Aspect

LegalTech at LSE:
Report for the Aspect LegalTech Deep Dive Project

Contents   Page

Aspect

Aspect

I   Background

a.   The ASPECT Programme

ASPECT (A Social Sciences Platform for Entrepreneurship, Commercialisation and Transformation) is a network of universities looking to make the most of commercial and business opportunities from social sciences research.

The commercialisation of academic scientific and technological research is well established. However, despite some of the world's largest and fastest growing technology companies being predominantly 'social' in nature, the commercial potential of academic research in the social sciences is only beginning to gain attention.

Arguably, businesses do already invest heavily in the social sciences, in so far as social sciences are relevant to their development, for example, acquiring methods for building and enhancing social and human capital. However these intangible assets are not always recognised either as investments, or as social science. Consequently, it may be difficult to commercialise the high-quality academic research that could support them.

Nevertheless, increasingly it is recognised that:
- There may be hidden value in academic social science departments;
- social science research could provide valuable foundations for techno-social enterprises; and,
- the application of social science research might help businesses to better serve their customers and society.

One crucial function of ASPECT, therefore, is to build engagement between institutions and academics in the social sciences, business, and industry, and to explore opportunities for increasing social science research impact through commercial projects.

In that context:

- both LSE and its ASPECT partner, the University of Manchester, consider lawtech (see Section IV a. below) to be a highly pertinent example of a fast-moving and high growth sector that is giving rise to new technological applications, tools and processes, and new ways of delivering legal services, all of which could and should benefit business, industry, regulators, policy makers, the machinery of justice, access to justice, and civil society - in other words, where technology and social science may come together in a fundamental way; and
- accordingly, this Report examines how members of the Law Department at LSE (LSE Law) are currently thinking about and engaging with lawtech and commercial and business opportunities from social sciences research, and how they may engage with both in the future.

Aspect

b. Lawtech and LSE Innovation

LSE Innovation, which sits within the LSE Research and Innovation Division, is the relatively new body that supports academics who want to increase the positive impact of their research through commercialisation. In most universities, this would be called the 'Tech Transfer Office'.

As such, LSE Innovation is the LSE arm that has instigated this investigation and this Report along with our colleagues at Manchester. The motivation has been two-fold. We hoped that, in the process of discussing the world of lawtech with academics in LSE Law, we would discover researchers who were interested in exploring the commercial potential of their research. And we hoped that in the longer term, if we could foster new engagement between legal scholars and practitioners in lawtech, then ideas for the commercial application of their research might ignite.

The discussions we have had during this investigation have been encouraging. Many of the LSE Law faculty are well-versed and deeply interested in new technologies and their interaction with law and regulation. Although none had their own, 'oven-ready', start-up project, some were eager to engage with start-ups, and nearly all were already engaging with business and, in some cases, legal practitioners and regulators, and are keen to engage further.

In our interview with Nathalie Dijkman (see the summary in Section II (*Methodology*)), who runs the Law Hub at the University of Amsterdam (UA), she painted an enticing picture of one possible model for cultivating innovation in this domain (with the possibility of such innovation being supported by lawtech technologies, tools and processes). Nathalie is an LSE law graduate and a past winner of the LSE Generate prize for entrepreneur of the year. UA has developed a thriving colony of entrepreneurial projects within its law school, from specialised legal clinics (e.g. one for women); to projects helping the courts access lawtech; to an AI tool for patent research; and to an Islamic finance-compliant contracting application.

Aspect

II   Methodology

Horatio Mortimer (HM) and Mark Lewis (ML) conducted online interviews with the following members of LSE Law, on the dates shown, using as an agenda for their interviews the script attached at the Appendix to this Report:

- Professor Andrew Murray   23 November 2020
- Dr Philipp Paech, Associate Professor of Law   25 November 2020
- Dr Eva Micheler, Reader in Law   25 November 2020
- Professor David Kershaw   4 December 2020
- Dr Orla Lynskey, Associate Professor of Law   7 December 2020
- Mr Edmund Schuster, Associate Professor of Law   9 December 2020
- Professor Veerle Heyvaert   8 March 2021.

