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WEATHERING THE EVOLVING LANDSCAPES OF ELECTRONIC DISCOVERY

A Comparative Analysis

With the widespread use of electronic communications, and the increasing volumes and types of digital information, electronic discovery has taken centre stage in modern-day dispute resolution. The objective of this essay is to survey the diverse electronic discovery landscapes in the US, the UK (England & Wales), the People's Republic of China and the People's Republic of Singapore to suggest that the People's Republic of Singapore needs to rethink its electronic-discovery framework in terms of preservation, proportionality, search and co-operation.

Danna **ER***
LLB (Hons) (National University of Singapore),
LLM (Harlan Fiske Stone Scholar) (Columbia Law School);
Advocate and Solicitor (Singapore);
Attorney and Counsellor-at-Law (New York, USA).

I. Introduction

1 With the extensive use of electronic communications, electronically stored information ("ESI") is pervasive in today's society. It is estimated that some 60 billion e-mails were sent per day in 2006,[1] and by 2020, the data created annually would reach 44 million gigabytes in the digital universe.[2] With the burgeoning growth of ESI, it is inevitable that evidence produced for dispute resolution will involve electronic media. The inescapable consequence is that the manner in which organisations and their lawyers deal with ESI in electronic discovery ("e-discovery")[3] can have a significant impact on the outcome of a case.

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1 David K Isom, "Electronic Discovery: New Power, New Risks" (2003) 16 Utah B J 2d Ser 8.

2 Martha J Dawson & Bree Kelly, "The Next Generation: Upgrading Proportionality for a New Paradigm" (2015) 82 Def Couns J 434 at 435.

3 *Glossary: E-discovery & Digital Information Management* (The Sedona Conference, April 2014) at p 16: electronic discovery is the process of identifying, locating, preserving, collecting, preparing, reviewing and producing electronically stored information in the context of the legal process.

2 Perhaps more significant is the quality of ESI that makes e-discovery different from traditional discovery.[4] ESI is constantly evolving, easily replicated and produced in greater volumes than paper documents. ESI is also less destructible than paper documents as it can be easily restored. ESI is associated with metadata that is recorded by the computer when storing or retrieving a file. ESI, if divorced from its original environment, may become obsolete and incomprehensible. It may be dispersed in various locations including desktop hard drives, laptop computers, network servers, disks, flash drives and backup tapes. Consequently, determining the provenance of ESI can prove to be extremely challenging. Failing to understand how to manage e-discovery can lead to the disclosure of privileged ESI,[5] unnecessary discovery costs, adverse orders, or even the dismissal of a case.[6]

3 With the proliferation of ESI, challenges lie ahead. Legislators must actively ensure their e-discovery frameworks are sufficiently robust to cope with the rapid growth of ESI. There will be pressure on the courts to provide clear guidelines on what is expected of parties in an e-discovery process in domestic litigation.

4 Section II will explore and compare the e-discovery frameworks of the US, the UK, China and Singapore. The analysis will focus on: preservation; proportionality; search methodologies; and co-operation. Evaluation will be made of the benefits and burdens of the different e-discovery approaches taken in the above jurisdictions to suggest that more can be done to advance Singapore's e-discovery framework. Section III will tie in the various themes and conclude.

II. Finding a place in the sun: The evolving e-discovery landscapes

A. Overview of the e-discovery frameworks

5 The US is the poster child for notoriously broad[7] but rapidly developing e-discovery rules and has served as a reference point for

4 *The Sedona Principles: Best Practices Recommendation & Principles for Addressing Electronic Document Production, Second Edition* (The Sedona Conference, June 2007) at pp 2–5.

5 See *Victor Stanley Inc v Creative Pipe Inc* 250 FRD 251 (D Md, 2008), where the defendant's over-reliance on keyword search for privileged information led to a disclosure of privileged information.

6 Serena Lim, "What's the Big Deal about Electronic Evidence and e-Discovery?" *Singapore Law Gazette* (April 2010) at p 67.

7 "The Sedona Conference: Framework for Analysis of Cross-border Discovery Conflicts: A Practical Guide to Navigating the Competing Currents of (*cont'd on the next page*)

countries seeking to develop their e-discovery jurisprudence. The 2015 amendments to the Federal Rules of Civil Procedure ("FRCP") raise the interesting question of whether the US will succeed in achieving the right equilibrium in managing the rising costs of e-discovery, while providing for the just, speedy and inexpensive resolution of legal disputes.[8]

6 Further along the discovery continuum is the UK, which has a narrower scope of discovery than the US. The UK has invested significant efforts to modernise its e-discovery framework with the launch of Practice Directions 31B ("PD 31B")[9] on 1 October 2010, to guide e-discovery in multitrack cases.[10] As a member state of the European Union ("EU"), the UK will have to juggle its EU data protection obligations along with its common law obligations.

7 At the other end of the discovery spectrum is China, which does not have a US or UK-equivalent concept of discovery.[11] China is currently the top Asian country from which electronic data is collected for arbitrations or litigations[12] and it regulates the investigation and collection of evidence through the Civil Procedure Law of the People's Republic of China 2012[13] ("Civil Procedure Law"),[14] the Provisions of the Supreme People's Court on Evidence in Civil Proceedings[15]

International Data Privacy & e-Discovery" *The Sedona Conference* (August 2008) at p 14.

8 Federal Rules of Civil Procedure r 1 provides that "[the FRCP] should be construed, administered, and employed by the court and the parties to secure the just, speedy, and inexpensive determination of every action and proceeding".

9 UK, Practice Direction 31B – Disclosure of Electronic Documents (1 October 2010).

10 Multitrack cases are for claims over £25,000 or for lesser money sums where the case involves complex points of law and/or evidence.

11 Zhang Shouzhi, "Litigation and Enforcement in China: Overview" *Practical Law* (1 June 2017) <http://us.practicallaw.com/8-502-1965> (accessed 7 July 2017).

12 "E-discovery in Asia Legal, Technical and Cultural Issues", *FTI Consulting* (2014) at p 2 <https://static.ftitechnology.com/docs/white-papers/white-paper-e-discovery-in-asia-2014.pdf> (accessed 7 July 2017).

13 (promulgated by Standing Committee of the National People's Congress, 31 August 2012, effective 1 January 2013).

14 Judge Elizabeth Fahey & Judge Zhirong Tao, "The Pretrial Discovery Process in Civil Cases: A Comparison of Evidence Discovery between China and the United States" (2014) 37 B C Int'l & Comp L Rev 281 at 283; see also Civil Procedure Law of the People's Republic of China (promulgated by Standing Committee of the National People's Congress, 31 August 2012, effective 1 January 2013) Art 49: "[p]arties shall have the right … to collect and provide evidence"; Art 61: "[a] lawyer … shall have the right to investigate and collect evidence"; Art 64: "[i]f for objective reasons, a party and his agent ad litem are unable to collect evidence by themselves or if the people's court considers the evidence necessary for the trial of the case, the people's court shall investigate and collect it".

15 Fa Shi [2001] No 33.

("Evidence Rules"),[16] and the Interpretations of the Supreme People's Court on Applicability of the Civil Procedure Law of the People's Republic of China[17] published in 2015 ("Judicial Interpretations").[18]

8 Like most Asia-Pacific nations, Singapore's e-discovery framework is still in its infancy and presents significant challenges for companies operating in Singapore in understanding their precise e-discovery obligations in litigations and arbitrations.[19] Yet, the stakes are high as Singapore is a key financial centre in Asia and host to 41% of Asia-Pacific headquarters for 319 Fortune 500 companies.[20] Singapore is also the top common law country in Asia which companies collect data from for the purposes of litigations or arbitrations,[21] and the second most widely used arbitration seat for businesses operating in Asia.[22] Singapore's approach to e-discovery will not only have implications for litigation, it will also have repercussions on how e-discovery is conducted in international arbitrations seated in Singapore, since international arbitration practices tend to borrow practices from domestic litigation.[23] At present, Singapore's e-discovery framework is set out in Part V of the Supreme Court Practice Directions ("PD Part V"). It supplements its existing discovery framework and potentially applies to all civil litigation cases. In cases where the amount in dispute exceeds $1m, where discoverable documents exceed 2,000 pages, or where the discoverable documents are predominantly ESI, parties are expected to use e-discovery unless there are compelling reasons not to do so.[24]

16 Jingzhou Tao, *Resolving Business Disputes in China* (Kluwer Law International, 1st Ed, 2005) ch 21, at p 404.

17 Zhu Shi [2015] No 5.

18 "Dispute Resolution around the World (China)", *Baker & McKenzie* (2013) <http://www.bakermckenzie.com/en/insight/publications/2016/10/dratw/> (accessed 7 August 2017).

19 See generally Rob Hellewell & Michelle Mattei, "Behind the Great Firewall of eDiscovery in Asia" (2014) 32 Association of Corporate Counsel 26.

20 Abhijit Ghosh, "Race to Be the Preferred Asian HQ Location", *PriceWaterhouseCoopers* (28 January 2015) <http://www.pwc.com/sg/en/singapore-budget-2015/budget-2015-01.html> (accessed 7 July 2017).

21 "E-discovery in Asia Legal, Technical and Cultural Issues", *FTI Consulting* (2014) at p 2 <https://static.ftitechnology.com/docs/white-papers/white-paper-e-discovery-in-asia-2014.pdf> (accessed 7 July 2017).

22 "2015 International Arbitration Survey: Improvements and Innovations in International Arbitration", *Queen Mary University of London, White & Case LLP* (2015) at p 11 <http://www.arbitration.qmul.ac.uk/docs/164761.pdf> (accessed 7 July 2017).

23 See Alvin Yeo & Lim Wei Lee, "Singapore", *IBA Arbitration Committee* (November 2013) at pp 12–13 <http://www.ibanet.org/Document/Default.aspx?DocumentUid=21CE7804-1003-4E5C-965C-7BAE72749128> (accessed 7 July 2017).

