

## Research Opportunities in the Regulatory Aspects of Electronic Markets

### Summaries of Relevant EM Articles (50, less 9 not relevant = 41)

Version of 1 August 2020

**Schoder D. & Haenlein M. (2004)** 'The Relative Importance of Different Trust Constructs for Sellers in the Online World' *Electronic Markets* 14, 1 (2004) 48–57

On the basis of empirical research, Schoder & Haenlein (2004) concluded that, in the B2B arena, "trust in the regulatory framework (institutional trust) is by far the most important component of trust for sellers in the online world" (p.48). The example provided was "a legal system that protects individuals' rights and property [such that] a seller can always enforce his right, by taking his case to court" (p.50).

"As highlighted by McKnight et al (1998), [institutional trust] consists of structural assurance and situational normality. Structural assurance beliefs cover the idea of procedural norms and structural constraints as defined by Shapiro (1987) and include legal recourse, guarantees and regulations (Gefen et al 2003) or monitoring, third-party certification, and escrows (Pavlou and Ratnasingham 2003). Situational normality beliefs 'stem from the appearance that things are normal' (McKnight et al 1998: 478). In the area of e-commerce they can be reflected by the concept of technology trust ..." (p.51).

R (7) Formal

P Beneficiary (Sellers)

RP Single (Sellers)

D Ec

**Tigre P.B. & Dedrick J. (2004)** 'E-commerce in Brazil: Local Adaptation of a Global Technology' *Electronic Markets* 14, 1 (2004) 36-47

"the lack of an adequate legal and regulatory environment to support e-commerce has been an important barrier to adoption" (p.36)

"major barriers are related to government regulations, including concern about privacy of data or security issues ...; lack of business laws for e-commerce ...; and inadequate legal protection for Internet purchases ... the absence of legal protections is considered a much more important problem than expected, suggesting the need for a stronger regulatory role for government" (p.42)

R (7) Formal

P (All?)

RP Unclear

D Ec

**Xu S., Zhu K. & Gibbs J. (2004)** 'Global Technology, Local Adoption: A Cross-Country Investigation of Internet Adoption by Companies in the United States and China' *Electronic Markets* 14, 1 (2004) 13-24

Xu S., Zhu K. & Gibbs J. (2004) consider the regulatory environment as an facilitator of e-Business adoption.

They apply " ... the technology-organization-environment (TOE) framework developed by Tornatzky and Fleischer (1990) [which] was comprehensive for identifying factors shaping innovation adoption, and could serve as a conceptual guideline for our research" (p.14). "Within the TOE framework, regulatory environment has been recognized as a critical environmental factor affecting innovation adoption (Kraemer et al 2002; Kshetri and Dholakia 2002). Governments could encourage e-business adoption by institutionalizing supportive business and tax laws to facilitate e-business adoption, and regulating the Internet to make it a trustworthy business platform (e.g., dealing with fraud and credit card misuse). Although regulatory support is important for both developed and developing countries, we expect that it has more significant influence in a

developing country such as China given the relatively immature markets and more frequent government interventions" (p.17).

The conclusion is that "at the current stage, government regulation plays a far more critical role in e-business diffusion in China than in the United States ... Chinese firms are in urgent need of supportive legal and institutional environments to facilitate e-business growth, which are currently lacking" (p.19).

Tornatzky, L. G. and Fleischer, M. (1990) *The Processes of Technological Innovation: Reviewing the Literature*, Lexington, MA: Lexington Books [which is a successor to the tradition of Rogers' innovation diffusion work]

R (7) Formal  
P (All?)  
RP Unclear  
D Ec

**Wareham J., Rai A. & Pickering G. (2005)** 'Standardization in Vertical Industries: An Institutional Analysis of XML-Based Standards Infusion in Electricity Markets' *Electronic Markets* 15, 4 (2005) 323-334

Wareham et al. (2005) are concerned with government regulation and deregulation as one of the key characteristics of institutional influence that have constrained the optimal infusion (i.e., adoption and use) of XML-based standards in the energy industry.

"King et al. (1994) ... develop a framework of influence, regulation, supply push and demand pull, to recommend institutional interventions that can support or increase technological innovation" (p.324)

They argue that one reason for lack of standards adoption is the failure of de-regulatory and regulatory measures to provide the necessary stimulation, such as the failure to impose collaboration, and the use of multiple, incompatible infrastructure vendors.

R (7) Formal  
P Beneficiaries (All?)  
RP Unclear  
D Ec

**Cui L., Zhang C, Zhang C & Huang L. (2006)** 'Exploring E-Government Impact on Shanghai Firms' Informatization Process' *Electronic Markets* 16, 4 (2006) 312-328

"government could influence, guide and drive e-commerce development in ways that go substantially beyond their traditional regulatory functions. The government works as the engine to encourage e-commerce development (Blakeley and Matsuura 2004)" (p.314)

"Previous IS research, such as an and Ouyang (2004) and Xu et al. (2004), addressing the importance of government regulation shows that the IT adoption process enabled by governmental policies is still unclear, considering so many different regulatory policies still exist." (p.316)

"Government Regulation and Promotion [construct of the following items]:

