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February 15, 2017

Matt Waldron — Technical Director  
International Auditing and Assurance Standards Board  
International Federation of Accountants  
529 Fifth Avenue, 6th Floor  
New York, NY 10017

Dear Mr. Waldron,

Deloitte Touche Tohmatsu Limited (DTTL) appreciates the opportunity to provide observations and perspectives on the Invitation to Comment, *Exploring the Growing Use of Technology in the Audit, with a Focus on Data Analytics* (the ITC) as developed by the Data Analytics Working Group of the International Auditing and Assurance Standards Board (“IAASB” or “the Board”).

### Executive summary

DTTL welcomes the IAASB’s initiative in addressing the use of data analytics in all aspects of the modern audit — from the planning and risk assessment phase of the audit through the control testing, substantive procedures, and evaluating and concluding phases of the audit. DTTL wholly agrees that rapid advancements in both the ability to access significant amounts of data and to apply unique technologies to such data requires us to revisit the current auditing standards and interpretative literature. DTTL does not believe that today’s standards are “broken” or a barrier to the application of data analytics in the audit, as we believe that the principles therein are capable of being adapted to the evolving use of data analytics in today’s audits. However, the auditing standards could more explicitly acknowledge the ability to use data analytics in order to enhance the confidence of auditors in using such techniques. Data analytics will be an integral part of audits in both the short-term and the long-term and it is important, especially as audits are often subject to a variety of different inspection regimes, for the international standards to evidence the acceptability of such techniques in a modern audit.

Further, given the breadth of capital markets and jurisdictions in which the International Standards on Auditing (ISAs) are utilized to perform audits, DTTL believes that it is, and will continue to be, difficult for the IAASB to develop, and for practitioners to apply, prescriptive requirements that may (or may not) be relevant or reasonably achievable in all cases. The environment in which audits are performed today continues to evolve and become increasingly complex, therefore making it even less likely that very detailed requirements will be successful in addressing all circumstances and fact patterns that arise today or that may arise in the future.

DTTL therefore believes strongly that principle-based requirements, many of which already exist but could be enhanced to emphasize the acceptability of data analytics, and robust application material are most effective in guiding auditors, especially as it relates to the use of data analytics

where the full potential of these techniques is still unknown. Recognizing that the development and issuance of non-authoritative guidance is a complex matter for the IAASB, DTTL nevertheless recommends the Board explore ways to provide implementation guidance that shows “what it looks like” to apply the principle-based requirements. Such an approach may be an effective method of educating practitioners and fostering audit quality in the area of data analytics.

### Moving forward

DTTL appreciates and supports the thoughtful approach that the IAASB is taking in determining the impact that data analytics will have on audits, which includes addressing the challenges noted prior to revising the current auditing standards. DTTL believes that it would be beneficial to have data analytics more explicitly recognized in the standards. We agree that this can be done in the context of on-going projects and initiatives, such as the projects related to ISA 220, *Quality Control for an Audit of Financial Statements*; ISA 315 (Revised), *Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment*; ISA 540, *Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures*; ISA 600, *Special Considerations — Audits of Group Financial Statements (Including the Work of Component Auditors)*; and International Standard on Quality Control No. (ISQC) 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and particularly the upcoming project related to audit evidence (including ISA 500, *Audit Evidence*) contemplated in the 2017-2018 work plan.

As mentioned in our executive summary, data analytics are being applied in today’s audits and we believe that auditors are in need of immediate practical guidance and direction. We believe the issuance of non-authoritative guidance with practical examples of using data analytics in the audit will provide auditors with the most effective reference materials that would both help to further advance the application of and lay the foundation regarding the use of data analytics. Given how quickly this area continues to develop, we believe it is important to recognize that a repository of practical examples will never be complete; however, we believe that these materials would serve to legitimize the use of certain techniques. Today, data analytics are most often used for risk assessment purposes and for testing journal entries as part of our procedures to address the risk of fraud. However, we believe practical examples will improve auditor confidence in the use of data analytics as an appropriate further audit procedure to respond to risks of material misstatement at the account balance or assertion level, rather than treating data analytics as an “add on” to more traditional further audit procedures.

DTTL also recognizes that while the IAASB is not likely to be able to solve all the challenges identified and all possible issues associated with the use of data analytics, it can point out the relevant considerations for auditors and suggest possible approaches that may be effective.