24 Yeong Zee Kin & Shaun Leong, "A Commentary on the Supreme Court Practice Directions Amendment No 1 of 2012" *Singapore Law Gazette* (March 2012), explaining that these are cases where technology are most likely to assist in increasing the productivity of lawyers and result in cost savings.

B. Preservation and the litigation hold process

(1) The concept of preservation

9 The duty to preserve requires a party to "identify, locate and maintain information and tangible evidence that is relevant to specific and identifiable litigation".[25] Closely related to the duty to preserve is the concept of a "litigation hold". A litigation hold requires the preservation of discoverable information when litigation is reasonably anticipated, or pending against an entity.[26]

(2) Preservation – The US

10 The duty to preserve, as articulated in the seminal case of *Zubulake v UBS Warburg LLC*,[27] is one that arises from the common law duty to prevent spoliation, and from the inherent power of the court. It represents the "trigger" for a litigation hold and arises when a party is on notice of a credible probability that it will become involved in litigation, seriously contemplates initiating litigation, or when it takes specific actions to commence litigation.[28] Subject to the limit of proportionality, the scope of preservation extends to all relevant ESI held by key custodians and others likely to have discoverable information, including accessible backup tapes or inaccessible tapes where the information is not otherwise available.[29]

11 Under existing case law, a party moving for a spoliation sanction must show: (a) the spoliating party has a duty to preserve evidence under its control; (b) has a culpable state of mind in the loss or destruction of the evidence; and (c) the lost evidence is relevant and it is prejudiced by its unavailability.[30] However, US circuit courts are divided as to what constitutes "possession, custody and control", "culpable state of mind" and "relevance and prejudice".[31] As to the element of "possession, custody and control", the Third, Fifth and Ninth Circuits

25 The Sedona Conference Working Group on Electronic Document Retention & Production, "The Sedona Conference Commentary on Legal Holds: The Trigger & the Process" (2010) 11 Sedona Conf J 265 at 267.

26 The Sedona Conference Working Group on Electronic Document Retention & Production, "The Sedona Conference Commentary on Legal Holds: The Trigger & the Process" (2010) 11 Sedona Conf J 265 at 267.

27 220 FRD 212 (SDNY, 2003).

28 The Sedona Conference Working Group on Electronic Document Retention & Production, "The Sedona Conference Commentary on Legal Holds: The Trigger & the Process" (2010) 11 Sedona Conf J 265 at 271.

29 See *Rimkus Consulting Group Inc v Cammarata* 688 F Supp 2d 598 at 613 (S D Tex, 2010); *Zubulake v UBS Warburg LLC* 220 FRD 212 (SDNY, 2003).

30 *Victor Stanley Inc v Creative Pipe Inc* 269 FRD 497 (D Md, 2010).

31 *Victor Stanley Inc v Creative Pipe Inc* 269 FRD 497 (D Md, 2010).

have considered evidence to be under a party's control when it is in the party's actual possession, while the Second and Fourth Circuits have considered "evidence under control" to refer to situations where a party can secure the evidence from non-parties, whether by contract or practical ability.[32] As to the "culpable state of mind" element, the Second Circuit has considered negligence to be sufficient,[33] the Fourth Circuit has considered any fault to be sufficient,[34] while other circuits required a finding of gross negligence or bad faith to trigger sanctions.[35] As for the element of "relevance and prejudice", the presumption of relevance as an evidentiary tool is not consistently employed across circuits. The Second Circuit has taken the view that once the spoliating party is found to be grossly negligent, the lost document is presumed to be relevant and favourable to the other party and the burden shifts to the spoliating party to prove otherwise.[36] However, the Fourth Circuit has invoked the presumption only where the failure to preserve was wilful, and the Fifth Circuit has not addressed whether a bad faith destruction of evidence invokes the presumption.[37]

12 To address the uncertainty surrounding sanctions, r 37(e) of the FRCP was amended, on 1 December 2015, to tie the seriousness of the court's response with, among other factors, the level of culpability of the spoliator. Where ESI that should have been preserved in the anticipation

32 "DiscoverReady Client Alert: Judge Grimm Surveys the Landscape of Spoliation and Sanctions in *Victor Stanley v Creative Pipe*", *DiscoverReady* (2015) <https://discoverready.com/articles/discoverready-client-alert-judge-grimm-surveys-the-landscape-of-spoliation-and-sanctions-in-victor-stanley-v-creative-pipe/> (accessed 7 July 2017).

33 See *Residential Funding Corp v DeGeorge Financial Corp* 306 F 3d 99 (2nd Cir, 2002).

34 "DiscoverReady Client Alert: Judge Grimm Surveys the Landscape of Spoliation and Sanctions in *Victor Stanley v Creative Pipe*", *DiscoverReady* (2015) <https://discoverready.com/articles/discoverready-client-alert-judge-grimm-surveys-the-landscape-of-spoliation-and-sanctions-in-victor-stanley-v-creative-pipe/> (accessed 7 July 2017).

35 "DiscoverReady Client Alert: Judge Grimm Surveys the Landscape of Spoliation and Sanctions in *Victor Stanley v Creative Pipe*", *DiscoverReady* (2015) <https://discoverready.com/articles/discoverready-client-alert-judge-grimm-surveys-the-landscape-of-spoliation-and-sanctions-in-victor-stanley-v-creative-pipe/> (accessed 7 July 2017).

36 "DiscoverReady Client Alert: Judge Grimm Surveys the Landscape of Spoliation and Sanctions in *Victor Stanley v Creative Pipe*", *DiscoverReady* (2015) <https://discoverready.com/articles/discoverready-client-alert-judge-grimm-surveys-the-landscape-of-spoliation-and-sanctions-in-victor-stanley-v-creative-pipe/> (accessed 7 July 2017).

37 "DiscoverReady Client Alert: Judge Grimm Surveys the Landscape of Spoliation and Sanctions in *Victor Stanley v Creative Pipe*", *DiscoverReady* (2015) <https://discoverready.com/articles/discoverready-client-alert-judge-grimm-surveys-the-landscape-of-spoliation-and-sanctions-in-victor-stanley-v-creative-pipe/> (accessed 7 July 2017).

or conduct of litigation is lost because a party failed to take reasonable steps to preserve it, and it cannot be restored or replaced through additional discovery, the court, upon finding prejudice to another party from loss of such information, may only order measures no greater than necessary to cure the prejudice.[38] Where however, the court finds that the offending party intended to deprive the other party of the lost information, it may issue severe sanctions, such as an adverse inference, default judgment, or dismissal.[39]

13 As preservation is a common law duty subject to a wide range of interpretations by the US courts,[40] and the scope of preservation in the US is determined by the extremely broad concept of relevance,[41] tempered only by proportionality considerations, the American e-discovery framework induces a palpable fear of losing relevant documents and promotes over-preservation.[42] Organisations incur approximately US$313,853 to collect, US$976,902 to process and US$4,544,878 to review one-third of a terabyte of preserved e-mails.[43]

14 The over-preservation problem is, unfortunately, not mitigated by r 37 of the new FRCP, as the amended FRCP does not alter state laws on spoliation sanctions. Furthermore, while the revised r 37(e) is designed to calibrate when and how courts can exercise their powers to sanction, it leaves unanswered certain questions. The requirement to take "reasonable steps" to preserve is amorphous and open to judicial interpretation.[44] In addition, it is unclear if the party claiming prejudice bears the burden of proving prejudice, or the spoliating party has to prove a lack of prejudice.[45] It remains to be clarified if an adverse inference is available only under r 37(e)(2) of the FRCP, or whether it is equally available as a curative measure under r 37(e)(1). Some have proffered that adverse inference instructions are remedial in nature and

38 Federal Rules of Civil Procedure, r 37(e)(1).

39 Federal Rules of Civil Procedure, r 37(e)(2).

40 Kenneth J Withers, "Risk Aversion, Risk Management, and the 'Overpreservation' Problem in Electronic Discovery" (2012–2013) 64 S C L Rev 537 at 553, citing *Orbit One Commc'ns Inc v Numerex Corp* 271 FRD 429 (SDNY, 2010), which noted that relevance is "an extremely broad concept".

41 Kenneth J Withers, "Risk Aversion, Risk Management, and the 'Overpreservation' Problem in Electronic Discovery" (2012–2013) 64 S C L Rev 537 at 543.

42 Kenneth J Withers, "Risk Aversion, Risk Management, and the 'Overpreservation' Problem in Electronic Discovery" (2012–2013) 64 S C L Rev 537 at 545.

43 Kenneth J Withers, "Risk Aversion, Risk Management, and the 'Overpreservation' Problem in Electronic Discovery" (2012–2013) 64 S C L Rev 537 at 545.

44 Philip J Favro, "The New ESI Sanctions Framework under the Proposed Rule 37(e) Amendments" (2015) 21 Rich J L & Tech 8 at 12.

45 Hon Shira A Scheindlin & Natalie M Orr, "The Adverse Inference Instruction after Revised Rule 37(e): An Evidence-based Proposal" (2014–2015) 83 Fordham L Rev 1299 at 1310.

should be available under r 37(e)(1) of the FRCP.[46] The lingering uncertainty is likely to continue driving organisations to incur significant costs to meet their preservation obligations and to avoid the risk of serious sanctions.

(3) Preservation – The UK

15 Paragraph 7 of PD 31B provides that the duty to preserve ESI commences as soon as litigation is contemplated and extends to ESI that would otherwise be deleted in accordance with a document retention policy or in the ordinary course of business. The duty to preserve generally extends to standard disclosure, which requires a party to disclose only the documents on which it relies, and the documents that adversely affect or support the case.[47]

16 Prior to the enactment of PD 31B, there was a duty to preserve only after the commencement of court proceedings, and the failure to do so might result in an adverse inference.[48] Hence, in *Douglas v Hello! Ltd (No 3)*[49] ("*Douglas*"), when evidence was destroyed at both the pre-action and post-action stages, the court applied the stricter test requiring illegal acts, such as attempts to pervert the course of justice or those amounting to criminal contempt for pre-action destruction of evidence. For the post-action destruction, the court held that dismissal would be ordered where the spoliating party had prejudiced the possibility of a fair trial. The court did not elaborate on the reasons for the distinction between conduct preceding or following commencement of the action,[50] although the rationale seems to be there is less culpability when evidence is destroyed at the pre-action stage. It remains to be seen if the courts will continue to apply different tests for discovery violations before and after commencement of an action. However, there appears to be little justification for the distinction in light of para 7 of PD 31B.