For an alternative view of the way other academic law departments are approaching this subject, and for a possible future direction for LSE Law, HM and ML conducted an online interview with Ms Nathalie Dijkman, Director- Amsterdam Law Hub, University of Amsterdam (UA), on 18 February 2021. In the result, we consider that the approach of UA, while fascinating and highly developed in its own context, and probably in other developed academic and legal environments, would not currently translate into ASPECT Programme or other activities for LSE Law. That could change – at least in so far as academic activity is concerned - if Professor Kershaw's idea of a clinical legal programme for LSE Law were adopted: see Section IV.c (*LSE Law academics' teaching and research engagement with, and academic interest in, lawtech, fintech and regtech and commercial and business opportunities from social sciences research - to date and considering future prospective activities*), at page 16.

In some instances, this Report summarises and consolidates at a high level the views of interviewees, where it does not necessarily associate those views with any individual. In others, notably in Section IV.c (*LSE Law academics' teaching and research engagement with, and academic interest in, lawtech, fintech and regtech and commercial and business opportunities from social sciences research - to date and considering future prospective activities*), it outlines in somewhat more detail the activities, academic and personal interests, and, where pertinent to the future direction of travel of LSE Law in the context of this Report, the views of, interviewees, who are identified with those interests, activities and views, as appropriate.

Aspect

III   Executive summary

i.   LSE as an institution has relatively recently formalised its approach to increasing the impact of academic research through commercialisation.

ii.   LSE Law has not started to engage commercially in lawtech and related areas; though there is nascent appetite to do so in ways that are consistent with the LSE's approach to protecting its reputation and academic independence.

iii.   There is certainly recognition among several of the LSE Law academics we interviewed that lawtech and regtech are important for the future practice of, and ways of thinking about, law and regulation. Accordingly, they think it important for LSE Law students to be exposed to lawtech and regtech. To date, while there is no appetite currently within LSE Law to add lawtech to the formal teaching curriculum, this has been achieved informally and is likely to continue in that way. There is the possibility of lawtech enabling a future clinical legal programme supporting pro bono activities.

iv.   There are two potentially promising, broader, platforms for the commercialisation of LSE Law research and thinking involving lawtech: (a) LSE Law's Law, Technology and Society initiative (see notes of the interview with Professor Andrew Murray at page 9); and (b) the LSE's innovation and entrepreneurship ecosystem (see Section 1b. (*How ASPECT may connect with LSE Innovation*)).

Aspect

IV Report

a. "Lawtech" and "Regtech" in the context of this Report

"**Lawtech**" (sometimes referred to as "legaltech") has no universal and no very precise definition. We see the term, arguably in its narrowest context, as meaning the use of automated and digitised technologies, tools and related processes designed to increase efficiencies, and to reduce the time and cost, in the delivery of legal services. However, we recognise that lawtech may equally be deployed in the public sphere, for example in access to justice and, increasingly, in the criminal justice system.

In the private sector, commercial, context, these technologies, tools and processes may vary from automated questionnaires populated from pre-designed fields that that can draft legal documents; advanced chatbots that can answer legal questions; document review, analysis and reporting tools that can search many documents or vast document libraries; and smart contracts that can trigger the execution or fulfilment of certain contractual obligations automatically.

The English legal system – like many developed legal systems – has traditionally been slow to adopt and recognise new technologies, largely because court processes have evolved slowly and carefully, and the governance of them is conservative in nature. This applies, also, to the legal professions, which have tended to be slow to adopt new technologies, tools and processes. There were signs that, before the pandemic, the deployment of lawtech in the English legal professions and within corporate legal departments was accelerating – much (though not to the same extent) as it has been in other areas of business. The pressure that the pandemic has placed on the court system and private and corporate legal practice has accelerated the adoption and use of technologies, for example in remote court hearings and in the formal exchange and authentication of documents.

Broadly, there are various technologies, tools and processes within lawtech that derive from, and are deployed more widely in, the worlds of commerce and industry, for example, robotic process automation ("RPA"), artificial intelligence and machine learning ("AIML") and workflow tools and processes. The blockchain distributed ledger technology ("DLT") invented for Bitcoin has generated much excitement about possible applications in smart contracts and more broadly within lawtech. Overall, this tends to create overlaps between lawtech and other sectoral applications of these technologies, tools and processes, notably in the financial services sector and the *fintech* world.