- Providing funding to companies adopting informatization
- Establishing enterprise application software standards
- Establishing evaluation framework for the level of enterprise informatization
- Promoting large retail chains and its downstream enterprises in adopting web-based e-procurement" (p.319)

R (7) Formal  
P Beneficiaries (All?)  
RP Unclear  
D Ec

**Kshetri N. (2007)** 'The Adoption of E-Business by Organizations in China: An Institutional Perspective' *Electronic Markets* 17, 2 (2007) 113-125

The Construct 'Regulative uncertainty' is instantiated by the Mechanism "Difficulties associated with enforcing contracts lead to consumers and businesses being unwilling to engage in e-business activities" (p.116)

"An even stronger barrier to organizations' adoption of e-business in China is perhaps the lack of clear policies" (p.116)

"One of the major motivations behind technology policies and technological standard-setting for regulatory bodies is to achieve national goals such as the protection of, and the domestic employment and maintenance of, defense capabilities" (p.120)

R (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**Srivastava A. & Thomson S.B. (2007)** 'E-Business Law in China: Strengths and Weaknesses' *Electronic Markets* 17, 2 (2007) 126-131

"The [PRC] government, through its regulations and policies, seems determined to create an environment that allows businesses to pursue e-business domestically and internationally" (p.131)

R (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**Alt R. & Klein S. (2011)** 'Twenty years of electronic markets research—looking backwards towards the future' *Electronic Markets* 21 (2011) 41–51

Alt & Klein (2011) seeks "rules and regulation amenable to economic prosperity and stability" (p.41), and refers to regulation "providing incentives and safeguards for a sustainable and accountable development" (p.49).

The article distinguishes three perspectives on electronic markets, viz. "economic environment", "governance mode" (but also referred to as "governance choices by economic actors" – pp. 41, 43, 44) and "business model" (p.43). Within that, drivers were identified as "technology push", "market dynamics" and "institutional design" (or "trade context"). Regulation appears as part of the 'institutional design' driver, under each of the three perspectives:

- economic environment: Political support and regulation facilitate further development.
- governance mode: Effective regulation reduces transaction costs, which implies regulatory competition.
- business model: Governance and ownership structures are success factors of electronic marketplaces.

The focus is on regulation of markets, as an enabler of the "institutionalized transaction environment. This includes regulatory functions, such as market access (e.g. requirements, registrations) and the availability of monitoring and enforcement mechanisms (e.g. protection against insider trading) as well as legal functions that determine contract law, dispute resolution, and the transfer of property rights" (p.46).

Brief mention is made of the dilemma of "unnecessary administrative burdens caused by regulation" (p.49).

R (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**Huener K.M., Schierning A., Otto B. & Oesterle H. (2011)** 'Product data quality in supply chains: the case of Beiersdorf' *Electronic Markets* 21 9(2011) 141–154

"business requirements (e.g. compliance with regulatory and legal provisions, ...) are forcing consumer goods manufacturers to increase their efforts to provide product data (e.g. identifiers, dimensions) at business-to-business interfaces timely and accurately" (p.141)

"Risk of being fined by regulatory authorities if ... defect is not detected before shipment of goods ... [nor] by logistics service provider" (p.149)

RM (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**Bons R.W.H., Alt R., Lee H.G. & Weber B. (2012)** 'Editorial: Banking in the Internet and mobile era' *Electronic Markets* 22 (2012) 197–202

"suggests a framework that [that] recognizes IT as the enabler for all four tiers of the banking value chain and highlights the specific role of the regulatory environment in this industry" (p.197)

"The value chain [Customers, Channels, Financial services providers, Interbank area] is strongly influenced by the regulatory environment ..." (p.198)

"[The collapse of the financial system in 2007] led to the call for regulatory reforms of the financial community ... regulators and public opinion alike are pushing for increased competition for banks from other countries and industries ... the recognition of non-bank 'Payment Service Providers' ... The SEPA regulations require banks to accept a single European standard for [transaction processing]" (p.199)

RM (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**Alt R. & Puschmann T. (2012)** 'The rise of customer-oriented banking - electronic markets are paving the way for change in the financial industry' *Electronic Markets* 22 (2012) 203–215

Alt & Puschmann (2012) considers how electronic markets can assist in improving the financial industry. The regulation of financial institutions' structures and behaviours is seen as being integrated within, and part of the industry, embedded in the market infrastructure (Figure 2, p. 210), rather than adjacent to it: "electronic markets provide regulatory institutions for the organization of the entire transaction environment. This includes institutional (e.g. rules for developing and releasing services, market supervision) and legal (e.g. regulatory compliance, contracts) services" (p.211).

This appears to reflect the patterns in the Apple and Google ecosystems, rather than the historical arrangements featuring "financial market infrastructures" (FMI), comprising "the stock exchange, the clearing and settlement provider (clearing organization) and the gross settlement payment system (payment organization)" (p.205), plus government agencies as "the regulatory institutions which determine market access and oversee the compliance with certain rules" (p.210).

RM (7) Formal

P Beneficiaries (All?)