46 Hon Shira A Scheindlin & Natalie M Orr, "The Adverse Inference Instruction after Revised Rule 37(e): An Evidence-based Proposal" (2014–2015) 83 Fordham L Rev 1299 at 1310.

47 See r 31.6 the UK Civil Procedure Rules 1998 (SI 1998 No 3132).

48 Cavinder Bull & Gerui Lim, "Preservation of Electronic Evidence" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 133.

49 [2003] EMLR 29.

50 Cavinder Bull & Gerui Lim, "Preservation of Electronic Evidence" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 133.

(4) Preservation – China

17 Unlike the US and the UK, there is no general duty to preserve ESI in China.[51] Litigation holds are difficult to implement in China because business is often conducted using personal e-mail accounts, which are protected under Chinese data privacy law.[52] However, parties seeking to preserve relevant[53] ESI may apply to the People's Court for a preservation order, when there is a likelihood that the evidence may be destroyed or difficult to acquire, or the court may take the initiative in requiring the preservation of evidence.[54] In practice, however, it is difficult to obtain a preservation order, as the amount of information required to meet the threshold for a preservation order is unclear and inconsistently applied.[55] Although a party who destroys evidence may be punished with a fine, detention, or criminal proceedings,[56] the Chinese courts rarely impose sanctions for failure to provide evidence.[57]

(5) Preservation – Rethinking Singapore's approach

18 There is no express duty to preserve ESI for anticipated or pending litigation in Singapore.[58] However, *K Solutions Pte Ltd v National University of Singapore*[59] ("*K Solutions*") has suggested that the duty of preservation is implicit in the scheme of discovery. The court dismissed the plaintiff's case in *K Solutions*, as it found the plaintiff's conduct of configuring an e-mail account to delete e-mails in accordance with a document retention policy to be deliberate destruction, in that it

51 Dana L Post, "Discovery, Disclosure, and Data Transfer in Asia: China and Hong Kong" (2015) 16 The Sedona Conf J 257 at 269.

52 Dana L Post, "Discovery, Disclosure, and Data Transfer in Asia: China and Hong Kong" (2015) 16 The Sedona Conf J 257 at 269.

53 Provisions of the Supreme People's Court on Evidence in Civil Proceedings (promulgated by Supreme People's Court, 21 December 2001, effective 1 April 2002) Art 1.

54 Civil Procedure Law of the People's Republic of China (promulgated by Standing Committee of the National People's Congress, 31 August 2012, effective 1 January 2013) Art 81.

55 "Report on Patent Enforcement in China", *US Patent and Trademark Office* (12 September 2012) at p 6 <http://www.uspto.gov/ip/global/China_Report_on_Patent_Enforcement_(FullRprt)FINAL.pdf> (accessed 7 July 2017).

56 Provisions of the Supreme People's Court on Evidence in Civil Proceedings (promulgated by Supreme People's Court, 21 December 2001, effective 1 April 2002) Art 80, read with Civil Procedure Law of the People's Republic of China (promulgated by Standing Committee of the National People's Congress, 31 August 2012, effective 1 January 2013) Art 111.

57 Dana L Post, "Discovery, Disclosure, and Data Transfer in Asia: China and Hong Kong" (2015) 16 The Sedona Conf J 257 at 268.

58 Cavinder Bull & Gerui Lim, "Preservation of Electronic Evidence" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 131.

59 [2009] 4 SLR(R) 254 at [106].

"intend[ed] to put the documents out of reach of the other party".[60] Where deliberate destruction is shown, the same consequences would attach to both pre-commencement and post-commencement conduct.[61] However, the court made a distinction between "deliberate" conduct and "intentional" destruction. The latter refers to conduct that is not accidental and where "there is no intention to put the documents out of reach of the other party" in an anticipated or pending litigation.[62] Pending judicial clarification, it has been suggested that routine and planned destruction in accordance with a records destruction policy would amount to intentional destruction, while accidental destruction would extend to situations where a document is copied and through that process, the system metadata is modified.[63] *K Solutions* is consistent with *Alliance Management SA v Pendleton Lane P*,[64] where the court struck a defence due to the disregard of the court's orders for the defendant to produce an original hard disk in its possession, regardless of whether a fair trial was possible or whether there was prejudice to the other party.

19 The scope of preservation of ESI is not expressly dealt with in PD Part V. However, parties generally have a duty to preserve documents they have an obligation to disclose, that is, those that: are relevant and necessary; the party intends to rely on; or could adversely affect or support its case.[65]

20 Singapore's preservation regime lies somewhere on the continuum between the UK and China's approaches. Although Singapore, similar to the UK, has a narrower scope of e-discovery compared to the US, it should not be lulled into complacency but should learn from the US experience. It should carefully set forth the level of culpability required for "intentional" or "accidental" destruction of ESI, and calibrate the types of sanctions that would flow from "intentional" or "accidental" destruction to avoid disproportionate sanctions breeding a culture of over-preservation. The concepts of good faith and proportionality that already feature in PD Part V should be used as general guideposts in these considerations.[66] Singapore should also draw from the UK experience and decide if a distinction should be made for

60 *K Solutions Pte Ltd v National University of Singapore* [2009] 4 SLR(R) 254 at [107].
61 *K Solutions Pte Ltd v National University of Singapore* [2009] 4 SLR(R) 254 at [125].
62 *K Solutions Pte Ltd v National University of Singapore* [2009] 4 SLR(R) 254 at [107].
63 Yeong Zee Kin & Serena Lim, "Electronic Discovery: An Evolution of Law and Practice" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 133.
64 [2008] 4 SLR(R) 1.
65 Rules of Court (Cap 322, R 5, 2004 Rev Ed) O 24 rr 1 and 6.
66 Cavinder Bull & Gerui Lim, "Preservation of Electronic Evidence" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 143.

pre-action and post-action "intentional" or "accidental" destruction so that companies are fully apprised of their preservation obligations and are in a better position to implement appropriate document retention policies and respond to discovery requests. Although the English case of *Douglas* suggests less culpability is attached to pre-action as opposed to post-action destruction, a cleaner approach would be for the preservation obligation to be the same for pre-action and post-action situations, regardless of whether destruction was "intentional" or "accidental". This approach would ensure a case is not in any way evidentially prejudiced at trial and is congruent with the approach taken by the Singapore court in instances of "deliberate" destruction.

C. Proportionality

(1) The concept of proportionality

21 The doctrine of proportionality requires the burdens of e-discovery to be reasonably balanced against its likely benefits.[67] Non-monetary factors should be considered when evaluating the burdens and benefits of discovery.[68] To achieve proportionality, discovery should generally be retrieved from the most convenient, least burdensome and least expensive sources.[69] The concept of proportionality is also inextricably tied to the concepts of preservation, search and co-operation. Proportionality serves to limit the duty to preserve,[70] while appropriate search techniques and co-operation, which are discussed below, serve to enhance proportionality.[71]

(2) Proportionality – The US

22 The 2015 amendments to the FRCP emphasise proportionality as a tool to address rising litigation costs. The revised r 26(b)(1) narrows the scope of discovery to ESI which is relevant to the claims and proportional to the needs of the case, considering: (a) the importance of the issues at stake in the action; (b) the amount in controversy; (c) the

67 Ralph C Losey, "Predictive Coding and the Proportionality Doctrine: A Marriage Made in Big Data" (2014) 26 Regent U L Rev 7 at 39.

68 Ralph C Losey, "Predictive Coding and the Proportionality Doctrine: A Marriage Made in Big Data" (2014) 26 Regent U L Rev 7 at 40.

69 Ralph C Losey, "Predictive Coding and the Proportionality Doctrine: A Marriage Made in Big Data" (2014) 26 Regent U L Rev 7 at 40.

70 John J Jablonski & Alexander R Dahl, "The 2015 Amendments to the Federal Rules of Civil Procedure: Guide to Proportionality in Discovery and Implementing a Safe Harbor for Preservation" (2015) 82 Def Couns J 412 at 420.

71 See Laura Hunt, "Comments: Trending: Proportionality in Electronic Discovery in Common Law Countries and the United States' Federal and State Courts" (2014) 43 U of Baltimore L Rev 279 at 298.

parties' relative access to relevant information; (d) the parties' resources; (e) the importance of the discovery in resolving the issues; and (f) whether the burden or expense of the proposed discovery outweighs its likely benefit.[72] Rule 26(b)(2)(C) further clarifies that a court must limit the scope of discovery where it falls outside r 26(b)(1).[73] Parties are no longer allowed to seek discovery that is related only to the subject matter of the litigation or that only appears reasonably calculated to lead to the discovery of admissible evidence.[74] In the spirit of proportionality, r 26(b)(2)(B) makes clear that a request for production would be limited to reasonably accessible information, unless a court ordered production on a showing of good cause.

