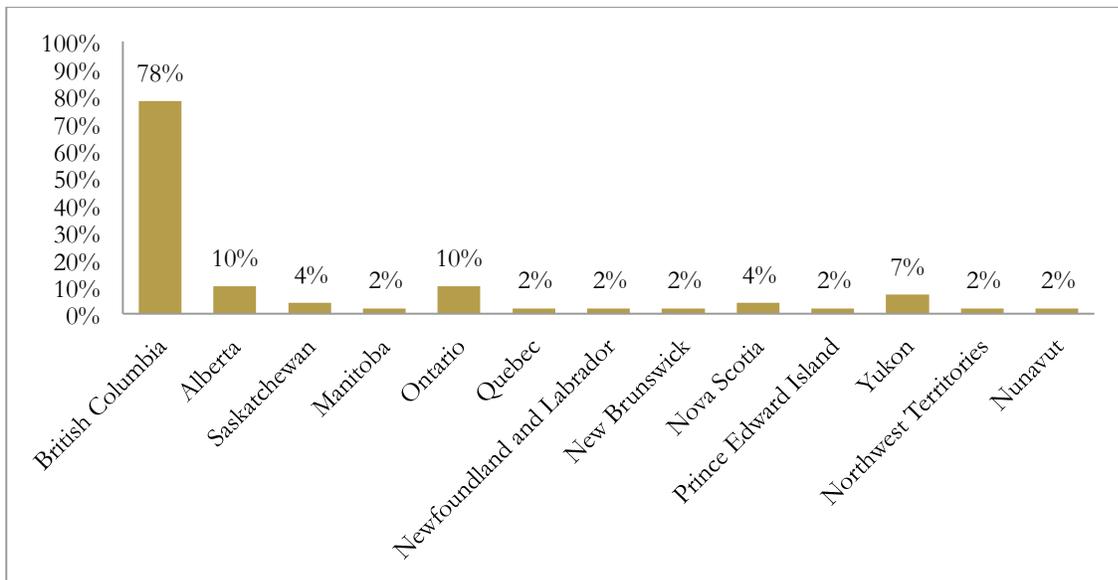


Figure 4. Which jurisdiction’s laws affect you in your profession? Specific focus on Canada.

3.2 Digital Evidence

Questions 3 through 6 address issues regarding digital evidence. The responses reveal that the majority of survey respondents (60%) have encountered issues regarding digital evidence in legal proceedings (Figure 5).

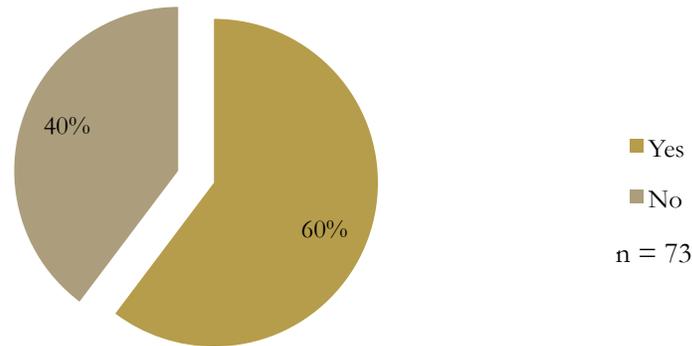


Figure 5. Have you encountered any issues regarding identification, admissibility, weight or relevance of digital evidence in a legal proceeding?

The forty-two respondents who indicated that they have encountered issues regarding digital evidence in legal proceedings were asked to specify the types of proceedings in which they encountered issues with digital evidence (Figure 6). In descending order of frequency, survey respondents encounter issues with digital evidence in civil trials (60%), during discovery or disclosure (55%) and at pre-trial proceedings (38%). Respondents were also asked to identify the types of evidentiary issues that arose in those proceedings. The same issues recurred despite the type of proceeding, such as authentication, continuity, relevance and the hearsay rule and its exceptions.