RP Unclear

D Ec

**O'Reilly P., Duane A. & Andreev P. (2012)** 'To M-Pay or not to M-Pay — Realising the potential of smart phones: conceptual modeling and empirical validation' *Electronic Markets* 22 (2012) 229–241

"consumers' perceptions of legal frameworks and regulation have significant impact on their willingness to engage in transactional push and pull-based SMMS, and willingness to use Smart Phones to make M- Payments" (p.230)

"the Trust Mechanism must consider vendor compliance with legislation governing M-Commerce, the consumers' perceived robustness of this legislation, and the existence and independence of an objective third party regulator to protect M-Commerce consumers" (p.232)

citing (Cheung and Lee 2003)

"In a review of the M-Payments literature, Dinez et al. (2011) note that concepts pertaining to regulation and legislation have been overlooked in existing studies" (p.239)

"improving consumers' perceptions' that regulatory bodies have sufficient powers to take actions against mobile service providers who do not adhere to such frameworks, is a key issue in building consumer trust ... consumers' perceive that regulatory bodies are not sufficiently authoritative or independent to regulate Smart Phone service providers" (p.240)

Cheung, C. M. K., & Lee, M. K. O. (2003). An integrative model of consumer trust in internet shopping. In: ECIS Proceedings. Naples, Italy, 19–21 June, published in CD Rom.

Dinez, E., Albuquerque, J., & Cernez, A. (2011). Mobile money and payment: A literature review based on academic and practitioner-oriented publications (2001–2011), Proceedings of SIG GlobDev Fourth Annual Workshop, Shanghai, China December 03.

RM (7) Formal

P All

RP Users

D Ec

~~**Riemer K. & Vehring N. (2012)** 'Virtual or vague? a literature review exposing conceptual differences in defining virtual organizations in IS research' *Electronic Markets* 22 (2012) 267–282 DOI 10.1007/s12525-012-0094-2~~

~~Riemer & Vehring (2015) is concerned with the governance of virtual organisations.~~

~~**Corley J.K. III, Jourdan Z. & Inghram W.R (2013)** 'Internet marketing: a content analysis of the research' *Electronic Markets* (2013) 23:177–204~~

~~Deleted, as only two occurrences, both in the titles of references.~~

**Clarke R. & Pucihar A. (2013)** 'Electronic interaction research 1988 – 2012 through the lens of the Bled eConference' *Electronic Markets* 23 (2013) 271–283

"The forms of electronic interactions in 1987 were constrained ... EI between organisations was still technically challenging, very expensive, and frustrated by competing standards and stultifying regulatory environments" (p.274)

"wireless innovation is being diffused very differently around the world, due to structural, regulatory and market characteristics, the interplay of user expectations and provider capabilities, and the deployment of innovative technologies" (Rao 2002)

It is noteworthy that, based on a keyword search of the Bled eConference's conference's corpus of 824 fully-refereed papers in the 18 years from 1995–2012, regulation was not a sufficiently significant topic to justify mention among the 33 most important keywords (Table 1, p.272)

Citing the intensity of data collection, the designed-in openness to malware and content- and location-promiscuity of personal mobile devices, contrived consent, denial of anonymity, denial of multiple identities per person, imposition on each person of a single multi-purpose identifier, insecure signature keys, insecure biometrics, the anti-social business models of social media corporations, the authors concluded that "Bled needs to be at the forefront of investigations into how to achieve much better balances between organisational and human needs than presently exist" (p.280)

RM (7) Formal

P All  
RP Unclear  
D Ec, Social

**Williams S.P., Hardy C.A. & Holgate J.A. (2013)** 'Information security governance practices in critical infrastructure organizations: A socio-technical and institutional logic perspective' Electronic Markets 23 (2013) 341–354

Williams et al. (2013) had their focus inside organisations, and examined "how variations in ISG arrangements arise, using the empirical context of Australian critical infrastructure organizations" (p.342)

"A ... web based survey, conducted by Johnston and Hale (2009), revealed that ... legal requirements and government regulations were the most influential factors on decisions to implement an [Information Security Governance (ISG)] program. Whilst this survey provides useful empirical insights, it is limited in that the respondents consisted solely of Certified Information Security Managers (CISM).

" ... ISG in each case organization was found to be a mix of laws, regulations, material practices and strategic imperatives" (p.351-2)

RM (7) Formal  
P Regulatee  
RP Single – System Sponsor  
D Ec

**Kieseberg P., Schrittwieser S., Mulazzani M., Echizen I. & Weippl E. (2014)** 'An algorithm for collusion-resistant anonymization and fingerprinting of sensitive microdata' Electronic Markets 24 (2014) 113–124

"Due to the high sensitivity of personal data, compliance with laws and regulations such as SOX, HIPAA and others demands the anonymization of personal data prior to forwarding to other parties within a business context" (p.113)

RM (7) Formal  
P Regulatee  
RP Single – System Sponsor  
D Ec

**Liu C., Yao L.J., Sia C.L. & Wei K.K. (2014)** 'The impact of early XBRL adoption on analysts' forecast accuracy - empirical evidence from China' Electronic Markets 24 (2014) 47–55

"eXtensible Business Reporting Language (XBRL) is a standard XML reporting language [for] business financial information ... Our findings highlight the importance of quality assurance and policy enforcement for value realization from XBRL adoption to regulators ..." (p.47)

"Regulators should implement XBRL adoption with stricter policy on quality assurance to ensure quality and reliability of information reported in XBRL taxonomy" (p.53)

RM (7) Formal  
P Regulator  
RP Single – Regulators  
D Ec

**Alt R. & Zimmermann H.-D. (2014)** 'Status of business model and electronic market research: An interview with Paul Timmers' Electronic Markets 24 (2014) 235–241

"EM: ... Now 16 years after the article has been published, how do you judge the paper from today's perspective? Is there anything you would do different?"