23 Proportionality is also reflected in the amended r 26(c)(1)(B). Although the courts already had the discretion to shift costs to the requesting party to address undue burden and cost in e-discovery, the amended r 26(c)(1)(B) expressly acknowledges that a protective order issued to shield a party from undue burden and expense in e-discovery may specify the allocation of expenses incurred for discovery.[75] Furthermore, the amended r 37(e) provides that the court should consider proportionality when deciding whether parties have taken reasonable steps to preserve ESI.[76]

24 Only time will tell if the renewed emphasis on proportionality in the 2015 FRCP amendments will be successful in reducing discovery costs in the US. However, with the narrower scope of discovery and more powers granted to judges to exercise discretion based on proportionality, the US e-discovery regime holds greater promise for reducing overly burdensome discovery costs.[77]

(3) Proportionality – The UK

25 The doctrine of proportionality is used as a restraint on the scope of e-discovery in the UK. The purpose of the UK e-discovery

72 Thomas Y Allman, "The 2015 Civil Rules Package as Transmitted to Congress" (2015) 82 Def Couns J 375 at 386.

73 Thomas Y Allman, "The 2015 Civil Rules Package as Transmitted to Congress" (2015) 82 Def Couns J 375 at 383.

74 John J Jablonski & Alexander R Dahl, "The 2015 Amendments to the Federal Rules of Civil Procedure: Guide to Proportionality in Discovery and Implementing a Safe Harbor for Preservation" (2015) 82 Def Couns J 412 at 417.

75 John J Jablonski & Alexander R Dahl, "The 2015 Amendments to the Federal Rules of Civil Procedure: Guide to Proportionality in Discovery and Implementing a Safe Harbor for Preservation" (2015) 82 Def Couns J 412 at 421.

76 Federal Rules of Civil Procedure r 37(e), Committee Notes on Rules – 2015 Amendment.

77 Martha J Dawson & Bree Kelly, "The Next Generation: Upgrading Proportionality for a New Paradigm" (2015) 82 Def Couns J 434 at 446.

framework is to "encourage and assist the parties to reach agreement in relation to the disclosure of Electronic Documents in a proportionate and cost effective manner".[78] Rule 1.1(2) of the UK Civil Procedure Rules provides that in order for a case to be dealt with justly and at a proportionate cost, the court must consider the amount of money involved, the importance of the case, the complexity of the case and the financial position of each party. Parties are not allowed to inspect documents if it is "disproportionate to the issues in the case".[79] As a general rule, the primary source of disclosure is reasonably accessible data unless it is demonstrated that the relevance and materiality of not reasonably accessible data justify the costs and burden of retrieving and producing it.[80] Recent UK cases suggest that the courts adhere strictly to the doctrine of proportionality.[81]

26 Parties are required to exchange cost budgets and the court has discretion to make costs orders based on "whether the budgeted costs fall within the range of reasonable and proportionate costs".[82] In addition, the court may make costs capping orders.[83] In assessing costs at the end of a case, costs are considered to be proportionate if they bear a reasonable relationship to: (a) the sums in issue in the proceedings; (b) the value of any non-monetary relief in issue in the proceedings; (c) the complexity of the litigation; (d) any additional work generated by the conduct of the paying party; and (e) any wider factors involved in the proceedings, such as reputation or public importance.[84] The UK also has a "loser pays" costs regime that encourages parties to exercise

78 UK, Practice Direction 31B – Disclosure of Electronic Documents (1 October 2010) at para 2.

79 See Laura Hunt, "Comments: Trending: Proportionality in Electronic Discovery in Common Law Countries and the United States' Federal and State Courts" (2014) 43 U of Baltimore L Rev 279 at 282.

80 UK, Practice Direction 31B – Disclosure of Electronic Documents (1 October 2010) at para 24.

81 See, *eg*, *JSC BTA Bank v Ablyazov* [2014] EWHC 2788 at [123], where the court applied the proportionality principle in disclosure; *Property Alliance Group Ltd v The Royal Bank of Scotland Plc* [2015] EWHC 1557 (Ch) at [127], where the court applied the principle of proportionality when considering the extent of search that should be carried out.

82 See Laura Hunt, "Comments: Trending: Proportionality in Electronic Discovery in Common Law Countries and the United States' Federal and State Courts" (2014) 43 U of Baltimore L Rev 279 at 284.

83 See Laura Hunt, "Comments: Trending: Proportionality in Electronic Discovery in Common Law Countries and the United States' Federal and State Courts" (2014) 43 U of Baltimore L Rev 279 at 284.

84 See Laura Hunt, "Comments: Trending: Proportionality in Electronic Discovery in Common Law Countries and the United States' Federal and State Courts" (2014) 43 U of Baltimore L Rev 279 at 284, citing the UK Civil Procedure Rules r 44.3(5).

proportionality when making requests for ESI.[85] Under this regime, each party initially incurs its own expenses in discovery but is allowed to recover such costs from the losing party if it wins the case.[86]

27 Similar to the US e-discovery regime, the UK has made a conscious effort to employ proportionality to restrict the scope of e-discovery to avoid escalating e-discovery costs. The main difference in both approaches lies in the extent e-discovery costs will be shifted from the producing party to the requesting party and the court's ability to cap costs. As a starting point, under the American regime, parties are to bear their own costs in full, unless there are express statutory provisions or case law that allow costs to be shifted to the other party. The English approach, however, allows for partial recovery of costs from the losing party. The American regime has refused to follow the English "loser pays" regime on cost-shifting on the philosophy that full cost-shifting to the losing party at the end of trial would chill access to the courts.[87] The American rule also finds support from a cost-efficiency perspective, that is, the English rule does not incentivise a party confident of winning on the merits to reduce e-discovery costs.[88] These arguments are flawed for a number of reasons. First, contrary to commonly held assumptions, the UK's "loser pays" rule does not shift nearly all discovery costs to the losing party but, instead, practises only substantial cost-shifting.[89] Therefore, it is unlikely that it would inhibit access to the courts. Second, the FRCP has already allowed full cost-shifting on a number of occasions, for instance, in r 11 (frivolous claims) and r 37 (sanctions for discovery conduct) of the FRCP.[90] If judges are allowed to fully shift costs at the interlocutory stages with imperfect knowledge of the whole case, it will be difficult to see why judges should not also be granted the same powers at the end of the litigation, when they are equipped with

85 Gavin Foggo *et al*, "Comparing E-discovery in the United States, Canada, the United Kingdom, and Mexico" *McMillan* (2012) at p 6 <http://www.mcmillan.ca/Files/BHarrison_ComparingE-Discoveryintheunitedstates.pdf> (accessed 7 July 2017).

86 Gavin Foggo *et al*, "Comparing E-discovery in the United States, Canada, the United Kingdom, and Mexico" *McMillan* (2012) at p 6 <http://www.mcmillan.ca/Files/BHarrison_ComparingE-Discoveryintheunitedstates.pdf> (accessed 7 July 2017).

87 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397 at 417.

88 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397at 422.

89 See Brittany Kauffman, "Allocating the Costs of Discovery" (2014) Inst For the Advancement of Legal Sys U of Denv 22 at 22–23; The English rule permits partial recovery of costs in all matters and not just discovery costs.

90 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397 at 420–421.

full knowledge of the case.[91] Third, the American rule limits access to the courts, where litigants are aware that they have to shoulder huge discovery costs from frivolous requests for production.

28 In addition, the American rule ignores the fact that issues of merits are rarely litigated as most cases are settled before trial and given the unpredictability of court litigation, no one litigant is guaranteed a winning result.[92] Ironically, the American rule has the perverse incentive of encouraging wasteful behaviour where parties abuse e-discovery requests or motions with impunity to wear out the other party financially.[93] On balance, the English "loser pays" rule works better to encourage both litigants to take a measured approach towards seeking discovery. The UK approach of capping costs also has the benefit of further encouraging litigants to seek narrow categories of documents sufficient to advance their case and protecting litigants from opportunistic counterparts who are seeking to leverage high e-discovery costs to compel favourable settlements.[94]

(4) Proportionality – China

29 The concept of proportionality does not feature in China's discovery rules. Article 64 of the Civil Procedure Law and Art 1 of the Evidence Rules provide that a party must offer relevant evidence to prove their case.[95] Article 95 of the Judicial Interpretations limits ESI disclosure by disallowing party applications for irrelevant, useless, or unnecessary evidence. Although relevance acts as the only restraint on the scope of discovery, China's regime does not seem to run the risk of over-preservation, as there is no duty to preserve ESI.

(5) Proportionality – Rethinking Singapore's approach

30 The concept of proportionality is recognised in Singapore's e-discovery regime. PD Part V is intended to provide "a framework for

91 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397 at 426.

92 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397 at 422–423.

93 Steven Baicker-McKee, "The Award of E-discovery Costs to the Prevailing Party: An Analog Solution in a Digital World" (2015) 63 Clev St L Rev 397 at 425.

94 See Karel Mazanec, "Capping E-discovery Costs: A Hybrid Solution to E-discovery Abuse" (2014) 56 Wm & Mary L Rev 631 at 656.

95 Judge Elizabeth Fahey & Judge Zhirong Tao, "The Pretrial Discovery Process in Civil Cases: A Comparison of Evidence Discovery between China and the United States" (2014) 37 B C Int'l & Comp L Rev 281 at 284.

proportionate and economical discovery".[96] An application for discovery or inspection shall not be made "unless the order is necessary for disposing fairly of the cause or for saving costs".[97] In determining if the application is proportionate and economical, the court shall consider the: (a) number of electronic documents involved; (b) nature of the case and complexity of the issues; (c) value of the claim and the financial position of each party; (d) ease and expense of retrieval of any particular ESI; (e) availability of ESI sought from other sources; and (f) relevance and materiality of the ESI to the issues in dispute. Requests for reasonable searches shall not extend to ESI which is not reasonably accessible,[98] unless it is demonstrated that the relevance and materiality of the ESI sought to be discovered justify the cost and burden of retrieving and producing them.[99] The Singapore courts have taken the view that proportionality should also feature in keyword searches, as the objective of the discovery rules is not to capture every single relevant document.[100]

31 Parties are generally required to bear their own costs for complying with a discovery order, except for disbursements that will be reimbursed by the requesting party.[101] However, the court has inherent powers under O 92 r 5 of the Rules of Court[102] ("RoC") to order the requesting party to bear all or part of the e-discovery costs if necessary to prevent injustice or an abuse of court process.[103] Some cost-shifting may also occur when the losing party is made to pay the winning party's party and party costs at the end of a trial.