### Challenges

Consideration of the challenges posed by environmental factors and circumstances in the business environment is important to ensure that any ultimate clarifications to the ISAs are appropriate. The depth and breadth of the challenges emphasize that data analytics are rapidly developing and that any modifications to the auditing standards should not be rushed. DTTL believes that the challenges listed in the “Challenges Posed by Environmental Factors and Circumstances in the Business Environment” section, as well as the “Challenges Encountered by Auditors that May Affect Audit Standard Setting” section of the ITC are thorough and well thought out. While the challenges identified appear to be comprehensive, as requested, we have provided below some suggested additions to those listings.

The following are some of the key challenges faced by auditors that we think are particularly relevant (see the [Appendix](#) for detailed responses):

#### *Data analytics as audit evidence*

DTTL agrees with the IAASB's position that auditors are challenged to "fit" the audit evidence derived from data analytics into the current audit assurance model and wholly supports the concept that "the use of data analytics does not negate that model but changes the way it is implemented." We do not believe that the use of data analytics should alter the fundamental audit assurance model. However, consideration should be given as to whether the auditing standards need to be clarified in order to more explicitly acknowledge the use of data analytics in the audit.

In most cases, there is no "bright line" distinction between audit procedures used for risk assessment and those used to perform further audit procedures. Therefore, it can be difficult to determine whether a data analytic is a risk assessment procedure or a further audit procedure. For those data analytics deemed to be substantive audit procedures, it may also be difficult to determine whether it is a substantive analytical procedure or a test of details. We believe that it is worthwhile for the IAASB to explore this distinction further as part of the "next steps."

#### *Implications of testing 100% of a population*

There are implications associated with testing 100% of a population. DTTL agrees that being able to test 100% of a population does not imply that the auditor is able to obtain more than reasonable assurance or that the meaning of "reasonable assurance" changes. This point needs to be made clear in the auditing standards and to the users of financial statements. In addition, as described in paragraph 19(g) of the ITC, we believe it is important to address the issue noted regarding the level of work effort necessary for both the exceptions identified as well as the portion of the population where no exceptions were identified.

When testing 100% of a population, another significant implication is the potential impact on controls when we identify exceptions through data analytics used to perform substantive tests. We believe that the IAASB should also explore how the identification of such exceptions might impact our conclusions regarding the design and operating effectiveness of controls.

#### *Evaluation of whether information is sufficiently reliable*

While the concept of evaluating whether information is sufficiently reliable is not unique to the use of data analytics, DTTL believes that the increased use of information produced by the entity or external data in data analytics has highlighted the need for greater specificity in the guidance on this topic. Such clarification would be helpful in not only data analytics but many other aspects of the modern audit.

#### *Applying documentation requirements when using data analytics*

DTTL agrees that the documentation requirements need not be any different when making use of data analytics in an audit; however, we believe non-authoritative guidance regarding how to address some of the challenges unique to data analytics (as described in paragraph 19(i) of the ITC) would be beneficial. In particular, auditors struggle with the determination of how much documentation is enough to evidence the work performed. We believe that it is important that that IAASB consider the development of a framework to assist auditors in determining the appropriate level of documentation. However, care needs to be taken to avoid the documentation requirements for use of data analytics (and in particular more sophisticated technologies) becoming overly

burdensome such that they create the potential or incentive for auditors to abandon more effective procedures in favor of other procedures that are more easily documented.

### Next steps

DTTL agrees with the suggested next steps, including the extent of the DAWG's planned involvement in the IAASB projects currently underway. We also agree that other working groups, specifically for ISA 315 (Revised), as well as ISQC 1, ISA 220, ISA 540, and ISA 600 should consider how to incorporate use of data analytics as these standards are revised. DTTL is supportive of the IAASB's plans to commence a project on audit evidence when capacity permits and believes that this project should also address the implications of data analytics on ISA 500, as well as other ISAs such as ISA 520, *Analytical Procedures*, and ISA 530, *Audit Sampling*. We have identified other initiatives that could further inform the work of the working group. Those initiatives are listed in the attached [Appendix](#).