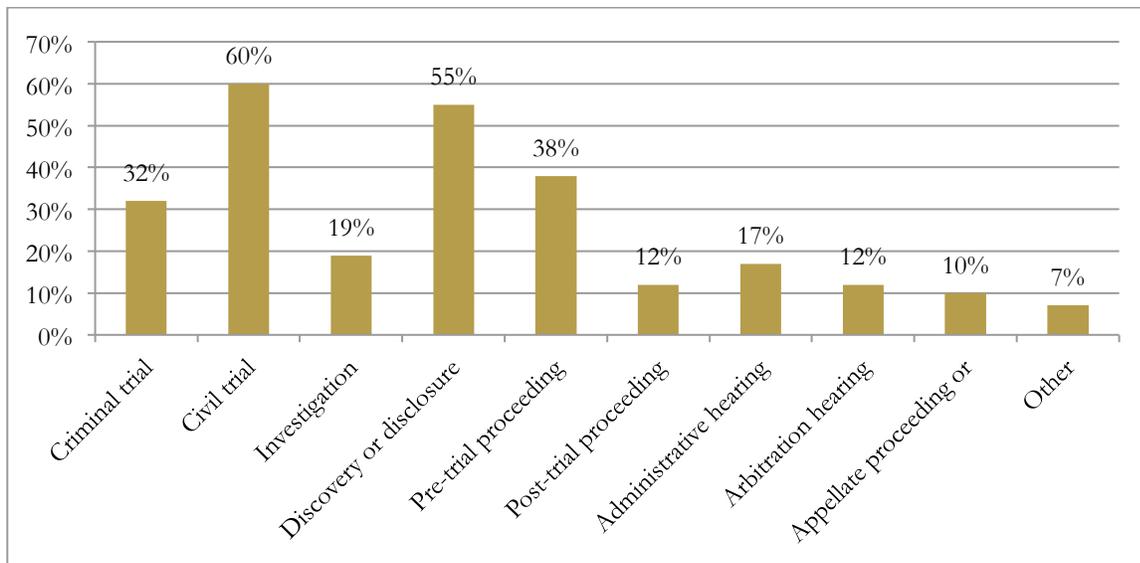


Figure 6. In what types of proceedings have you encountered issues with digital evidence? (Check all that apply)

Question 5 asked the respondents who had encountered issues concerning digital evidence in litigation to identify the types of digital evidence involved (Figure 7). The rates of responses may correspond with the frequency of use of various digital means of communication in contemporary society. The majority of respondents (68%) identified email as the type of digital evidence raising evidentiary issues in litigation in which they had involvement; followed closely by social media (61%) and text messages (56%). Almost three-quarters of respondents (72%) indicated that they have encountered issues with digital evidence in the form of digital photographs and enhanced digital photographs, as well as aspects of digital imaging such as watermarks and compression (Figure 8). Other forms of digital evidence were mentioned less frequently. As technology evolves, older forms of digital evidence will become obsolete and newer forms will emerge, with the result that any rankings must be transitory and dependent on popular usage at the moment.