"PT: ... if I look back at the main missing elements, I would definitely say that there is a very important area that was not described at the time, which is the real context in which the business models and businesses operate. Perhaps that is also my bias, because I see so much happening at the regulatory side. You see business models being conditioned, but also influencing the environment around them in terms of policy and regulation, and also in terms of, let's say, social interactions and behavior that changes. So our behavior, our culture, they are also intimately related to business. We did not describe that at that time and these are real areas of research ... These are regulated industries, so we already have a certain perception of how they should act in the public interest, but they are massively being challenged because of the change in technology, and therefore their business model has to be reconsidered. You cannot [consider a business model] in isolation from the existing regulatory environment level alone, from how people will perceive it" (p.237)

"EM: What do you think are the basic enablers, risks and challenges of electronic markets back then and maybe today?

"PT: ... electronic markets are also not living in isolation. They are influenced by, for example, regulation and we are still missing good theory that connects regulation to the phenomenon of electronic markets. Of course we have the theory around regulation connecting to economics, but it is still missing how you can tune business models given a certain regulatory environment ... we are missing how regulation precisely interacts or pushes certain business models. There is much speculation, for example, around regulation limiting innovation. But it might also be that regulation raises awareness, which is the starting point of much innovation. Likewise, regulation and electronic markets are often tightly coupled" (p.238)

"EM: What would be your wish list for academic research in the domain of electronic markets and business models? What kind of research should be done and published in the future?

"PT: ... This includes ... complex problems of where business models are operating under condition of regulation, under condition of cultural type of behavior" (p.240)

RM (7) Formal

P All

RP Single – Regulatees

D Ec

**Kranz J., Kolbe L.M., Koo C. & Boudreau M.-C. (2015)** 'Editorial: Smart energy: where do we stand and where should we go?' *Electronic Markets* 25 (2015) 7–16

"Energy informatics (Watson et al. 2010a), which highlights the potential of Green IS in the context of energy distribution and consumption systems, has emphasized the need for regulations to pave the way to practical solutions in the energy sector. Regulations are called for to provide the "right" incentives to all energy-related market players ... examples of well-intentioned regulations leading to unwelcome outcomes can be found all around the world. Because of the electricity system's complexity, a large variety of environmental factors (which often have significant impacts) must be considered when providing incentives for energy efficiency and renewable energy sources. Accordingly, IS research needs to consider the idiosyncrasies of how energy markets and systems function and how they are regulated in order to deliver relevant outcomes" (p.8)

"We also see potential for IS scholars to engage in issues related to the regulation and design of energy markets" (p.13)

"Market players need to be given adequate incentives to optimize social welfare and environmental sustainability. Furthermore, utilities active in the regulated transmission and distribution segments need to be provided with some degree of planning certainty, as investments in physical infrastructure are long dated. In the other segments of the energy market though, competition that takes the cost of avoiding GHG emissions into account should be promoted. Because we have reason to believe that if policy and regulation provide a sound regulatory framework rewarding the reduction of GHG emissions, organizations and households have more incentive to invest in green technologies that mitigate climate change" (p.14)

Watson, R. T., Boudreau, M.-C., & Chen, A. J. (2010a). Information systems and environmentally sustainable development: energy in- formatics and new directions for the IS community. *MIS Quarterly*, 34(1), 23–38.

RM (7) Formal  
P All  
RP Single – Regulatees  
D Ec, Env

**Dedrick J., Venkatesh M., Stanton J.M., Zheng Y. & Ramnarine-Rieks A. (2015)** 'Adoption of smart grid technologies by electric utilities: factors influencing organizational innovation in a regulated environment' *Electronic Markets* 25 (2015) 17–29

"[smart grid technologies represent] potentially disruptive technology in the context of a regulated monopoly. This study examines factors influencing the adoption of smart grid technologies ... The study provides useful insights and implications for utilities and regulators" (p.17)

"[utilities'] decisions about pricing, investments and operations are often determined or constrained by government regulations" (p.17)

"a wave of deregulation beginning in the late 1970s partially opened the market to competition and provided opportunities for many new firms to enter the market, especially in power generation and retail markets. In line with federal deregulation, many states have taken a proactive role in restructuring the electricity industry. Starting in the 1980s, many states separated generation, transmission and distribution, and energy markets, and many IOUs divested their power plants" (p.18)

"One factor influencing innovation adoption by firms in many industries is the policy and regulatory environment (Zhu et al. 2004)" (p.20)

"utilities whose revenues and profits are determined primarily by regulatory process lack incentives to invest in innovations that might otherwise improve financial performance" (p.20)

"In some states, regulators penalize utilities for failing to meet reliability targets, but rarely are they rewarded financially for exceeding targets. Without regulatory incentives to improve operations, utilities may not make investments unless they directly reduce their own cost structure" (p.24)

"The long-term effects of operating as a regulated monopoly have encouraged a conservative approach to innovation by utilities according to some respondents. In states that have deregulated and encouraged competition, we found utilities with a more aggressive attitude toward innovation." (p.24)

"Historical regulated monopoly status may discourage innovation." (p.25)

Zhu, K., Kraemer, K. L., Xu, S., & Dedrick, J. (2004). Information technology payoff in e-business environments: an international perspective on value creation of e-business in the financial services industry. *Journal of Management Information Systems*, 21(1), 17– 54.