32 Singapore's proportionality regime lies somewhere on the continuum between the UK and China's approaches. Consistent with the e-discovery regimes in the US and the UK, the Singapore e-discovery regime is committed to using proportionality as a means to keep

96 Yeong Zee Kin & Serena Lim, "Electronic Discovery: An Evolution of Law and Practice" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 111.

97 Supreme Court Practice Directions, Part V, at para 48.

98 Yeong Zee Kin & Serena Lim, "Electronic Discovery: An Evolution of Law and Practice" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 111.

99 Zee Kin Yeong, "Electronic Discovery in Singapore: A Quinquennial Retrospective" (2014) 11 Digital Evidence and Electronic Signature L Rev 3 at 5.

100 Yeong Zee Kin & Serena Lim, "Electronic Discovery: An Evolution of Law and Practice" in *International Conference on Electronic Litigation* (Lee Seiu Kin & Yeong Zee Kin eds) (Academy Publishing, 2012) at p 115.

101 Supreme Court Practice Directions, Part V, at para 55.

102 Cap 322, R 5, 2004 Rev Ed.

103 Rules of Court (Cap 322, R 5, 2004 Rev Ed); but see *Wartsila Ship Design Singapore Pte Ltd v Liu Jiachun* [2014] SGHCR 13, where the court did not disturb the general rule for the producing party to bear the costs of production.

e-discovery costs manageable. As discussed above, the UK's "loser pays" rule arguably works better than the US approach in reining in e-discovery costs and, the Singapore courts should continue adopting the UK approach. While the Singapore courts have inherent powers to apply the proportionality principle through cost-shifting in appropriate e-discovery cases, it is unclear in what sort of situations and to what extent costs will be shifted from one party to another. The court's inherent jurisdiction should be exercised carefully, to avoid stifling legitimate discovery. China is a counter-example to demonstrate that proportionality is unnecessary only where there is no duty to preserve ESI. Therefore, promoting proportionality in Singapore is essential. As will be discussed below, more can be done in Singapore to promote proportionality through the use of modern means of search technology and co-operation.

D. Search methodologies

(1) Search and review techniques

33 Retrieval of relevant documents may be done by exhaustive manual review, with or without the use of keywords and other search tools, or by using technology-assisted review ("TAR"). Keyword searches employ Boolean connectors, proximity locators, fuzzy logic and/or stemming to identify relevant documents.[104] In contrast, TAR (also known as "predictive coding") is:[105]

> A process for Prioritizing or Coding a Collection of Documents using a computerized system that harnesses human judgments of one or more Subject Matter Expert(s) on a smaller set of Documents and then extrapolates those judgments to the remaining Document Collection. Some TAR methods use Machine Learning Algorithms to distinguish Relevant from Non Relevant Documents, based on Training Examples Coded as Relevant or Non-Relevant by the Subject Matter Expert(s), while other TAR methods derive systematic Rules that emulate the expert(s)' decision making process. TAR processes generally incorporate Statistical Models and/or Sampling techniques to guide the process and to measure overall system effectiveness.

104 Gregory L Fordham, "Using Keyword Search Terms in eDiscovery and How They Relate to Issues of Responsiveness, Privilege, Evidence Standards, and Rube Goldberg" (2015) 15 Rich JL & Tech Article 8, at p 2, available at http://law.richmond.edu/jolt/v15i3/article8.pdf (accessed 7 August 2017).

105 Maura R Grossman & Gordon V Cormack, "The Grossman-Cormack Glossary of Technology-assisted Review" (2013) 7 Fed Cts L Rev Issue 1, at p 32, available at http://www.fclr.org/fclr/articles/html/2010/grossman.pdf (accessed 7 August 2017).

(2) Search and review techniques – The US

34 The use of keywords as a search and review methodology has recently come under intense scrutiny. In *United States v O'Keefe*[106] ("*O'Keefe*"), a case involving alleged bribery of officials to expedite the issuance of visas, the Government applied keyword searches pursuant to the defendant's request to identify documents that would show that expediting visa issuance was common. However, the search results yielded largely irrelevant documents. The case illustrates the challenges inherent in selecting proper keywords and the failure to test the terms to determine whether they were good predictors of responsive documents. As Judge Facciola opined in *O'Keefe*:[107]

> [W]hether … 'keywords' will yield the information sought is a complicated question involving the interplay, at least of the sciences of computer technology, statistics and linguistics … for lawyers to dare opine that certain search term or terms would be more likely to produce information than the terms that were used is truly to go where angels fear to tread.

This passage was endorsed in *William A Gross Construction Associates Inc v American Manufacturers Mutual Insurance Co*,[108] where the court recognised the difficulty of "designing keyword searches in the dark".[109]

35 *Victor Stanley Inc v Creative Pipe Inc*,[110] stands as another supreme exemplar on the limitations of keyword searches when used to identify privileged documents. The defendant used keyword searches and manual review of the titles of non-text searchable documents to find privileged documents. It turned out that 165 privileged documents were produced to the plaintiff. Attorney–client privilege and work product privilege were found to be waived and the court warned that there are risks associated with unreliable or inadequate keyword searches.

36 In addition to the known limitation of keywords, the reality is as Judge Peck noted in *Da Silva Moore v Publicis Groupe*[111] ("*Da Silva Moore*"): often, "the way lawyers choose keywords is the equivalent of the child's game of 'Go Fish'". Even where lawyers are aware of the need

106 537 F Supp 2d 14 (DDC, 2008).

107 Gregory L Fordham, "Using Keyword Search Terms in eDiscovery and How They Relate to Issues of Responsiveness, Privilege, Evidence Standards, and Rube Goldberg" (2015) 15 Rich JL & Tech Article 8, at p 24, available at http://law.richmond.edu/jolt/v15i3/article8.pdf (accessed 7 August 2017).

108 256 FRD 134 (SDNY, 2009).

109 *William A Gross Construction Associates Inc v American Manufacturers Mutual Insurance Co* 256 FRD 134 at 135–136 (SDNY, 2009).

110 250 FRD 251 (D Md, 2008).

111 2012 WL 607412 (SDNY, Feb 24, 2012).

to conscientiously select keywords, the process of generating keywords is a laborious one. To design "effective, efficient and defensible" search terms, one should:[112]

(a) start with the request for production;

(b) seek input from key players;

(c) assess the capabilities of the review tools;

(d) communicate and collaborate with the opposing party;

(e) scrupulously incorporate all misspellings, variants and synonyms of the keywords;

(f) filter out irrelevant locations and file types;

(g) test the keywords against representative data from the data under scrutiny;

(h) review the hits to determine whether the keywords employed are capturing a reasonably high number of responsive documents;

(i) tweak the keywords to retest the sample searches; and

(j) check the documents which have not been captured by the keywords to determine if relevant documents have been accidentally left behind.

37 In response to the inadequacies of keyword search and manual review, and to underscore the need for proportionality, TAR was first judicially approved in *Da Silva Moore*.[113] In that case, Judge Peck laid down guidelines on what parties should consider when using TAR, including: (a) the implementation of a stopping point for the training of the TAR tool only after verification of the quality of the results; (b) staging discovery; (c) understanding the materials in the case; (d) collaborating with counterparties; and (e) "bring[ing] your geek to court".[114] With *Da Silva Moore* as the lodestar, a series of judicial decisions in the US thereafter have echoed the approval of TAR as a search method in appropriate cases.[115]

112 Craig Ball, "Surefire Step to Splendid Search" *Craig D Ball PC* (2009) at p 2 http://www.craigball.com/Surefire_Steps_to_Splendid_Search.pdf (accessed 5 July 2017).

113 Paul Burns & Mindy Morton, "Technology-assisted Review: The Judicial Pioneers" (2014) 15 The Sedona Conf J 35 at 39.

114 Paul Burns & Mindy Morton, "Technology-assisted Review: The Judicial Pioneers" (2014) 15 The Sedona Conf J 35 at 47.

115 See *Rio Tinto v Vale* 2015 WL 872294 (SDNY) and the case cited in para 2 above.

38 The approach taken by the US is a step in the right direction. Prior to 2000, exhaustive manual review was the gold standard of review.[116] Since search and review platforms entered the market in 2000 to 2010,[117] a study by Maura Grossman and Gordon Cormack has shown that "the myth that exhaustive manual review is the most effective – and therefore, the most defensible – approach to document review is strongly refuted. Technology-assisted review can (and does) yield more accurate results than exhaustive manual review, with much lower effort".[118] This finding is supported by other studies that have confirmed that humans are more susceptible to errors and disagreement than computers when determining if a document is responsive,[119] and the use of TAR can produce significant cost savings of at least 30%.[120] This is especially germane considering that search and review are the most expensive aspects of discovery.[121] The relevancy-ranking feature of TAR allows parties to limit the documents considered for final production to those with the highest probative value and is consistent with the proportionality principle.[122]

39 Traditional search technologies, on the other hand, suffer from systematic problems such as: (a) the inability to capture relevant documents due to the inherent ambiguity of language; (b) spelling errors; (c) abbreviations; (d) colloquialisms; (e) short forms; and (f) errors introduced by optical character recognition that lead to both over and under-inclusive outcomes.[123] A seminal 1985-study by David

116 Julia L Brickell & Peter J Pizzi, "Towards a Synthesis of Judicial Perspective on Technology-assisted Review" (2015) 82 Def Couns J 309 at 310.

117 Julia L Brickell & Peter J Pizzi, "Towards a Synthesis of Judicial Perspective on Technology-assisted Review" (2015) 82 Def Couns J 309 at 310.

118 Maura R Grossman & Gordon V Cormack, "Technology-assisted Review in E-discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review" (2011) 17 Rich J L & Tech Article 11, at p 48, available at http://jolt.richmond.edu/v17i3/article11.pdf (accessed 7 August 2017).

119 Maura R Grossman & Gordon V Cormack, "Inconsistent Assessment of Responsiveness in E-discovery: Difference of Opinion or Human Error?" (2012) 32 Pace L Rev 267 at 285; Herbert L Roitblat *et al*, "Document Categorization in Legal Economic Discovery: Computer Classification vs Manual Review" (2010) 61 J Am Soc'y For Info Sci And Tech 70 at 70.