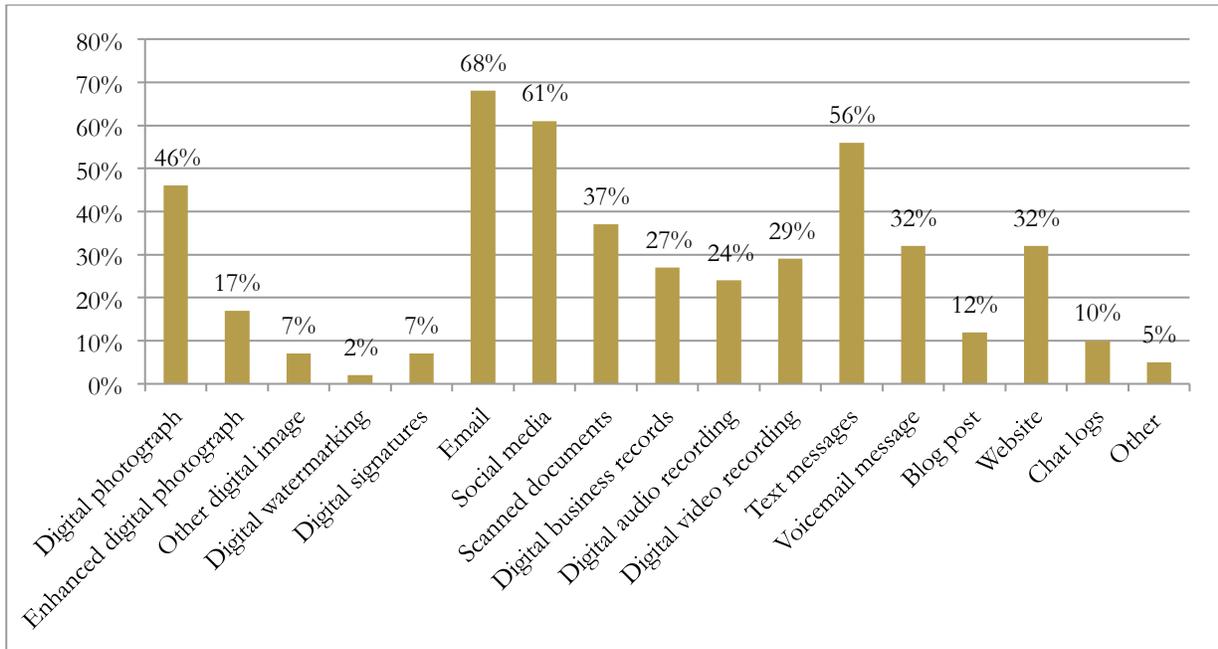


Figure 7. When you encountered issues, what types of digital evidence were involved? (Check all that apply)

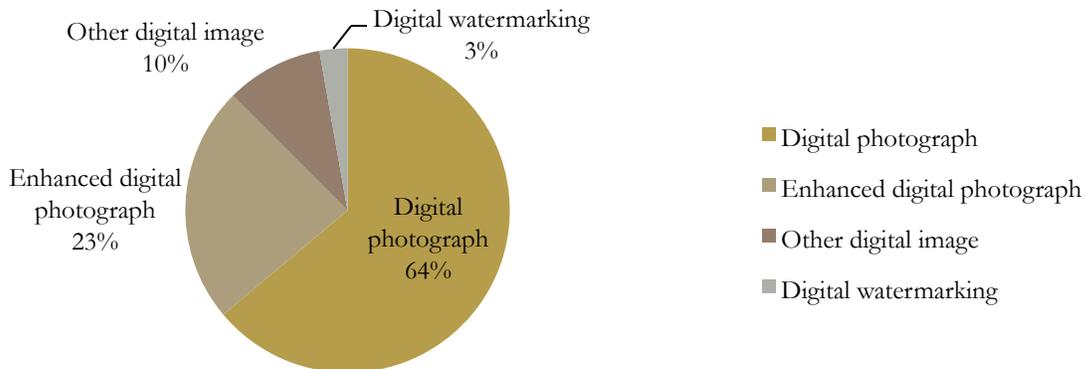


Figure 8. Issues related to digital photography.

Question 6 asked respondents who had encountered issues concerning digital evidence in litigation to specify the evidentiary concerns involved (Figure 9). The majority of respondents' specified authentication at common law as the contentious issue (62%) and over half of respondents (59%) identified reliability as an important issue. The next three most frequent issues were closely inter-related: forty-nine percent of respondents identified probative value and forty-six percent identified relevance and weight each as the issue. Those involved in litigation apparently feel the need for guidance concerning how to assess the probative value, weight and relevance of digital evidence offered into evidence in legal proceedings.