It follows that lawtech and fintech can be closely related, since financial transactions come about through legal contracts, and also because the financial services sector is so extensively regulated. Among other things, this means that, when regulations and laws affecting certain financial transactions and instruments change, AIML and RPA technologies and related processes are now being deployed to identify and give effect to those changes in vast numbers of underlying contracts.

Aspect

This brings us to the intersection of lawtech with "**regtech**". Again, there is currently no universal or precise definition of "regtech". For the purposes of this Report, we use the term to mean the deployment of technologies, tools and processes (including, of course, RPA, AIML and DLT) to facilitate compliance with laws and regulations, and for monitoring, reporting and enforcing compliance with laws and regulations, including in financial services.

Lawtech and regtech can also, therefore, be closely related or, in some cases, amount to the same thing. For example, both lawtech and regtech can often involve translating legal terminology into computer code.

Social scientists of all varieties are concerned with the impact of, among other things, technology on society, and lawtech is of particular interest, as it embodies that combination of the social and the technological at a fundamental level.

For the purposes of this Report, and in the interviews we have conducted with members of the LSE Law Department, we have focused on lawtech in its private sector, largely commercial, context, though as will be seen from our summary of those interviews, both regtech and fintech featured to varying degrees in our conversations with the academics, as have considerations of lawtech and related technologies in public sector and regulatory contexts.

b. LSE Law's departmental engagement to date with lawtech

First it should be recognised that, because of its relatively recent adoption, and notwithstanding the still-more-recent accelerated use of lawtech within private legal and corporate practice and the criminal and civil justice systems, lawtech is in its infancy in the private and public sectors. It is, therefore, hardly surprising that it is not yet widely regarded in the UK as a subject susceptible to, or ready for, formal academic study. However, we understand that the University of Manchester is already teaching lawtech on its law undergraduate course and on one of its master's programmes and, further, that it intends soon to offer a law and technology degree.

LSE Law has not taught, and does not currently teach, lawtech as a separate subject, either at undergraduate or postgraduate levels.

However, LSE Law recognises the growing importance of lawtech and changes to the legal services market related to, and accompanying, the deployment of lawtech, for example in the growth of alternative legal services providers such as Elevate (https://elevateservices.com/)[1] and Integreon

---

[1] "We provide consulting, technology, and services to law departments and law firms, offering practical ways to improve efficiency, quality, and business outcomes."

Aspect

(https://www.integreon.com/)[2] and the move by the "Big Four" professional services firms into the legal services market. Several LSE Law members of staff we interviewed are, accordingly, keen to expose their undergraduate and postgraduate students to lawtech and developments in the legal services markets.

The upshot is that, during the current academic year (2020-21), as part of the *Convene @ LSE Law* programme (https://www.lse.ac.uk/law/convene), LSE Law offered its undergraduate and taught postgraduate student community three extra-mural lectures in lawtech and related developments, mainly in the UK and US law markets. Bruce Braude, Global Chief Technology Officer of Deloitte Legal, delivered and led three lectures, entitled *The New Legal Services Landscape, a LawTech Masterclass for LSE law students*, on 16 November 2020 and on 25 January and 8 February 2021. The last lecture included an outline demonstration by members of Deloitte Legal of a range of current lawtech technologies, tools and processes.

However, it should be noted that aspects of lawtech (largely in its intersection with regtech and fintech), advanced technologies such as DLT and blockchain, and regtech and fintech certainly do feature in teaching on the LSE Law LLB and (mainly) LLM (and other postgraduate) courses in the context of, for example, financial markets and regulation and security settlement systems.

c. LSE Law academics' teaching and research engagement with, and academic interest in, lawtech, fintech and regtech and commercial and business opportunities from social sciences research – to date and considering future prospective activities

The following is based on our interviews with the LSE Law staff referred to in Section II (*Methodology*). A redacted version of the script on which our interviews was based is set out in the Appendix.

---

[2] "Integreon is a global leader in alternative legal, business, and research support services for law firms, corporations, and professional services firms. How did we get there? In a word, trust with client relationships spanning more than 10 years. Integreon has been a pioneer and leader in one of the most dynamic industries for more than 20+ years, Integreon's scale of delivery, breadth of clients, and portfolio of services has grown and evolved within the legal department and beyond.
With 3,000+ professionals including lawyers, paralegals, statisticians, data analysts, and Six Sigma experts, Integreon provides right-sized programs leveraging emerging best practices, technology and a data-driven approach to re-engineer core processes and transform the way clients approach their businesses. Integreon's business enablement, contracting services, legal services, and risk and regulatory services deliver mission critical results."