RM (7) Formal  
P Regulatee  
RP Single – Regulatees  
D Ec

**Schwister F. & Fiedler M. (2015)** 'What are the main barriers to smart energy information systems diffusion?' *Electronic Markets* 25 (2015) 31–45

"legal barriers to IS diffusion ... include incomplete and inconsistent regulatory and legal frameworks. In addition, stakeholders' level of participation in [smart energy information systems (SEIS)] might depend on market design and regulatory intervention ... In addition, power sector reforms might not remove barriers to SEIS diffusion ..." (p.32)

"Regulation could promote SEIS, while restricting the current market rules could possibly vanquish barriers to such systems' diffusion (strategies). As a result, legislation might promote SEIS (consequence)" (p.35)

"An inconsistent regulatory and legal framework is another often-mentioned barrier to SEIS ... Government regulation still plays an important role, even in a liberalized power market ... We believe that clear regulations will promote the diffusion of SEIS. Besides financial costs, legal

barriers are considered to have the highest impact on diffusion. However, none of the interview partners provided deep insights into the legal barriers" (p.37)

"the standards need to be developed to overcome technical, political, and regulatory barriers" (p.37)

"barriers [include] the incomplete and inconsistent regulatory and legal framework ... Another barrier to SEIS diffusion is an incomplete and inconsistent regulatory and legal framework. Researchers and governments need to create a well-designed and consistent legal and regulatory framework to support further SEIS development" (p.38)

"Missing regulation leads to losses for operators" (p.41)

RM (7) Formal

P Regulatee

RP Single – Regulatees

D Ec

**Maguire S., Friedberg J., Nguyen M.-H.C. & Haynes P. (2015)** 'A metadata-based architecture for user-centered data accountability' Electronic Markets 25 (2015) 155–160

"An interoperable context-aware metadata-based architecture that allows permissions and policies to be bound to data, and is flexible enough to allow for changing trust norms, help balance the tension between users and business, satisfy regulators' desire for increased transparency and greater accountability, and still enable data to flow in ways that provide value to all participants in the ecosystem" (p.155)

"Regulators are increasingly concerned at what they see as a growing imbalance between data-dependent companies and individuals" (p.156)

"regulators can take advantage of greatly improved auditability of data, along with a stronger and better-defined connection between data and policies that govern its use" (p.156)

"this flexible approach can help satisfy the interests of regulators, users, and industry" (p.160)

RM (2) Infrastructural

P All

RP Multi

D Ec

**Spiekermann S., Acquisti A., Böhme R. & Hui K.-L. (2015)** 'The challenges of personal data markets and privacy' Electronic Markets 25 (2015) 2161–167

"Privacy regulation, which comprises the protection of personal data, is an evolving and among the least globally harmonized fields of law. ... As a result, businesses operating in a digital economy without borders are exposed to legal and enforcement risks ... that are hard to quantify. Other liabilities arise from the risk that large collections of personal data become targets of cybercrime, in particular when they include identifying or financial information. To mitigate this threat, companies must exert constant effort, adjusting protection technology and organizational processes to protect information assets and secure data exchanges. But even when they do so, a state of zero risk remains unachievable. Organizations that strive for compliance can still fall victim to data breaches, which in most jurisdictions entail costly breach notifications that damage a firm's reputation and market value ..." (pp.161-2)

"personal data markets must deal with [data protection law] constraints or operate in grey areas - as many currently do. For example, some firms use enforcement gaps or regulatory arbitrage between jurisdictions to engage in the trade of personal data" (p.162)

"markets for personal data would need to rely on legal frameworks that establish alienability, rivalry, and excludability for personal data, and assign initial ownership to an entity such as the data subject" (p.162)

"a more general concern is how the mere existence of personal data markets may affect society ... How does [obfuscatory behaviour] affect social cohesion, equality of opportunity, freedom, and democracy? ... to restrict the sharing and use of personal data ... can distort service quality and social welfare" (p.163)

"if personal data becomes property, important legal challenges will include tailoring property rights so that they are compatible with the notion of privacy as a fundamental right, defining the initial allocation of property rights, balancing sanctions, and seeking international coordination. Tailoring rights means restricting alienability and exclusivity" (p.163)

"Can people develop a psychology of ownership for their data in the same way as they do for tangible assets? Will people not want to continue freely communicate online, chat, talk, post and provide their data?" (p.165)

"if we assume that individuals trade personal data, what kind of controls and guarantees do they want and need to trust in the market they participate in?" (p.165)