DTTL encourages the IAASB to continue to monitor and, where appropriate and to the extent possible, collaborate with other standard setters (e.g., the AICPA and PCAOB), auditors, financial statement users, and audit inspection bodies and regulators (e.g., Financial Reporting Council (FRC)). Collaboration is critical to ensuring that the auditing standards continue to support the use of data analytics. We are only beginning to scratch the surface of how data analytics can and will be applied in audits and it is critical that the auditing standards (e.g., IAASB, AICPA, and PCAOB) are consistent. A comprehensive, uniform set of standards across the profession will reduce risk of misapplication and misunderstanding in the use of data analytics.

Please refer to our responses to the specific questions posed on page 5 of the ITC in the attached [Appendix](#).

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DTTL would be pleased to discuss this letter with you or your staff at your convenience. If you have any questions, please contact me via email (cbuss@deloitte.ca) or at +1 604 640 3313.

Very truly yours,



Calvin H. Buss, FCPA, FCA  
Senior Managing Director, Global Audit Quality  
Deloitte Touche Tohmatsu Limited

## Appendix

DTTL's responses to questions posed on page 5 in the ITC are set forth in this appendix.

Question	Response
<p>(a) Have we considered all circumstances and factors that exist in the current business environment that impact the use of data analytics in a financial statement audit?</p>	<p>DTTL believes that we are only beginning to see how data analytics can and will be applied in our audits and, as a result, we encourage the IAASB to continue to challenge and expand on the factors presented in the ITC as we see how the use of data analytics continues to evolve. In addition to the facts and circumstances listed under <i>Challenges Posed by Environmental Factors and Circumstances in the Business Environment</i> on page 11 of the ITC, DTTL would suggest the following items also be considered:</p> <ul style="list-style-type: none"> <li>• <b>Data acquisition</b> — In addition to the size of the data, auditors may face issues with the availability of the data at the level of aggregation necessary to create a data analytic (e.g., separate systems are maintained at different subsidiaries of the entity, and the data is not able to be consolidated to test as one population).</li> <li>• <b>Conceptual challenges</b> — The use of data analytics may prove to be ineffective in some instances and the time spent to create them might not result in audit evidence that is useful. Teams are faced with the challenge of thoughtful application of data analytics with a specific audit objective in mind, such that the data analytics are effective rather than merely additive to historical audit procedures.</li> </ul> <p>While we believe it is important to begin by considering the circumstances and factors that exist in the current business environment, we also think it is important to look forward to what the future environment might look like as well. Any changes to the auditing standards should be principles-based and not overly detailed to prevent the standards from becoming rapidly out of date.</p>
<p>(b) Is our list of standard-setting challenges accurate and complete?</p>	<p>As stated above, we encourage the IAASB to continue to challenge and expand on the factors presented in the ITC as we see how the use of data analytics continues to evolve. However, we believe that the list of standard-setting challenges listed under <i>Challenges Encountered by Auditors that May Affect Audit Standard Setting</i> on pages 11 through 14 of the ITC was comprehensive given what we know today. These topics and the underlying considerations were in line with what we have discussed as a firm. In addition, DTTL suggests the following topics be considered:</p> <ul style="list-style-type: none"> <li>• <b>Benchmarking of data between audit clients</b> — Many data analytic procedures rely on and revolve around data produced solely by an auditor's client. This data can be particularly granular and provide excellent insights into the account or population being analyzed. Other data analytic procedures have historically relied on the use of less granular publicly available data that provides comparisons amongst a number of companies (often by industry). This publicly available data has also provided valuable insights to auditors and enhanced the quality of their audit work. With the enhancements in technology that allow auditors to obtain more detailed client-specific data, some auditors are seeking their client's assent to use such data (after taking appropriate steps to anonymize the data), to create internal databases that contain the detailed data</li> </ul>