Aspect

Professor Andrew Murray,
Deputy Head of Department

Would like to explore cross LSE-departmental engagement with relevant departments and groups, ideally to focus on AI. The departments and groups concerned currently appear to be the Information Systems group in the Management Department, Methodology, the new LSE Data Science Institute, Mathematics, and Statistics.

Interested in examining how LSE Law could interact with the new Data Science Institute, including the possibility of providing courses that are oriented to LSE Law students.

Interested in engaging with two external constituencies in this area, namely "developers" and "clients".

"Developers": likely to include those involved in start-ups, or successful regtech or lawtech companies. Also, those working on fintech or other similar apps, who are involved in translating regulations, laws, or handbooks into computer code within these apps. Questions on which to engage developers would include: the challenges they face, how they understand and interpret the law, the level of involvement of their compliance team, and, more generally, the kind and range of questions that [Mireille Hildebrandt](#) asks[3].

"Clients": these would include intermediary clients like City of London, international or other major law firms who are using these technologies, and their end-clients, i.e. those using lawtech and regtech for in-house advice. Would be interested in understanding what

---

[3] See, for example, the list of some of her activities and research interests within the COHUBICOL (*Counting as a Human Being in the Era of Computational Law*) project, at https://www.cohubicol.com.

Aspect

they perceive are the benefits of these technologies, what are the risks, and how the decision was taken to use these technologies.

Would also like to gain a better understanding of the legal services market (the solicitors' profession, rather than the Bar) to better understand what LSE Law students are going into, and also how autonomy changes with the use of machines.

His recent work is more jurisprudential, but he wants to return to law and society, looking at the kind of questions that [Richard Susskind](#) asks about how technology changes the practice of law, and also, more broadly, what this will mean for the role of the lawyer in society.

So, in sum, would like to hear from users of, and advisers on, lawtech and regtech to help him form a view on the wider impact.

Participants in the legal services market will have a view coloured by their commercial interests. There is a role for an academic view that considers what they think about these issues, factoring in their incentives, and looking at the wider implications.

In such engagement with him, commercial practitioners would benefit from: (i) an academic view on how their products and services are affecting society, both in the individual and collective senses; (ii) in more transactional terms, they could claim the kudos of being able to say that they have engaged with one of the world's leading academic law departments; and (iii) they might gain valuable insights, e.g. on why it is important that technologists listen to lawyers, and that private practice lawyers listen to academic lawyers, and not just their clients.

Aspect

Convening a group of lawtech practitioners of various types at LSE would be very helpful to inform his research. If, as a result, resulting publications included an acknowledgement for these participants, this might be valuable for their reputations, as they could point to having been a member of such a group.

The Law, Technology and Society initiative was set up at LSE with a view to developing this area, and perhaps establishing a chair.

Dr Philipp Paech, Associate Professor of Law

Director of the Law in Financial Markets project, he is currently teaching aspects of regtech and fintech, but not currently lawtech, although noting that many aspects of regtech and fintech overlap with lawtech.

Notes that we are seeing fundamental changes that have begun and will continue for the foreseeable future in how the law is going to be practised, and particularly the impact of those changes for young lawyers. So it is important that LSE Law engages with the issues around lawtech, regtech and fintech. LSE Law needs to prepare students better for this new environment. In this, it is LSE Law's duty also to ensure, through close and continuous engagement with legal practice, that students understand why and how the study of law is always useful. Otherwise, there is a risk that legal studies may be perceived to be less relevant to those intending to practise law.

Having said that, LSE Law's overriding objective is to train thinkers. This will not be threatened by lawtech advances in legal or academic practice, because lawtech technologies are essentially operational, e.g. reading and reporting on legal or regulatory documents.

Aspect

Academic legal departments need to train those who tell the machines what to do. In this, there is a need to ensure that LSE Law's teaching equips students to understand how lawtech and regtech technologies are used, and to be able analyse critically and explain such technologies.