120 Christopher H Paskach, F Eli Nelson & Matthew Scwab, "The Case for Technology Assisted Review and Statistical Sampling in Discovery" (2008) Position Paper for DESI VI Workshop, ICAIL Conference, San Diego, CA <http://www.umiacs.umd.edu/~oard/desi6/papers/paskach.pdf> (accessed 10 July 2017).

121 Steven Bennett, "E-discovery: Reasonable Search, Proportionality, Cooperation and Advancing Technology" (2014) 30 J Marshall J Info Tech & Privacy L 433 at 438.

122 Ralph C Losey, "Predictive Coding and the Proportionality Doctrine: A Marriage Made in Big Data" (2014) 26 Regent U L Rev 7 at 54.

123 Gregory L Fordham, "Using Keyword Search Terms in eDiscovery and How They Relate to Issues of Responsiveness, Privilege, Evidence Standards, and Rube

(*cont'd on the next page*)

C Blair and M E Maron found that experienced attorneys and paralegals using keyword searches thought that they had identified 75% of all relevant documents when in fact the average recall[124] was only 20%.[125] A further study conducted by TREC 2008 Legal Track Interactive Task has confirmed the result.[126]

(3) Search and review techniques – The UK

40 Paragraph 9 of PD 31B expressly requires parties to discuss "tools and techniques … which should be considered to reduce the burden and costs of disclosure of electronic documents". Although it does not specify the use of any particular technology,[127] para 25 of PD 31B provides that keyword searches might be used only if a full review of every document would be unreasonable. Paragraph 6 of PD 31B further cautions that it would be insufficient to use simple keyword searches alone, as it might result in under-inclusive or over-inclusive results.

41 Responding to the inadequacies of human review and keyword searches, the use of TAR was first suggested in the English case of *Goodale v Ministry of Justice*.[128] The court opined that after parties have adopted a staged approach, starting with a simple keyword search of ESI from key custodians contained in live servers or local computers over a sensible date range, TAR should then be applied as it has the ability to "render [the data] down to a more sensible size … for human review – which is … the most expensive part of the exercise". The use of TAR was judicially approved in *Irish Bank Resolution Corp Ltd v Quinn*[129] and

Goldberg" (2015) 15 Rich JL & Tech Article 8, at p 4, available at http://law.richmond.edu/jolt/v15i3/article8.pdf (accessed 7 August 2017).

124 Maura R Grossman & Gordon V Cormack, "The Grossman-Cormack Glossary of Technology-assisted Review" (2013) 7 Fed Cts L Rev Issue 1, at p 27, available at http://www.fclr.org/fclr/articles/html/2010/grossman.pdf (accessed 7 August 2017), where "recall" is defined as "[t]he fraction of Relevant Documents that are identified as Relevant by a search or review effort".

125 Maura R Grossman & Gordon V Cormack, "Technology-assisted Review in E-discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review" (2011) 17 Rich J L & Tech Article 11, at p 18, available at http://jolt.richmond.edu/v17i3/article11.pdf (accessed 7 August 2017).

126 Maura R Grossman & Gordon V Cormack, "Technology-assisted Review in E-discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review" (2011) 17 Rich J L & Tech Article 11, at p 19, available at http://jolt.richmond.edu/v17i3/article11.pdf (accessed 7 August 2017).

127 Chris Dale, "Predictive Coding in UK Civil Litigation", *Equivio* (2012) at p 6 <http://www.equivio.com/files/files/White%20Paper%20%20Predictive%20Coding%20in%20UK%20Civil%20Litigation.pdf> (accessed 10 July 2017).

128 [2009] EWHC B41 (QB).

129 [2015] IEHC 175 at [65]–[75].

upheld by the Irish Court of Appeal.[130] The defendant objected to the use of TAR broadly on grounds of lack of comprehensiveness, suitability, accuracy, cost savings and efficiency. Although the court recognised there is no provision in PD 31B that requires the use of TAR, it rejected the defendant's position and cited with approval the US decision of *Da Silva Moore* and the 2011 Grossman and Cormack study recognising that TAR is more effective than manual review of ESI.[131] In the recent decision of *Pyrrho Investments v MWB Property*,[132] the English court held that there is some evidence that predictive coding is more effective and cost-efficient than manual review or keyword searches.[133] Given the benefits of using TAR, the UK is heading down the enlightened path of the US in acknowledging that TAR can be more cost-efficient than manual review or keyword searches.

(4) Search and review techniques – China

42 TAR has been used in e-discovery matters in China.[134] However, the breadth of China's state secrecy laws has compelled companies to opt for manual review to eliminate concerns over criminal sanctions arising from unintended disclosure of state secrets.[135] The distrust towards TAR appears to stem from the lack of a clear boundary between disclosure laws and data protection laws, and a misconception that manual review is more defensible than TAR.

(5) Search and review techniques – Rethinking Singapore's approach

43 The Singapore courts are cognisant that manual review of documents is proving increasingly inefficient[136] and that keyword searches are imperfect, as they may lead to under-inclusive or over-inclusive results.[137] Nonetheless, the mechanism to cope with the inadequacies of

130 See "Court of Appeal Approves Use of TAR For Discovery", *McCann FitzGerald* (25 February 2016) <http://documents.lexology.com/ed19c1bc-2257-4f0f-9171-204b54cd9051.pdf> (accessed 10 July 2017) for case brief.

131 Maura R Grossman & Gordon V Cormack, "Technology-assisted Review in E-discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review" (2011) 17 Rich J L & Tech Article 11, at p 48, available at http://jolt.richmond.edu/v17i3/article11.pdf (accessed 7 August 2017).

132 [2016] EWHC 256 (Ch).

133 *Pyrrho Investments v MWB Property* [2016] EWHC 256 (Ch) at [33].

134 "Analytics & Predictive Coding in Asia: Changing the Landscape for Investigations & eDiscovery" (ILTA Audio Podcast, 6 March 2014).

135 "Analytics & Predictive Coding in Asia: Changing the Landscape for Investigations & eDiscovery" (ILTA Audio Podcast, 6 March 2014); see also Rob Hellewell & Michelle Mattei, "Behind the Great Firewall of eDiscovery in Asia" (2014) 32 *Association of Corporate Counsel* 26 at 28.

136 *Sanae Achar v Sci-Gen Ltd* [2011] 3 SLR 967.

137 *Breezeway Overseas Ltd v UBS AG* [2012] 4 SLR 1035 at [24].

keyword search continues to be one of providing useful judicial guidance on the issues that may arise in keyword selection, including the choice of search engines, search methodology and the use of keyword searches to identify privileged documents.[138]

44 Predictive coding has not been judicially endorsed in Singapore, as the courts have taken a "technology neutral approach".[139] However, there are signs that the Singapore Judiciary may follow the US and the UK's footsteps in approving predictive coding. In *Surface Stone v Tay Seng Leong*,[140] the court, in deciding whether an e-discovery inspection protocol should be implemented, opined that "in some cases, the inspection may be handled expeditiously with the use of special software such as … predictive coding software". In *Global Yellow Pages Ltd v Promedia Directories Pte Ltd*,[141] the court held:

> Alternatives to search technology like predictive coding … may in future find increasing prominence. Search technology cannot be the only tool that lawyers utilise to tame the burgeoning beast …
>
> In the interests of promoting efficiency in civil procedure, our courts do embrace and encourage the adoption of modern search technologies and document review and management tools …

45 Singapore's approach towards TAR lies somewhere on the continuum between the UK and China approaches. While it is instructive that the courts continue to provide guidance on how keyword searches are to be conducted, the consensus in the US and the UK is that TAR is now a judicially recognised tool for conducting ESI search and review in high-volume ESI cases. Although the culture in Singapore is one that relies heavily on paper documentation,[142] this may soon change with the increasing reliance on ESI. Even though Singapore has a narrower scope of discovery when compared to the US, it cannot remain a defensible reason for Singapore not to judicially encourage the use of TAR, as the UK (which has a similar scope of discovery as Singapore) has demonstrated. Since the Singapore courts have not had the occasion to judicially approve the use of TAR, litigants are likely to continue to treat TAR with askance and undertake inefficient manual review as seen in the case of China. As TAR is a technology that has been scientifically proven to reduce litigation time and costs, it may be time for Singapore to consider encouraging the use of TAR under the

138 *Robin Duane Littau v Astrata (Asia Pacific) Pte Ltd* [2011] SGHC 61.
139 *Global Yellow Pages Ltd v Promedia Directories Pte Ltd* [2013] 3 SLR 758 at [41].
140 [2011] SGHC 223 at [92].
141 [2013] 3 SLR 758 at [40].
142 Eric Robinson, "Practical Tips for APAC Discovery", *The Ediscovery Blog* (20 May 2013) <http://www.theediscoveryblog.com/2013/05/20/practical-tips-for-apac-ediscovery/> (accessed 10 July 2017).

staged approach for document-intensive cases by amending its practice directions, rather than awaiting the judicial approval of TAR in a future case. This has the advantage of ascribing certainty on practice and methodology in this rapidly developing area of law. Only then will Singapore truly achieve proportionality in appropriate e-discovery cases.

46 Some bells of caution – if TAR as a search tool is embraced in Singapore, it must be recognised that TAR is not a perfect technology.[143] Holding TAR to a higher standard than keywords or manual review may discourage parties from using TAR for fear of spending more in-motion practice than the savings from using TAR for review.[144] Embracing TAR will also bring along a host of new issues, such as: (a) the standard to be applied in evaluating expert testimony concerning the producing party's search methodology;[145] (b) developing a standard for acceptable recall[146] and margin of error;[147] and (c) the level of transparency required in the use of TAR, for instance, whether the seed set of documents used for

143 *Rio Tinto v Vale* 2015 WL 872294 (SDNY Mar 2, 2015) at [1]–[3].