"If [most users]] learned about today's volume and business done with their data among third parties, they may be surprised and feel betrayed" (p.165)

"First parties should not rely on 'data-deals' too much, but compete on service and product quality. They should give customers the option to pay for online services that are fully privacy preserving and only allow for data sharing with third parties if customers allow this to happen and get a fair share of the deal in a transparent way" (p.165)

RM (7) Formal

P All

RP Dual – Regulatees, Beneficiaries

D Ec, Soc

**Schneider S. & Sunyaev A. (2015)** '~~CloudLive: a life cycle framework for cloud services'~~  
~~Electronic Markets 25 (2015) 299–311 DOI 10.1007/s12525-015-0205-y~~

~~The focus of Schneider & Sunyaev (2015) is on inter-organisational control, in the cloud computing context.~~

**Cockroft S. & Rekker S. (2016)** 'The relationship between culture and information privacy policy'  
Electronic Markets 26 (2016) 55–72

The paper examines "the role of culture in the level of adoption of legislation" (p.55)

"There are clear differences in how societies approach national regulation of information privacy" (p.57)

"only a small subset [of information privacy studies] [explores] the relationship between national regulation and citizens' concern for information privacy" (p.57)

"Regulatory approach [alternatives are] none, self-help, voluntary, data commissioner registration, licencing [Milberg et al. 2000]" (p.58)

RM (7) Formal

P Beneficiaries, Regulators

RP Beneficiaries

D Soc

**Alt R., Beck R. & Smits M.T. (2018)** 'FinTech and the transformation of the financial industry'  
Editorial, Electronic Markets (2018) 28:235–243 <https://doi.org/10.1007/s12525-018-0310-9>

Alt et al. (2018) considers the "regulatory and competitive consequences of the financial crisis that occurred in 2007 ... included new rules for separating retail and investment banking ..., for protecting consumers and markets ..., reporting schemes to prohibit fraudulent behavior ... and requirements for higher capital coverage ..." (p.237).

Typical of the post-2007-crash era are stricter regulation of the financial services industry, and the emergence of 'FinTechs' – small, nimble competitors, utilising technology to deliver services and service-levels that the large, slow-turning ships that are FIs cannot offer: "regulation changes from lower equity requirements, less supervision, and high protection from national legislation towards stricter rules for held equity, more supervision on an international level, and less protection offered by national laws" (p.239).

"From this, RegTech has emerged, to use technology in the context of regulation, monitoring, reporting and compliance (Deloitte 2016). RegTech solutions "aim to ease regulatory compliance and substitute for manual labor in standard regulatory and compliance processes" (Gomber et al. 2018, p. 250)" (p.239).

" ... a brief analysis undertaken on Google Scholar confirmed the impression of only limited available research in the RegTech domain. This is remarkable since legal and regulatory requirements and checks have accrued in view of the growing regulation that has occurred in the financial industry after the financial crisis of 2008" (p.241).

Deloitte (2016). RegTech is the new FinTech: How regulatory technology is helping firms better understand and manage their risks. Deloitte.

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the FinTech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. Journal of Management Information Systems, 35(1), 220–265.

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Bouwman H., Heikkila J., Heikkila M., Leopold C. & Haaker T. (2018)** 'Achieving agility using business model stress testing' Electronic Markets 28 (2018) 149–162

"we give an example to illustrate how [Business Model (BM)] components are related under two different scenarios that reflect uncertainties due to regulatory options" (p.152)

"exogenous uncertainties like regulation are hindering the market/hindering the market potential of Fairshare's service" (p.158)

"the role of regulation and government as an unpredictable market maker is seen as a problem by companies with Low-End disruption or New-Market-strategies" (p.159-60)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Gimpel H., Rau D. & Röglinger M. (2018)** Understanding FinTech start-ups—a taxonomy of consumer-oriented service offerings' Electronic Markets 28 (2018) 245–264

Limited relevance

**Kauffman R.J., Ma D. & Yu M. (2018)** 'A metrics suite of cloud computing adoption readiness' Electronic Markets 28 (2018) 11–37

"factors that seem to matter the most [in achieving] value appropriation ... from the adoption of cloud services [include] regulatory" (p.12)

"Different countries have different legal rules regarding data privacy, data sovereignty and local laws for data governance ... Many have laws requiring cloud providers to keep client data and copyrighted material within national boundaries ... Such constraints are a bind in multinational business ..." (p.22)

"social media advertising is not very much regulated (other than for information privacy, customer 'opt in' and 'opt out', and so on). So there are few concerns related to regulatory issues" (p.23)

"[in home computing technical support] There also are no serious regulatory concerns" (p.25)

"the least important dimension [in the four cases] turns out to be regulatory considerations" (p.27)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Stoeckli E., Dremel C. & Uebernickel F. (2018)** 'Exploring characteristics and transformational capabilities of InsurTech innovations to understand insurance value creation in a digital world' *Electronic Markets* 28 (2018) 287–305