While these technologies may be changing the way law is practised, does it also have an impact on the underlying philosophy of law? That is really a question of mindset. To some, including governments and regulators, the notion that the law or regulation needs to be changed to accommodate, e.g. blockchain, is completely revolutionary. But for others, including himself, this is, and should be, the normal process. It recognises that the market is always ahead of the law when it adopts and develops new technologies, and that the law always has to catch up, because we do not live in a command economy. So, in this sense, the underlying philosophy of law is, and should remain, unchanged.

Returning to law students, if you train them only to become people who apply the law, then any significant change in the legal markets involving the adoption, development and wide-spread deployment of lawtech and regtech will be outside their understanding and ability to deal with, or even challenge, any such change, which always be considered a game-changer. But if those students are properly trained, they will still be able to apply the same underlying legal philosophy, and will be able to deal with such change.

Frequently works with practitioners – both lawyers and technologists – to enable him to explain both in his teaching and his research

Aspect

the implications of regtech and fintech technologies being adopted and developed.

Chaired a panel that produced a [report](#) for the European Commission, published a year ago, on fintech and regulation. The panel included regulators, financiers, lawyers and technologists, and of course all of these groups are influencing the emerging technologies.

Interested in the implications of algorithmic decision-making for law and regulation, at macro and micro levels, including issues of accountability and liability, and the required levels of transparency, interpretability and (perhaps less desirable) explainability of such decision-making.

Currently researching the integration of the data industry with finance. So his interest would be to engage with, and interrogate, the relevant market participants in the data industry. The challenge is identifying and reaching the right participants, e.g. those in "Big Tech" who understand the very complex intersection between their business models, how algorithms work and how those business models, algorithms and other technologies and processes integrate with finance.

What would be the incentive of Big Tech in speaking to him? Big Tech has some new initiatives that are aimed at creating structures for demonstrating ethical commitment, such as the Facebook Oversight Board, and both Google (despite its reported problems in this regard) and Amazon might have similar ideas to validate their ethical credentials, so that they are more trusted to move into financial services. Aside from their formal oversight and ethical structures, they may need less formal, external validation from a genuinely

Aspect

independent institution to help win that trust. He can demonstrate that he is independent and impartial, and that he is motivated to find solutions that would help the markets to work better more ethically and effectively in the areas concerned. In addition, Big Tech is now high up the political agenda in the USA, Europe and the UK.

Finally, Big Tech must be concerned about the prospect of new, Biden-appointed, regulators, and significant anti-trust and regulatory challenges to their existence. Big Tech is therefore more likely to want to co-operate with institutions like LSE. And, having regard to its reputation and the need to protect its academic and intellectual independence, LSE Law might then consider engaging with Big Tech.

Dr Eva Micheler, Associate Professor, Reader, in Law, and Management Committee member of the Systemic Risk Centre at LSE

Explores three angles on issues in legal technology, which are on the boundary between lawtech, regtech, and fintech.

The first is her interest in domestic and cross-border security settlement systems, related regulatory and contractual frameworks, and the efficient (or otherwise) operation of the markets in such settlement systems. In this context, she has considered the possible role of DLT/blockchain and resistance to it in the markets

Has engaged with asset managers about issues in the security settlement market, but so far with no outcomes. Is engaged in a British Academy project which involves her interviewing pension funds and other participants to ascertain their interests in addressing certain issues in this market that could result in pressure to impose changes on

Aspect

intermediaries – brokers, custodians, and asset managers.

There is perhaps some potential for engagement with the UK Department for Business, Energy and Industrial Strategy.

Her work this area has often been cited by the UK Law Commission in scoping studies.

The second angle is her research and writing on blockchain, notably a paper[4] for the Blockchain Technology for Algorithmic Regulation and Compliance (BARAC) project at the Blockchain Centre at UCL. This paper concerns the delivery of reporting requirements by means of a blockchain. It asked to what extent can you take regulatory text and put it into an algorithm – so creating a smart contract for regulation. The programme then automatically updates the UK Financial Conduct Authority. So it is a digital reporting algorithm.

The third angle relates to her teaching on corporate governance. She is interested in the role of technology in control systems and how they enable company directors to fulfil their fiduciary obligations, including governance and risk management.

Concerning this last angle, would be interested in talking to leading accounting firms, as they would need to develop a view on whether such technology-enabled risk management systems are adequate, at least compared to current models.