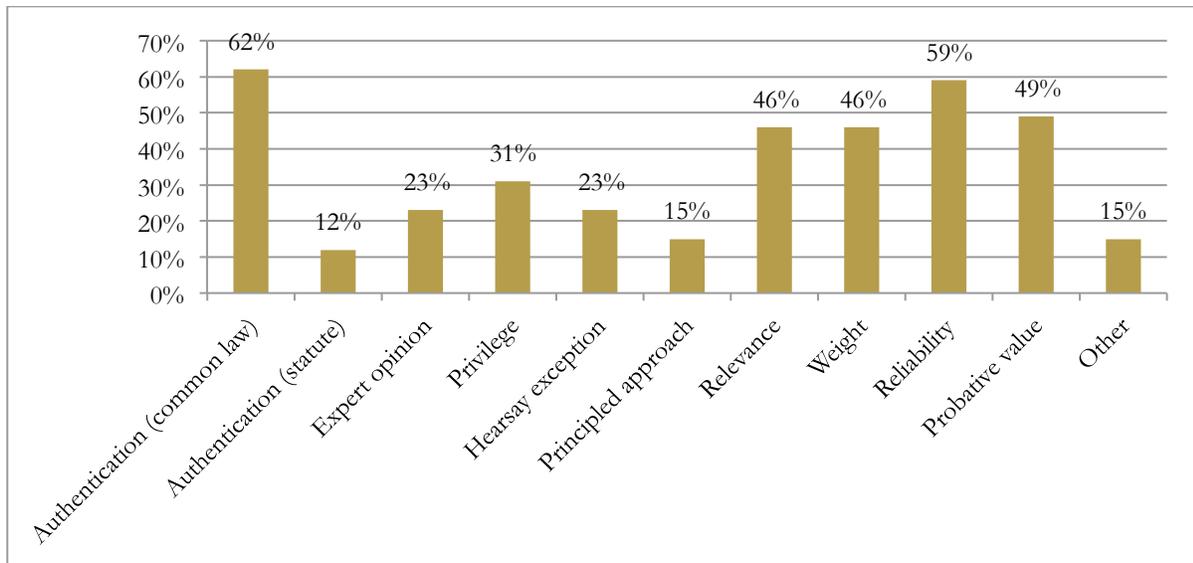


Figure 9. What evidentiary concerns were involved? (Check all that apply)

3.3 Guidance and Resources

Questions 7 through 9 were open to all survey respondents and explored existing guidelines and published resources that respondents rely upon for assistance in clarifying the law of evidence in the digital environment. Question 7 reveals the important role that cases, statutes, standards or professional guidelines play in clarifying the law of evidence in the digital environment for litigators and those not involved in litigation (Figure 10). Respondents who answered affirmatively were asked to specify the authorities to which they referred. Sixty-percent of respondents answered affirmatively, but their choices of authoritative references covered the gamut. Forty-percent of respondents indicated that they did not have any authoritative reference to guide them. Among the numerous and diverse authorities mentioned by those who answered affirmatively and provided additional information, the most frequently specified were the *Evidence Acts*, rules of court, records management standards, Electronic Evidence Practice Direction, privacy legislation and Sedona Canada principles and the Ontario E-Discovery Implementation Committee. Additional comments stated that a clear and authoritative statement of the rules governing digital evidence in legal proceedings would be an improvement over the current lack of guidance and welter of references.

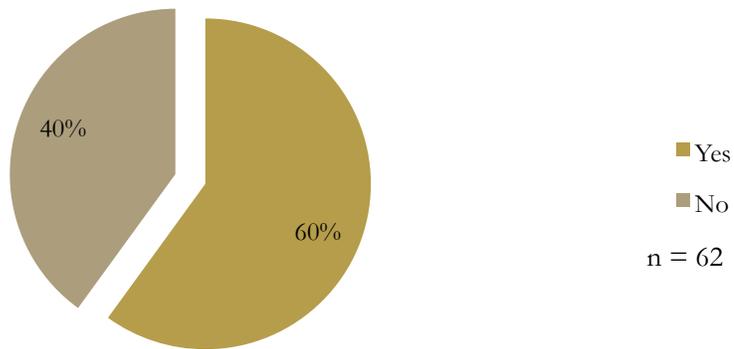


Figure 10. Do you reference or follow any cases, statutes, standards or professional guidelines to assist you in clarifying the law of evidence in the digital environment?