"On the one hand, regulations can inhibit the exploitation of the identified transformational capabilities (e.g., utilization of risk-related data by insurers depends on privacy and data protection regulations). On the other hand, governmental actions can have a positive impact. In China, Kenya, and United Kingdom government support and less regulation has led to major growth of FinTech and InsurTech ..." (p.298-99)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Bazarhanova A., Yli-Huumo J. & Smolander K. (2019)** 'From platform dominance to weakened ownership: how external regulation changed Finnish e-identification' *Electronic Markets* (2019) 1-14

"how does the dominant [national e-identification] platform respond to external regulation?" (p.2)

"external drivers, in the form of regulations stipulated by the European Union (EU) and Finland, [led] to changes in the platform and the ecosystem surrounding it, by affecting the roles, relations and power structures of incumbent ecosystem participants. Finnish regulation, which was altered to be compatible with broader EU requirements, changed the principles of electronic identification (eID) by adding a layer of service brokers into the scheme of the eID, thereby driving the transformation of the platform into an industry infrastructure" (p.2)

"The motivation for introducing service brokers can be explained by governmental regulators' hope to regulate the market and increase competition. The idea was to make it easier for service providers to integrate with one service broker technically and contractually. The changes were forced upon the banks by the regulation from the Finnish government" (p.9)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Betzing J.H., Tietz M., vom Brocke J. & Becker J. (2019)** 'The impact of transparency on mobile privacy decision making' *Electronic Markets*, 2019, <https://doi.org/10.1007/s12525-019-00332-3>

"We condense the findings of the study and interpretation of the regulation into design principles that aid app service providers in designing privacy-transparent apps that help their users to give informed consent" (p.2)

"In Europe, the recent EU GDPR is the central regulation that mandates service providers to more transparently inform users about personal data processing (European Union 2016) than they did so far ... Transparency aims to enable individuals to make more informed and privacy-conscious decisions regarding the disclosure of personal information" (p.3)

"Against the backdrop of the study results and our interpretation of the regulation, we derived six design principles for privacy-transparent mobile apps (Table 4), which app service providers can apply in conjunction with the privacy by design approach ..." (p.12)

"Table 4 Design principles for privacy-transparent mobile apps

1 Privacy by Default

Design the app so it collects no personal information before obtaining consent from the user.

## 2 Short-form Notice

Provide users with short-form EU GDPR-mandated information in the form of a notice or an onboarding process to enable them to give an informed consent.

## 3 OS Dialogues

Make use of mobile operation systems' permission request dialogues to ask informed users for consent to a particular purpose.

## 4 Privacy Self-service

Provide the system with a privacy menu that allows users to inspect the personal information that is collected about them (right to access), correct inaccurate data (right to rectification), export collected data (right to data portability), delete their personal data (right to be forgotten), and withdraw given consent (right to object).

## 5 Long-form Policy

Provide users with a long-form privacy policy that follows the principles of lawfulness, fairness, and transparency.

## 6 Plan B

Design the app to ask for consent to less privacy-intrusive means of data collection if consent to the primary means is denied" (p.13)

"Because the regulation is an abstract norm, it does not give concrete design requirements. While our study and design principles are one potential interpretation, there might be other ways to transparently provide information that will impact users differently" (p.13)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Hein A., Schreieck M., Wiesche M., Boehm M. & Krcmar H. (2019)** 'The emergence of native multi-sided platforms and their influence on incumbents' *Electronic Markets* 29 (2019) 631–647

"Besides technology push and demand pull, there is a third factor of regulatory push. Empirical studies show that establishing or abolishing rules or regulations [in the environmental context] can lead to innovations ..." (p.633)

"four dominant technology push, three demand pull and one regulatory factor that led to the emergence of [native multi-sided platforms (MSP)] companies" (p.637)

"Regulatory factors that triggered the emergence of mobility service platforms are adjustments to liberalize the public transportation industry" (p.638)

"The case of Uber demonstrates that platforms operate in an underregulated market (e.g., the status of drivers regarding employment/insurance) ..." (p.639)

"blockchain could help mitigate data regulation problems by creating transparency and reducing the eco-system complexity" (p.640)

"regulatory factors can either enable (FlixBus and market liberalization) or amplify (BlablaCar and general strikes) the adoption process" (p.640)

"there are uncertainties that prevented the incumbent from adopting technologies such as unsettled data regulations" (p.642)

"the increased flexibility of drivers triggered the need for new regulations to mitigate the market power of platforms" (p.642)

"Alpha also found they were unable to cope with the data regulation laws to make the services work" (p.643)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

~~**Hopkins J., Kafali O., Alrayes B. & Stathis K. (2019)** 'PIRASA: strategic protocol selection for e-commerce agents' *Electronic Markets* 29 (2019) 239–252~~

Limited relevance

**Moellers T., von der Burg L., Bansemir B., Pretzl M. & Gassmann O. (2019)** 'System dynamics for corporate business model innovation' *Electronic Markets* 29 (2019) 387-406

"[Case study on] Electrification of fleet triggered by looming regulatory changes" (p.392)

"in the regulation case [the study model] enabled managers to quantify the impact of climate regulation on BMW's business model in the long-term planning horizon" (p.395)

"When you see [redacted: country-specific regulatory changes] you simply know, 'this is going to be extremely expensive'" (p.395-6)