Relevant published papers -

---

[4] *Regulatory Technology – Replacing Law with Computer Code* LSE Legal Studies Working Paper No. 14/2018, Eva Micheler and Anna Whaley.

Aspect

Holding, Clearing and Settling Securities Through Blockchain Technology Creating an Efficient System by Empowering Asset Owners, Eva Micheler and Luke von der Heyde, May 31, 2016, at: SSRN: https://ssrn.com/abstract=2786972, or http://dx.doi.org/10.2139/ssrn.2786972

Regulatory Technology – Replacing Law with Computer Code, LSE Legal Studies Working Paper No. 14/2018, Eva Micheler and Anna Whaley

Professor David Kershaw

Head of Department of Law, Designate

Asks if LSE Law should be doing something more significant for students in educating them about technologies and tools that are likely to affect their future roles as lawyers, beyond having external practitioners coming to speak to them or deeply engaging with the lawtech technologies, which are currently focused on repeatable legal processes.

So it remains a challenge to structure lawtech courses in ways that would be valuable and interesting to students. Nevertheless, it would be good to find ways to expose students to some of these lawtech tools and technologies before they join legal practice, but probably it would not be desirable to create a specific academic course.

It would perhaps be more interesting and satisfying, academically, to explore how profound an effect – if such it is - lawtech is having, and is likely to have, on the legal profession.

The technological aspects of advanced technologies like blockchain are better addressed from within the context of a substantive subject, like, for example, financial

Aspect

regulation. From there it may be easier to consider, analyse and understand what such technologies can offer, the risks associated with them, and their wider implications for the markets and society.

Legal education is now changing in the UK with the new Solicitors Qualifying Examination. Although LSE Law will not be changing its core offer of a strongly intellectual and academic focus. As next Head of the Department, he considers that there should be support for connection to practice. One way would be to establish a clinical legal programme, e.g. for students to provide pro-bono legal advice supervised by a clinical law professor. The clinic might have access to lawtech technologies and tools, and associated processes, all of which could have real value for students. There might also be simulated transactions and litigation processes that would also benefit from, and involve, lawtech tools.

Dr Orla Lynskey, Associate Professor of Law

Teaches and is concerned in a narrower context with automated decision-making under article 22 of GDPR/UK GDPR, so in the context of algorithms and AIML.

On her return to LSE Law after a period of leave, may pursue an academic interest in public procurement and, possibly, access by SMEs to government procurement processes. It is likely that technology will feature, but it is too early to identify lawtech or regtech as particular areas of focus.

Perhaps to revisit these questions on her return.

Aspect

Mr Edmund Schuster,
Associate Professor of Law

Has an academic and broader interest in the legal aspects of DLT and blockchain, and has published an article on blockchain in 83 *Modern Law Review*, *Cloud Crypto Land*, First published 3 December 2020, https://doi.org/10.1111/1468-2230.12603

Suggests LSE consider a competition and prize for LSE entrepreneurs forming new technology ventures, who would benefit from a process of interrogation by social scientists from across LSE.

This competition could lead to a prize. A judging panel of LSE experts would award the prize to the new venture that best incorporated insights from social science.

The prize might be of considerable reputational value to the enterprises.

This process would also address the perceived absence of social science from new technology ventures, many of which have had a profound, and not always positive, social impact.

Flagging up potential unintended social consequences could be valuable both to society and to the enterprises themselves.

It might also point them towards new opportunities for creating value, both social and commercial.

Professor Veerle Heyvaert

Interested in the use of regtech for the enforcement for environmental regulations. Has also undertaken some research on how to regulate innovation and emerging technologies effectively, e.g. the extent to which, and how, the precautionary principle in regulation might apply.

Aspect

Runs an online course with Professor Robert Baldwin (Emeritus Professor of Law, LSE) on regulation, and plans to run a session on the regulation of innovation. They also run executive education courses on regulation, and many of the students/clients are regulators.

When she does that, she will return to the thoughts, considerations and actions outlined below.

Considers that there are, or could be, three dimensions to LSE Law involvement in lawtech.

First, law students whom LSE Law should prepare as well as possible for a legal career, which will unquestionably involve becoming more familiar with lawtech, e.g. understanding the contemporary skills that are required for a legal professional to function well in this environment, including the transition from repetitive "coming of age" tasks on which generations of junior lawyers had been trained, to the use of AIML and automation. LSE Law needs to help facilitate the transition.