Question 8 asked respondents whether they agreed or disagreed with the statement that the law of evidence should be continuously monitored to stay current with advances in digital technology (Figure 11). An overwhelming majority of respondents (93%) answered affirmatively, that continuous monitoring was desirable to keep the law of evidence current with technological advances.

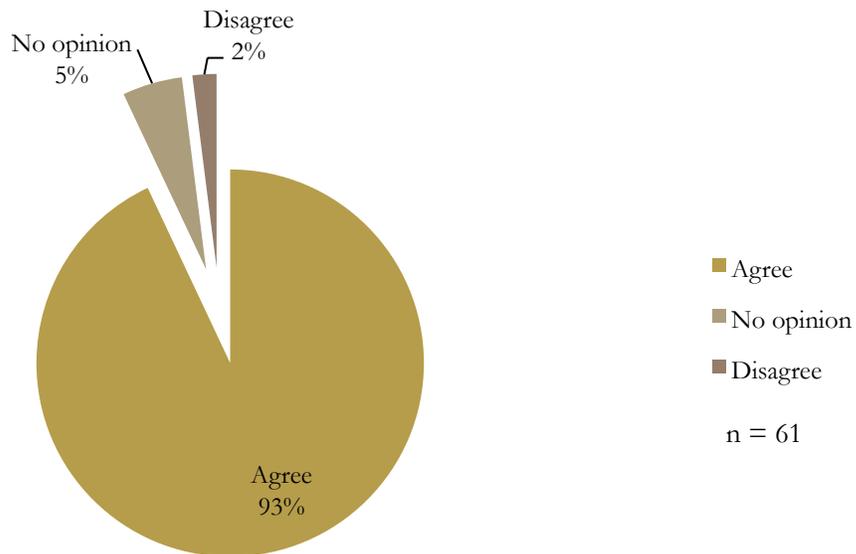


Figure 11. The law must be continuously monitored in order to stay current with advances in digital technology.

Question 9 asked respondents to identify areas of law or legal procedure that did not deal effectively with digital evidence (Figure 12). The majority of respondents (70%) expressed dissatisfaction with the laws governing personal information and protection of privacy. Sixty-two percent of respondents felt that e-Discovery was problematic. Forty-three percent of respondents identified search and seizure as an unsatisfactory area of law and procedure. Other areas of law and procedure, such as electronic health records, were also criticized by significant numbers of respondents.