Question	Response
	<p>of a number of companies. These internal databases will then be capable of being used by different engagement teams to facilitate even more insightful use of data analytics on audits. Client confidentiality is, however, an appropriate gating factor to some of the more ambitious uses of client data in this way. We believe that it is important for the profession to recognize the confidentiality challenges that may arise in relation to attempts to use information obtained from clients in more creative ways.</p> <ul style="list-style-type: none"> <li>• <b>Use of data analytics for tests of controls</b> — It is unclear whether the use of data analytics to test the operating effectiveness of controls can provide the auditor with sufficient audit evidence that the control is operating as designed.</li> </ul>
<p>(c) To assist the DAWG in its ongoing work, what are your views on possible solutions to the standard-setting challenges?</p>	<p>DTTL agrees with the approach suggested (i.e., the DAWG's involvement in the IAASB's ongoing projects during which the DAWG will identify potential opportunities for the standards likely to be impacted by those projects to make reference to, or include language related to, data analytics). However, we also believe that the scope of this should be broadened to include all standards, specifically ISA 500 (see (f) below for more commentary).</p> <p>DTTL believes that auditors are in need of some immediate direction. We believe the issuance of non-authoritative guidance with practical examples of using data analytics in an audit will provide auditors with strong reference materials that would both help to further advance the application of data analytics and lay the foundation regarding its use. We recommend that any guidance issued provide a clear and well-defined framework regarding the application of data analytics. Such guidance should include the definitions of terms specific to data analytics (e.g., outliers versus exceptions) and important concepts related to the use of data analytics (e.g., evaluation of exceptions when testing 100% of a population).</p>
<p>(d) Is the DAWG's planned involvement in the IAASB projects currently underway appropriate?</p>	<p>Yes. DTTL believes that the DAWG's involvement in the IAASB's on-going projects is appropriate.</p>
<p>(e) Beyond those initiatives noted in the Additional Resources section of this publication, are there other initiatives of which we are not currently aware of that could further inform the DAWG's work?</p>	<p>Yes, DTTL understands that the AICPA is in the process of undertaking an effort to develop an AICPA Audit Guide on "Audit Data Analytics and Analytical Procedures" that may be relevant to inform the DAWG's efforts. In addition, the AICPA is also undertaking efforts to develop voluntary Audit Data Standards that may also be relevant to the standardization of data used to perform data analytics.</p> <p>In addition, the FRC has published their <i>Audit Quality Thematic Review: The Use of Data Analytics in the Audit of Financial Statements</i>, which provides insightful information that may inform the DAWG's work.</p>
<p>(f) In your view, what should the IAASB's and DAWG's next steps be? For example, actions the IAASB and DAWG are</p>	<p>DTTL agrees with the suggested next steps; however, we recommend that the IAASB look at revisions across all standards and not just those affected by the IAASB's current projects. Specifically, DTTL believes that the upcoming project related to audit evidence is a priority to provide guidance to auditors regarding the type of audit evidence data analytics</p>

Question	Response
<p>currently considering include:</p> <p>(i) Focusing attention on revisions, where appropriate, to ISAs affected by the IAASB's current projects.</p> <p>(ii) Exploring revisions to ISA 520.2</p> <p>(iii) Hosting one or more conferences with interested stakeholders to collectively explore issues and possible solutions to the identified challenges.</p> <p>(iv) Continuing with outreach and exploration of issues associated with the use of data analytics in a financial statement audit, with a view towards a formal Discussion Paper consultation in advance of any formal standard-setting activities.</p>	<p>provide as well as specific requirements auditors can apply when considering relevance and reliability of data.</p> <p>DTTL recommends the issuance of non-authoritative guidance with practical examples of using data analytics in an audit. We recommend that any guidance issued should address the nature of the audit procedures when using data analytics (e.g., risk assessment procedure or further audit procedures, including whether the procedure is a test of controls, test of detail, or substantive analytical procedure), as well as the characteristics of the procedures that would allow for it to be considered a substantive procedure versus a risk assessment procedure.</p> <p>We also support the issuance of a formal Discussion Paper; however, we believe that such a Discussion Paper would be better suited as part of the upcoming project related to audit evidence (including ISA 500, <i>Audit Evidence</i>) contemplated in the 2017-2018 work plan. We do not believe that a formal Discussion Paper should delay any considerations made regarding the use of data analytics in the IAASB's current projects.</p> <p>DTTL also strongly recommends outreach and collaboration with other standard setters (e.g., the AICPA and PCAOB), auditors, financial statement users, and audit inspection bodies and regulators (e.g., the FRC). It is critical that the standards (e.g., IAASB, AICPA, and PCAOB) are consistent. Comprehensive and consistent standards across the profession will reduce risk of misapplication and misunderstanding in the use of data analytics.</p>

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