The second dimension is the research that LSE Law colleagues are undertaking into aspects of lawtech, and also into regtech and fintech. This research could be useful for the developers and the users of such technologies, e.g. in the context of privacy-related issues, risk management and regulation, compliance and enforcement, financial regulation, and intellectual property rights. LSE Law research could reflect on the responsible use of these technologies and tools, and help those developing and implementing them also to reflect on improving them and making them more useful to society.

Aspect

The third dimension is the way in which lawtech and regtech may affect lawyer-client relationships and the duties owed by lawyers to their clients. Such changes may have widespread and deep effects, calling for consideration by dispassionate, independent thinkers and observers of the ethical, philosophical, behavioural economics, and/or anthropological implications and effects of such changes.

In addition, lawyers, policy makers, regulators, and others will need to understand, research and report on the implications of lawtech, e.g. the use of algorithms, on access to justice.

In considering the use of regtech in the enforcement of environmental regulations and the Environmental Social and Governance (ESG) agenda, there are difficult issues arising from mining vast amounts of data to ensure that securities claiming to be ESG assets actually reflect ESG principles.

For example, if it were possible to rigorously check how companies are implementing their stated ESG policies, that would help with the problems of merely paying lip-service and "greenwashing". However, there is much concern about the possible leakage of commercially sensitive data, e.g. if disaggregated data were reconstructed or recompiled to reveal individual sources.

Notes that there are now also more "democratising" technologies and tools designed to enlist observation and monitoring by individuals or citizens of environmental impacts, e.g. the availability of apps to enable people to report the prevalence of certain wildlife species, including endangered species.

Aspect

In all three dimensions and the other aspects mentioned above, LSE Law has much expertise, and also, more broadly, for example, in the Centre for the Analysis of Risk and Regulation.

In any future engagement with practice and business, as well as in her interaction with policymakers and regulators, is interested in the concept of, and questions arising from, "sandboxing", i.e. safe environments that allow new technologies to develop before becoming fully regulated.

Is also interested in, and may in future wish to engage with, those who use the law and regulation, and use and fashion the legal process, to pursue certain causes, e.g. James Thornton, CEO of Client Earth.

Aspect

d. **Based on the above interviews, the possible future direction(s) for LSE Law regarding lawtech (including, where appropriate, regtech and fintech), and related initiatives and activities**

i.   Within LSE Law, currently there is no appetite to add lawtech as a separate legal discipline or course to formal teaching in the undergraduate or postgraduate curricula. However, aspects of lawtech, regtech and fintech are currently taught within these curricula. And it has been identified that an understanding of lawtech would be important to train students as legal thinkers and legal philosophers.

ii. Lawtech, regtech and fintech are clearly of academic interest to some of those interviewed, both within their teaching and within their research and publications activities. Accordingly, in an academic context, several of those interviewed would be interested in engaging – and some are already engaging - with commercial, technology, data, regulatory and other external organisations.

iii. It is, however, acknowledged by several of those interviewed that LSE Law should, for the reasons given by them, expose its student community to lawtech in an informal, or extra-curricular, way.

iv. Extrapolating from those interviews, such exposure might include familiarising students with lawtech, for example covering:

   - the development of lawtech and the markets for it;
   - use cases for it;
   - the technologies, tools and processes within it;
   - the application and actual use of lawtech; and
   - the professional, ethical and the underlying philosophical implications of lawtech.

v.   Professor Kershaw (see note on page 16) has suggested that lawtech technologies, tools and related processes might be integral to a future clinical legal programme for LSE students to provide pro-bono legal advice, under the supervision of a clinical law professor. This idea may come to be revisited in due course, though there is no suggestion currently that LSE Law's use of lawtech in this context would be commercialised. (This may, however, be a possibility.)

vi. In the 2020-21 academic year, LSE Law has familiarised its undergraduate and postgraduate student communities with lawtech as part of the *Convene @ LSE Law* programme, consisting of three lectures given by Deloitte Legal: see Section IV.b (*Report, LSE Law's departmental engagement to date with lawtech*). It is consistent with the views

Aspect

referred to in i. and iii. above that informal lectures of this kind are likely to be provided in the coming years.