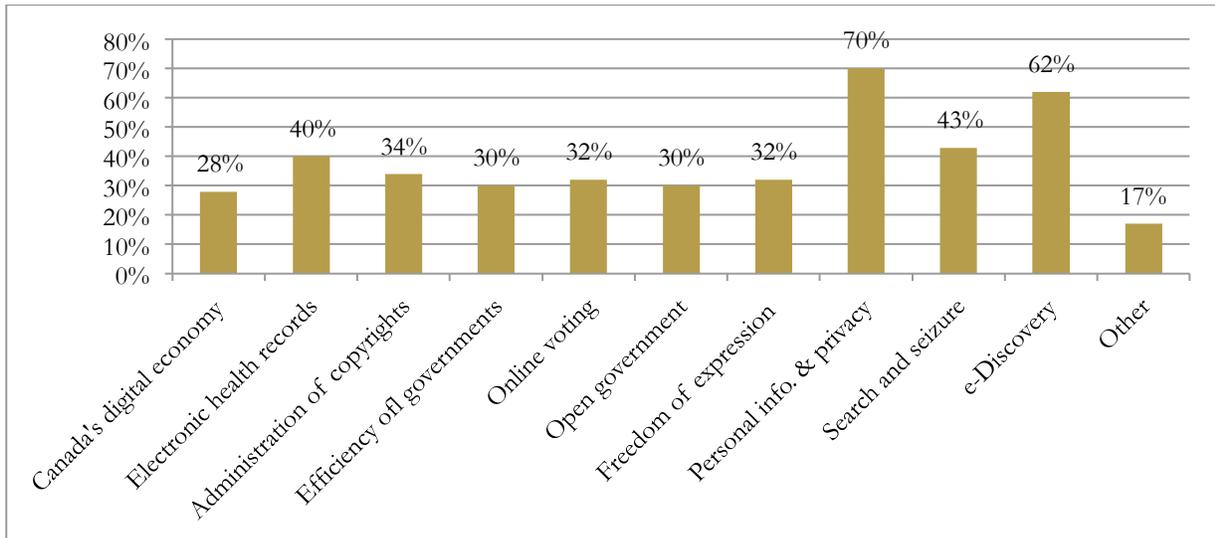


Figure 12. The current laws and legal procedures are insufficient to adequately answer legal challenges involving digital evidence in respect of the following issues. (Check all that apply)

3.4 Law of Evidence in the Digital Environment

Questions 10 and 11 asked respondents to focus on their greatest concerns regarding digital evidence and the application of the law of evidence. Respondents were presented with a list of aspects of digital evidence and the majority (67%) selected the ease of fraud or forgery as the greatest risk, followed closely by the introduction of new forms of digital evidence, such as embedded files (58%) (Figure 13).

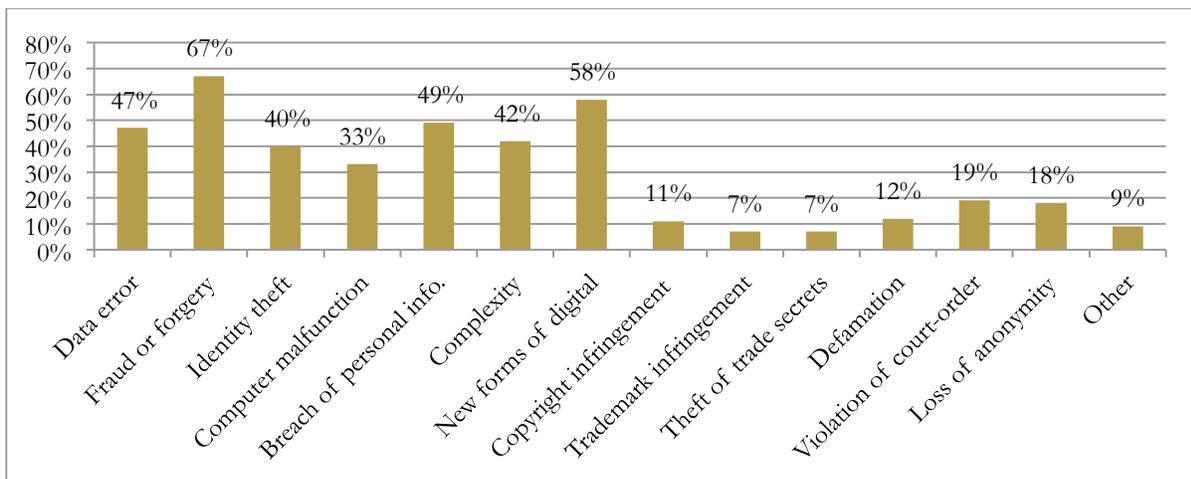


Figure 13. What aspects of or risks to digital evidence pose the greatest concerns for the application of the law of evidence? (Check all that apply)

In line with responses to question nine, nearly half of the respondents (49%) identified breach of personal information as a significant risk, along with loss of anonymity in the digital environment (18%). Question 11 provided survey respondents with the opportunity to comment on any important issues that the law should address in respect of digital evidence, which may have been overlooked in the survey. Thirty-six respondents provided comments, some of which reasserted the importance of authentication procedures for digital evidence, while others reflected on concerns of the records management profession and drew attention to changing ways of conducting business and communicating in the digital environment: “The process for developing evidence laws need to take into account this rapidly changing world.”