144 Patricia Antezana, "Technology-assisted Review: Please Show Me Your Seed Set", *Above the Law* (12 March 2012) <http://abovethelaw.com/2015/03/technology-assisted-review-please-show-me-your-seed-set/> (accessed 10 July 2017).

145 Hon Craig B Shaffer, "Defensible" By What Standard?" (2012) 13 Sedona Conf J 217 at 232.

146 See Maura R Grossman & Gordon V Cormack, "The Grossman-Cormack Glossary of Technology-assisted Review" (2013) 7 Fed Cts L Rev Issue 1, at p 27, available at http://www.fclr.org/fclr/articles/html/2010/grossman.pdf (accessed 7 August 2017) for the definition of "recall".

147 Maura R Grossman & Gordon V Cormack, "The Grossman-Cormack Glossary of Technology-assisted Review" (2013) 7 Fed Cts L Rev Issue 1, at p 22, available at http://www.fclr.org/fclr/articles/html/2010/grossman.pdf (accessed 7 August 2017), where "margin of error" is defined as '[t]he maximum amount by which a Point Estimate might likely deviate from the true value, typically expresses as "plus or minus" a percentage, with a particular Confidence level. For example, one might express a Statistical Estimate as "30% of the Documents in the Population are Relevant, plus or minus 3%, with 95% confidence". This means that the Point Estimate is 30%, the Margin of Error is 3%, the Confidence Interval is 27% to 33%, and the Confidence Level is 95%. Using Gaussian Estimation, the Margin of Error is one-half of the size of the Confidence Interval. It is important to note that when the Margin of Error is expressed as a percentage, it refers to a percentage of the Population, not to a percentage of the Point Estimate. In the current example, if there are one million Documents in the Document Population, the Statistical Estimate may be restated as: "30,000 Documents in the Population are Relevant, plus or minus 300,000 Dcouments [*sic*], with 95% confidence"; or, alternatively, "between 270,000 and 330,000 Documents in the Population are Relevant, with 95% confidence". The Margin of Error is commonly misconstrued to be a percentage of the Point Estimate. However, it would be incorrect to interpret the Confidence Interval in this example to mean that "300,000 Documents in the Population are Relevant, plus or minus 9,000 Documents". The fact that a Margin of Error of "plus or minus 3%" has been achieved is not, by itself, evidence of a precise Statistical Estimate when the Prevalence of Relevant Documents is low".

training the TAR tool needs to be provided to the other party.[148] Nevertheless, these burdens associated with the use of TAR are minor compared to the vast advantages that TAR brings and should not deter its use.

E. The concept of co-operation

(1) Co-operation in e-discovery

47 The Sedona Conference Cooperation Proclamation suggests that co-operation in e-discovery is not antithetical to the concept of zealous advocacy.[149] There are two levels of co-operation in the e-discovery context, one that is rule-based and finds its source in the FRCP, ethical considerations and common law (that is, one that is mandatory), and the other that is strategic or aspirational (that is, voluntary).[150] Voluntary co-operation could stem from parties' predicted outcome on how a court would decide the dispute if it were litigated, or from parties seeking to expedite and facilitate e-discovery.[151] Co-operation (in both the mandatory and voluntary senses) seeks to encourage lawyers to stop precipitating conflict and to facilitate the e-discovery process.[152] It is the broad notion of co-operation that we will now turn to.

(2) Co-operation – The US

48 There are three groups of rules relating to mandatory co-operation found in the FRCP. They are rr 26(f)(1) and 37(f) (discovery planning), rr 26(c) and 37(a) (specific discovery disputes) and r 26(g) (certification of content and purpose). The first group of rules on discovery planning requires parties to confer in advance of the issuance of the scheduling order,[153] and to discuss and develop a proposed discovery plan.[154] A court may sanction any party or attorney who fails to participate in good faith in developing and submitting a

148 Patricia Antezana, "Technology-assisted Review: Please Show Me Your Seed Set", *Above the Law* (12 March 2012) <http://abovethelaw.com/2015/03/technology-assisted-review-please-show-me-your-seed-set/> (accessed 10 July 2017).

149 See "The Sedona Conference Cooperation Proclamation" (2009) 10 The Sedona Conf J 331 at 339; see also Federal Rules of Civil Procedure, r 1, Committee Notes on Rules – 2015 Amendment.

150 "The Case for Cooperation" (2009) 10 The Sedona Conf J 339 at 345.

151 Steven S Gensler, "A Bull's-eye View of Cooperation in Discovery" (2009) 10 Sedona Conf J 363 at 365.

152 Steven S Gensler, "A Bull's-eye View of Cooperation in Discovery" (2009) 10 Sedona Conf J 363 at 364.

153 Federal Rules of Civil Procedure, r 26(f)(1).

154 Federal Rules of Civil Procedure, rr 26(f)(2)–26(f)(3).

proposed discovery plan.[155] The second group of rules on specific discovery disputes requires a party moving for a protective order or for an order compelling discovery to certify that it has in good faith conferred or attempted to confer with the other party to resolve the dispute.[156] The third group of rules on certification of content and purpose provides that an attorney's signature on the discovery request, response, or objection signifies that it is: (a) consistent with the FRCP and warranted by law;[157] (b) not sought for an improper purpose;[158] and (c) neither unreasonable nor unduly burdensome or expensive.[159] In *Mancia v Mayflower Textile Servs Co*,[160] the plaintiff served broad discovery requests and the defendants objected to the requests with boilerplate, non-particularised objections. The court found both parties to have violated r 26(g)(1).[161] The court held that r 26(g) imposes an affirmative duty on counsel to behave in a manner consistent with the spirit and purposes of the rules and to co-operate to fulfil the legitimate needs of discovery while avoiding seeking discovery that is disproportionate, costly, or burdensome to what is at stake in the litigation.[162]

49 Beyond mandatory co-operation, there is a broader form of "cooperation based on expected outcomes" related to but not required by the FRCP.[163] In this realm of voluntary co-operation, lawyers first assess how a judge would react if the matter were to be pursued in court and then act accordingly. US courts seem to expect this form of voluntary co-operation between counsel. In *Kleen Products LLC v Packaging Corp of America*,[164] the court quashed the plaintiff's interrogatory where it had requested information on the defendant's organisation structure and its 400 employees that it had previously agreed not to request, thereby disregarding the spirit of co-operation. The court reminded the parties of an earlier predictive coding dispute where the plaintiff demanded that the defendant redo its keyword search using a different technology as a positive example of how destructive motion practice was bypassed and urged the parties to conduct discovery in a collaborative manner as they had previously

155 Federal Rules of Civil Procedure, r 37(f).
156 Federal Rules of Civil Procedure, rr 26(c) and 37(a)(1).
157 Federal Rules of Civil Procedure, r 26(g)(1)(B)(i).
158 Federal Rules of Civil Procedure, r 26(g)(1)(B)(ii).
159 Federal Rules of Civil Procedure, r 26(g)(1)(B)(iii).
160 253 FRD 354 (D Md, 2008).
161 *Mancia v Mayflower Textile Servs Co* 253 FRD 354 at 356 (D Md, 2008).
162 *Mancia v Mayflower Textile Servs Co* 253 FRD 354 at 357 (D Md, 2008).
163 Steven S Gensler, "A Bull's-eye View of Cooperation in Discovery" (2009) 10 Sedona Conf J 363 at 369.
164 2012 WL 4498465 (NDI11, Sept 28, 2012).

done.[165] The court also cited the Sedona Conference Cooperation Proclamation and reminded the parties that while they had a duty to advocate for their clients, they also had a duty to conduct the discovery process in a non-combative and candid manner.[166]

50 Within the sphere of voluntary co-operation, the aspirational form of co-operation contemplates a situation where parties co-operate in an e-discovery exercise to achieve targeted and efficient discovery.[167] With the 2015 FRCP amendments, r 1 now explicitly requires both the court and parties to apply the rules to secure the just, speedy and inexpensive determination of every action and proceeding. The Advisory Committee Note to r 1 also makes explicit reference to "cooperation". This amendment underscores the need for parties to consider engaging in the highest form of co-operation in every step of the e-discovery process.

51 The current legal framework for e-discovery at the federal level, coupled with the enlightened judicial interpretation of the rules, provides a well-rounded platform for parties to strive towards full co-operation as promulgated by the Sedona Conference Cooperation Proclamation.

(3) Co-operation – The UK

52 PD 31B directs mandatory co-operation by providing that parties and their lawyers *must* discuss the use of technology in the management of the e-discovery process and the disclosure of electronic documents before the first case management conference. The discussions should include, where appropriate, the: (a) categories of electronic documents within the parties' control; (b) locations where relevant documents might be held; (c) scope of the search for ESI; and (d) tools and techniques which should be considered to reduce the burden and cost of disclosure.[168] Case law interpreting PD 31B suggests that courts would not hesitate to sanction parties where there was a lack of co-operation. The sanctions that courts have ordered range from: (a) reprimanding parties for failing to hold pre-case management conference discussions about disclosing key ESI;[169] (b) ordering a second search where there had been a failure to co-operate on keyword

165 *Kleen Products LLC v Packaging Corp of America* 2012 WL 4498465 (NDI11, Sept 28, 2012) at 5–6.

166 *Kleen Products LLC v Packaging Corp of America* 2012 WL 4498465 (NDI11, Sept 28, 2012) at 19.