vii. There is some appetite within LSE Law - beyond, for example, involvement within the LSE's Systemic Risk Centre - to explore cross-departmental engagement within LSE in areas that touch on lawtech, regtech and fintech, e.g. in the implications of AIML and DLT: in this regard, see particularly the views of Professor Andrew Murray at pages 9 - 11.

viii. Currently, within LSE Law there is no active commercial engagement with business in the context of lawtech as such, and, currently, there are no identified projects specifically to explore opportunities for increasing social science research impact through commercial projects in lawtech.

ix. However, several of those interviewed have identified the potential for such opportunities, and do wish to engage with external organisations and individuals in legal and professional services practice, business, industry and government, at least to consider, explore and then, if appropriate, initiate collaboration in the areas of lawtech, regtech and fintech, either commercially or otherwise. And, for reasons given by some of those interviewed, there appear to be good commercial incentives for those organisations and individuals to wish to engage with LSE Law in the areas of lawtech, regtech and fintech.

x. Based on ix. above, it would appear that LSE Law could pursue such opportunities, possibly in conjunction with its ASPECT Programme partner(s), and that there is some appetite to do so.

xi. LSE Law's Law, Technology and Society initiative (LTS) (see notes of the interview with Professor Andrew Murray at page 11), though at an early and, thanks to the pandemic, arrested stage in its development, is intended to facilitate LSE Law's active involvement with, among others, practitioners from the legal, professional services, and corporate sectors, including, where appropriate, such involvement leading to commercial or funded relationships. It is certainly conceivable that lawtech, regtech and fintech could provide the basis for such involvement and relationships.

xii. LTS would appear to be a promising platform, both in LSE Law's pursuance of the ASPECT Programme, and for the involvement and possible commercialisation and funding, as referred to in xi. above.

xiii. The LSE's innovation and entrepreneurship ecosystem may also stimulate activities under the ASPECT Programme: see Section 1b. (*How ASPECT may connect with LSE Innovation*). Accordingly, consideration should be given to how LSE Law and the LSE legal community might engage with LSE Innovation.

Aspect

Appendix: Script for LSE Law Department interviews

"… LSE is the lead organisation in ASPECT, a network of universities exploring opportunities for increasing social science research impact through commercial projects.

We think that there may at least be two areas of special interest for Law: lawtech and regtech. Either or both may be of interest in the context of fintech, however it may be defined. Whatever use cases there may be for them, we could also include in our consideration more advanced technologies, applications and outputs, e.g., AI and machine learning, robotic process automation, distributed ledger technologies, blockchain, smart contracts and crypto assets.

Although ASPECT is primarily concerned with commercialisation projects (including new lawtech spinouts), we are interested in conducting a wider investigation into more general academic-business engagement around the issues that are raised by new technologies used in legal practice.

We are collaborating with Manchester on an investigation into the activity and opportunities in this area that may result in fruitful academic engagement with legal and professional private practice and corporates, including financial services firms.

As an example, Manchester has commercial relationships with four international corporate law firms, three UK mid-sized firms and a local set of barristers' chambers to address how lawtech is, from a social sciences perspective, applied in the legal services sector and what shift in legal and related skillsets will be needed by law firms and lawyers. Their ultimate ambition is to engage directly with general counsel and corporate legal departments.

Manchester has a multidisciplinary approach in this area that includes Law, but also their Business school, and their department of Computer Science. However, we thought we would focus on LSELaw, at least initially.

By the way, we understand that Manchester is already teaching lawtech on its law undergraduate course and on one of its master's programmes. They intend soon to offer a law and technology degree.

We hoped we might arrange a Zoom call with you just to get your thoughts on the above, especially:

- to understand if you have any interest in this kind of activity;

- to gauge your interest in the subject-matter coverage, and to explore any others;

Aspect

- whether there is any particular kind of engagement or collaboration with the practice and corporate worlds that would be helpful to your teaching or research;

- the firms and corporates, or kinds of firm and corporate, that would most interest you in this context;

- if there is any particular information or data you would like to get from people in those worlds;

- whether you can you see aspects of your teaching or research being of particular interest to those worlds, and, if so, to whom; and

- any challenges in this kind of approach.

The output would be a report that we would share with Manchester and then combined with Manchester's study, with the other members of ASPECT....".

Aspect