The last two questions of the survey provided respondents with the opportunity to request a summary of the survey results and to volunteer for a follow-up interview.

4. Conclusion

Members of the project found the survey data to be very helpful in identifying the challenges that digital evidence presents to the traditional laws of evidence. The survey data provides insight into the current challenges facing litigators and non-litigators working with digital evidence. The findings of the survey contribute to the knowledge gathered during the first phase of the research project, in which the research team conducted literature and case law review to identify key issues involving digital technology and the law of evidence.

Due to respondent demographics the survey findings provide insight into the experiences and concerns of lawyers and records managers working primarily with digital technology in the Canadian common law system and to a lesser extent civil law in Quebec. Observations made by survey respondents regarding the widespread adoption of digital technology in business and personal communications are reinforced by the survey data, in which sixty percent of participants encounter issues with digital evidence during civil trials. The survey findings in regards to the types of digital evidence that pose the greatest challenges during proceedings reveal ubiquitous formats such as email, along with emerging social media content. It may come as a surprise to learn that email, which has been in use for over a decade, is still presenting evidentiary concerns of authentication. Broadly speaking the survey helped to identify the problems and concerns that are raised by digital evidence, but did not reveal a consensus among the respondents as to the solution to those concerns. Comments made by survey respondents regarding resources relied upon to assist in clarifying the law of evidence in the digital environment revealed the centrality of the Canada Evidence Act and the Personal Information Protection and Electronic Documents Act (PIPEDA).

The overwhelming agreement of survey respondents (93%) that the law must be continuously monitored in order to stay current with advances in technology supports the overarching aim of the LEDE Project, which is to explore the problem of how the law of evidence can address the widening gap between advances in digital recordkeeping and the traditional rules of evidence. The next phase of the project, in-depth interviews have already commenced. Interviewees were selected from a number of survey respondents who volunteered to participate in follow-up interviews. During those interviews a number of experts were identified and contacted during the spring and summer of 2014. The next report of the LEDE project will provide an analysis of the interviews, and identify possible solutions to the concerns raised throughout the study.

Appendix A

The Law of Evidence in the Digital Environment: Finding Solutions to Present and Future Challenges



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

You are invited to participate in the *Law of Evidence in the Digital Environment* (LEDE) survey. This research is supported by your feedback and aims to examine issues of reform of the law of evidence to meet the demands of the digital era.

If you agree to participate, we ask that you complete this web-based questionnaire, which will take approximately 10-15 minutes of your time. Participation is voluntary: completion of the questionnaire indicates your consent to participate in this research. Any identifying information will be removed from the dataset prior to analysis to protect the confidentiality of your answers.

The *Law of Evidence in the Digital Environment: Finding Solutions to Present and Future Challenges* is a 3-year collaboration between the Faculty of Law and the School of Library, Archival and Information Studies (SLAIS) at the University of British Columbia, supported by a Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grant.

If you have any questions about the survey, please contact Anthony Sheppard, Principal Investigator, and Professor, Faculty of Law, UBC, at 604-822-2865, or sheppard@law.ubc.ca.

Thank you in advance for your feedback – your perspective is important to us.

Privacy Notification

The contents of this online questionnaire may be made available only in a summary form for purposes of legal research and proposals for law reform. Any personal information you provide in this questionnaire will be removed from the dataset prior to analysis, and will remain anonymous. For more information contact Anthony Sheppard, Professor of Law, by phone at (604) 822-2865 or by email at sheppard@law.ubc.ca.

Please tell us a bit about yourself

1. What is your profession?

(please check all that apply)

- Law enforcement
- Defence counsel
- Prosecutor
- Lawyer

- Judge
- Archivist
- Records manager
- Computer forensics examiner
- Law student
- Academic
- Other, please specify...