167 Steven S Gensler, "A Bull's-eye View of Cooperation in Discovery" (2009) 10 Sedona Conf J 363 at 370.

168 UK, Practice Direction 31B – Disclosure of Electronic Documents, at para 9.

169 *Earles v Barclays Bank* [2009] EWHC 2500 B41 at [30] and [70].

searches;[170] and (c) reduction in costs awarded for failing to discuss the scope and extent of disclosure.[171] The UK's "loser pays" regime also serves to encourage co-operation between parties as neither party would make frivolous discovery requests, being fully aware that they might ultimately have to pay for them.[172]

53 PD 31B para 10 adds a layer of voluntary co-operation, where parties *may* exchange the electronic documents questionnaire ("the Questionnaire") to provide information to each other in relation to scope, extent and the most suitable format for disclosure of ESI. Briefly, the Questionnaire covers aspects such as the extent and method of search, potential problems with the search and accessibility of ESI and preservation of ESI. The answers to the Questionnaire must be verified by a statement of truth. Use of the Questionnaire is a useful way of providing information in a structured manner and eliciting what additional disclosure may be required.[173]

54 PD 31B adds another layer of voluntary co-operation – the highest level of co-operation – by stating that its purpose is to "encourage and assist the parties to reach agreement in relation to the disclosure of electronic documents in a proportionate and cost effective manner". This principle, while not expressly using the term "cooperation", serves as an aspiration that all parties should strive to achieve in other aspects of the e-discovery process.

55 To a large extent, the approach taken by PD 31B is similar to that in the FRCP and endeavours to capture the two broad levels of co-operation. However, the problem with the UK approach is that while its intention is to rein in disproportionate costs by limiting the e-discovery framework to multitrack cases with high-value or complex claims,[174] it may be depriving appropriate cases of co-operation. There is no real value for limiting co-operation in e-discovery processes to those claims, as a low-value case may involve a large volume of ESI and a complex case may involve few documents. The other problem with the UK approach is that, unlike the US, its e-discovery co-operation regime is encapsulated in the practice directions (a set of administrative orders) rather than in the Civil Procedure Rules (a subsidiary legislation).

170 *Digicel (St Lucia) Ltd v Cable and Wireless plc* [2008] EWHC 2522 (Ch).

171 *Vector Investments v Williams* [2009] EWHC 3601 (TCC).

172 See Jacqueline Hoelting, "Skin in the Game: Litigation Incentives Changing as Courts Embrace a 'Loser Pays' Rule for E-discovery Costs" (2012–2013) 60 Clev St L Rev 1103 at 1127.

173 *Goodale v The Ministry of Justice* [2009] EWHC B41 (QB) at [28].

174 See Rupert Jackson, *Review of Civil Litigation Costs* (2009) p 46 <https://www.judiciary.gov.uk/wp-content/uploads/JCO/Documents/Reports/jackson-final-report-140110.pdf> (accessed 10 July 2017).

A co-operation regime that is encapsulated within an administrative order, as opposed to a subsidiary legislation, often attracts fewer penalties for non-compliances and encourages, to a lesser extent, the need for parties to co-operate.

(4) Co-operation – China

56 Article 64 of the Civil Procedure Law requires a party to offer evidence to prove his case.[175] Both parties may collect and offer evidence they already possess or do not possess.[176] The lack of clear rules regulating parties and lawyers on the process of collecting evidence[177] and the lack of sanctions where a party withholds evidence[178] do not encourage parties to co-operate. In addition, the existing legal framework for lawyers to review files discourages co-operation. In particular, the time for reviewing files is limited, the scope for reviewing files is severely restricted and the fees for reviewing files are high.[179] There is no impetus to co-operate, as the rules of disclosure are also not consistently implemented.[180] For instance, the Evidence Rules set strict proof limitation as to scope, time and procedure for submitting evidence, the failure of which would entail the loss of a party's right to prove his case.[181] However, the Civil Procedure Law offers an escape from the harsher consequences of the Evidence Rules by clothing the court with the discretion to refuse to accept the evidence or to accept it with a penalty.[182]

175 Civil Procedure Law of the People's Republic of China (promulgated by Standing Committee of the National People's Congress, 31 August 2012, effective 1 January 2013) Art 64.

176 Judge Elizabeth Fahey & Judge Zhirong Tao, "The Pretrial Discovery Process in Civil Cases: A Comparison of Evidence Discovery between China and the United States" (2014) 37 B C Int'l & Comp L Rev 281 at 284.

177 Judge Elizabeth Fahey & Judge Zhirong Tao, "The Pretrial Discovery Process in Civil Cases: A Comparison of Evidence Discovery between China and the United States" (2014) 37 B C Int'l & Comp L Rev 281 at 284.

178 Dana L Post, "Discovery, Disclosure, and Data Transfer in Asia: China and Hong Kong" (2015) 16 The Sedona Conf J 257 at 268.

179 Zhong Zhang, "Practical Basis of Evidence Legislation in China" (2015) http://www.bu.edu/ilj/files/2015/03/Zhong-Zhang-Practical-basis-of-evidence-legislation-in-China.pdf, noting that charges for discovery are at RMB1 per copy of A4 paper and only 40.3% of judges hold a positive attitude regarding the reasonableness of the cost to review files.

180 Zhong Zhang, "Practical Basis of Evidence Legislation in China" (2015) http://www.bu.edu/ilj/files/2015/03/Zhong-Zhang-Practical-basis-of-evidence-legislation-in-China.pdf, at 3–4.

181 Zhong Zhang, "Practical Basis of Evidence Legislation in China" (2015) http://www.bu.edu/ilj/files/2015/03/Zhong-Zhang-Practical-basis-of-evidence-legislation-in-China.pdf, at 3–4.

182 Zhong Zhang, "Practical Basis of Evidence Legislation in China" (2015) http://www.bu.edu/ilj/files/2015/03/Zhong-Zhang-Practical-basis-of-evidence-legislation-in-China.pdf, at 3–4.

(5) Co-operation – Rethinking Singapore's approach

57 Unlike the US and the UK's e-discovery regimes, Singapore's framework does not require mandatory co-operation. Instead, PD Part V targets only co-operation at the voluntary level, encouraging good-faith collaboration on discovery and inspection of ESI issues,[183] through the use of a checklist of issues set forth in Appendix E Part I. These issues may include: (a) the scope and/or limits on documents to be provided in discovery; (b) whether specific documents or classes of documents ought to be specifically preserved; (c) search terms to be used in reasonable searches; (d) whether preliminary searches and/or data sampling are to be conducted; (e) the giving of discovery in stages according to an agreed schedule; as well as (f) the format and manner in which copies of discoverable documents shall be produced. Parties should exchange their checklists prior to commencing good-faith discussions.

58 Singapore's approach on co-operation lies somewhere on the continuum between the UK and China's approaches. From a co-operation standpoint, the e-discovery regime in Singapore suffers from several problems. First, similar to China, the lack of a mandatory set of rules and sanctions tends not to incentivise parties to co-operate. Second, while the rationale for establishing criteria for the type of cases the e-discovery regime should apply to is based on proportionality,[184] it suffers from a similar problem as the UK, in that it unduly limits the consideration of the application of co-operation based on seemingly arbitrary indicators. Save for the guideline that provides for the e-discovery regime to be considered where documents comprise substantially of ESI,[185] a claim that is more than $1m may involve very little ESI and a case with more than 2,000 pages of documents may involve a low-value claim. Third, while PD Part V identifies a broad spectrum of areas that parties could co-operate, the lack of an overarching principle similar to those in the UK and the US encouraging parties to co-operate beyond the areas identified fails to encourage parties to seek efficient discovery.

59 With the lightning speed at which ESI is being generated in Singapore, e-discovery will be the norm rather than the exception moving forward. For the e-discovery regime in Singapore to be efficient and cost-effective, Singapore needs to rethink its e-discovery approach to co-operation. At the minimum, the co-operation framework cannot

183 Supreme Court Practice Directions, Part V, at para 45.

184 Yeong Zee Kin & Shaun Leong, "A Commentary on the Supreme Court Practice Directions Amendment No 1 of 2012" *Singapore Law Gazette* (March 2012).

185 Supreme Court Practice Directions, Part V, at para 44(2)(c).

exist in a vacuum; it must be backed by the risk of sanctions. PD Part V should also clarify that co-operation is to apply as long as e-discovery is adopted, without limiting co-operation to cases falling within certain categories. To encourage co-operation at the highest level, the e-discovery regime should consider embedding in its practice directions an overarching principle of co-operation that the courts can refer parties to as a means to encourage co-operation. In the long run, however, Singapore should also consider shifting its e-discovery co-operation regime into the RoC (a subsidiary legislation) instead of maintaining it in PD Part V (an administrative order), as a reminder to parties to treat the e-discovery co-operation regime with more sanctity.

III. Conclusion

60 E-discovery will continue to feature in litigations and will soon be commonplace globally. In this respect, the concepts of proportionality and co-operation, and the application of cost saving techniques such as TAR, are important elements for the success of an e-discovery framework. As demonstrated above, some jurisdictions have fared better than others in their use of these concepts and methodologies. It is urged that countries that are developing their e-discovery framework, such as Singapore, learn from the best practices of other nations and avoid their errors.

61 In closing, below is a summary of the ideas discussed above which Singapore should consider in improving its e-discovery framework:

(a) **Preservation**. To avoid disproportionate sanctions flowing from a failure to preserve, Singapore has to set forth the level of culpability required for "intentional" or "accidental" destruction of ESI, and calibrate the types of sanctions that would flow from these types of destruction. The preservation obligation should not be different for pre-action and post-action situations, regardless of whether the destruction was "intentional" or "accidental". This would ensure a trial is not evidentially prejudiced and is consistent with the approach taken by the Singapore court in instances of "deliberate" destruction.

(b) **Proportionality**. As the UK's "loser pays" regime strikes an appropriate balance in cost-shifting, Singapore should continue to adopt the approach. However, the Singapore courts should be mindful when exercising inherent powers to shift e-discovery costs, to avoid stifling legitimate discovery.

(c) **Search methodologies**. Given the overwhelming advantages that TAR brings when used in conjunction with the staged approach, Singapore should consider amending the present e-discovery framework to prescribe the use of TAR.

(d) **Co-operation**. To strengthen the e-discovery co-operation regime, PD Part V should clarify that co-operation is to apply whenever e-discovery is adopted, without prescribing other limiting factors. The co-operation framework also has to be backed by sanctions. In addition, an overarching principle of co-operation should be introduced in PD Part V. Finally, Singapore should consider shifting the co-operation regime from its practice directions into the court rules.