2. Which jurisdiction's laws affect you in your professional capacity?

(Please check all that apply)

- Canada (federal laws)
- British Columbia
- Alberta
- Saskatchewan
- Manitoba
- Ontario
- Quebec
- Prince Edward Island
- New Brunswick
- Nova Scotia
- Newfoundland and Labrador
- Northwest Territory
- Nunavut
- Yukon Territory
- Country other than Canada [text box for response]
- Regional jurisdiction within country other than Canada [text box for response]
- International, please specify... [text box for response]
- Other, please specify...

Questions for your feedback

(You may skip any question that is not relevant or that you would prefer not to answer)

3. Have you encountered any issues regarding the identification, admissibility, weight or relevance of digital evidence in a legal proceeding?

- Yes
- No

4. In what types of proceedings have you encountered issues with digital evidence?

(Please check all that apply, and specify the nature of the issue - i.e. authentication, relevance, application of hearsay exception, etc.)

- Criminal trial
- Civil trial
- Investigation
- Discovery or disclosure
- Pre-trial proceeding
- Post-trial proceeding
- Administrative hearing
- Arbitration hearing
- Appellate proceeding or judicial review
- Other, please specify... [text box for response]

5. When you encountered issues, what types of digital evidence were involved?

(Please check all that apply)

- Digital photograph
- Enhanced digital photograph (i.e., an image processed to reveal latent information)
- Digital signature
- Digital watermarking

- Other digital image, please specify...
- Email
- Social media
- Scanned documents
- Digital business records
- Digital audio recording
- Digital video recording
- Text messages
- Voicemail message
- Blog post
- Website
- Chat logs
- Other, please specify... [text box for response]

6. What evidentiary concerns were involved?

(Please check all that apply)

- Authentication at common law
- Authentication by statute (please specify)
- Expert opinion
- Privilege
- Hearsay exception (please specify)
- Principled approach
- Law or Legal procedure of Quebec (please specify)
- Relevance
- Weight
- Reliability
- Probative value
- Other, please specify... [text box for response]

7. Do you reference or follow any cases, statutes, standards, or professional guidelines to assist you in clarifying the law of evidence in the digital environment?

- Yes (please specify) [text box for response]
- No

Please add any comments/suggestions for improvement of legal rules governing digital evidence in legal proceedings.

8. The law must be continuously monitored in order to stay current with advances in digital technology.

- Agree
- Disagree
- No opinion

9. The current laws and legal procedures are insufficient to adequately answer legal challenges involving digital evidence in respect of the following:

(please check all that apply)

- Canada's digital economy
- Electronic health records
- Administration of copyright and intellectual property
- Efficiency of federal, provincial, or local governments
- Online voting
- Open government
- Freedom of expression and exchange of ideas
- Personal information and protection of privacy
- Search and seizure
- E-discovery

- Other, please specify... [text box for response]

10. What aspects of or risks to digital evidence pose the greatest concern for the application of the law of evidence:

- Data error
- Fraud or forgery
- Impersonation or identity theft
- Computer/network malfunction
- Breach of personal information
- Complexity
- Introduction of new forms of digital evidence (i.e. multimedia, embedded files, hyperlinks, etc.)
- Copyright infringement
- Trademark infringement
- Theft of trade secrets
- Defamation
- Violation of court-ordered or other publication ban
- Loss of anonymity
- Other, please specify... [text box for response]

11. What do you believe are the most important issues that the law should address in respect of digital evidence?

12. I would be interested in receiving a summary of the results of this questionnaire.

- Yes
- No

13. I am willing to participate in a confidential interview for further discussion of the issues.

- Yes
- No

14. If you answered yes to either of the two previous questions, please provide your name and phone number and/or email.

This information will be removed from your answers to this survey prior to data analysis.

Thank you for your participation!