"For the actual presentation of results to the decision-makers, the managers ... focused on the resulting insights relying on ... concise core statements such as 'potential regulatory fine payments.' This indeed proved to change the mind-set of the decision-makers who became aware of the acuity [sic - relevance? significance? impactfulness?] of impending [sic - impending] regulatory changes" (p.399)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

~~**Otto B. & Jarke M. (2019)** 'Designing a multi-sided data platform: findings from the International Data Spaces case' *Electronic Markets* 29 (2019) 561–580~~

~~"the platform design process [for alliance-driven multi-sided data platforms (MSPs)] is influenced by regulatory instruments" (p.561)"~~

~~"the ... initiative considers trust and data sovereignty more relevant regulatory instruments compared to pricing, for example" (p.561)~~

~~"research [on] how data is used to govern platform ecosystems ..." (p.564)~~

~~The theoretical construct 'Regulatory Instruments' is defined in Boudreau & Hagiu (2009) to mean "Instruments for fostering and controlling adoption and use of the platform", and their manifestations in that work are "Data sovereignty; interoperability, viz. easy onboarding of participants; trust, viz. "Controlled" openness (see R1.03: ecosystem must be open, but participants and software endpoints must be certified) and security, viz. Use of standards (see R1.12: use of existing technologies and standards)" (pp.566, 568)~~

~~"the regulatory instruments form a consensus of the partners in the ecosystem" (p.572)~~

~~"The [MSP] considers trustworthiness of participants and data sovereignty of data owners and data providers as key instruments regulating the adoption and use of the platform" (p.574)~~

~~organisational governance internal to a business collective~~

~~**Reimers K., Guo X & Li M. (2019)** 'Beyond markets, hierarchies, and hybrids: an institutional perspective on IT-enabled two-sided markets' *Electronic Markets* 29 (2019) 287–305~~

~~Primary focus is governance within private electronic markets~~

**Wallbach S., Coleman K., Elbert R. & Benlian A. (2019)** 'Multi-sided platform diffusion in competitive B2B networks: inhibiting factors and their impact on network effects' *Electronic Markets* 29 (2019) 693–710

"the largest air cargo hub in Europe at the airport in Frankfurt, Germany" (p.684), connecting the "actor groups (i.e. forwarder, trucker, handling agents, and airlines)" (p.699)

"Missing consideration of country-specific regulations, ..., Complexity of legal requirements ... Air freight is a global business and if a country (like Brazil) still wants the papers, then we send them.

They are not interested if all documents are electronically available and we can't risk that goods won't get through because of missing papers" (p.701)

"previous IOIS adoption research that has largely limited its focus on inter- or intra-organizational factors to the neglect of industry-specific and regulatory requirements, which can have important implications for IOIS adoption (and MSP diffusion specifically) via their influence on network effects" (p.708)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Wiegard R.-B. & Breitner M.H. (2019)** 'Smart services in healthcare: A risk-benefit-analysis of pay-as-you-live services from customer perspective in Germany' Electronic Markets 29 (2019) 107–123

"regulatory expectations have been verified to positively influence perceived privacy risk. Respondents believe that the law should protect them from the misuse of personal health data and regulate the way in which insurance companies collect, use, and protect private information" (p.116)

RM (7) Formal

P All

RP Beneficiaries

D Soc

**Albrecht S., Lutz B. & Neumann D. (2020)** 'The behavior of blockchain ventures on Twitter as a determinant for funding success' Electronic Markets 30 (2020) 241–257

"[Blockchain-based] anonymous and distributed finance mechanism takes place in a scarce information environment since it is subject to basically no regulations" (p.241)

"[initial coin offering (ICO)] are often structured to avoid existing legal and regulatory requirements" (p.242)

"sound financial information on blockchain ventures is rather scarce and heterogeneous and potential investors in ICOs face a high level of uncertainty in the already risky funding stage" (p.243)

RM (7) Formal

P Regulators, Regulatees

RP Regulatees

D Ec

**Alt R. & Wende E. (2020)** 'Blockchain technology in energy markets – An interview with the European Energy Exchange' Electronic Markets 30 (2020) 325–330

"EM: What does the strong regulation of the energy market mean for blockchain technology?

TP: Today's energy markets are strongly regulated and subject to financial market regulation along with all the reporting obligations resulting from this" (p.329)

"TP: ... regulation of the energy market addresses a problem blockchain has been unable to resolve. Blockchain technology can securely trace who purchased which product, for example a given kilowatt hour or a certificate. However, it fails to resolve the issue of whether the product purchased in the blockchain corresponds to an equivalent value in the real world" (p.329)

"TP: complete trust in the blockchain requires all business relationships between contracting partners to be settled within this system. It is here where regulation comes in since trust in the physical world is of foremost importance in energy markets. Buyers or sellers must simply trust energy generators and consumers to behave as agreed in trading and not to fail, which would lead to an imbalance in the grid. As it stands today, blockchain cannot yet safeguard this" (p.330)

RM (7) Formal

P All  
RP Beneficiaries  
D Ec

**Clarke R. (2020)** 'Researcher perspectives in Electronic Markets' Electronic Markets 30 (2020) 15–27

"Some single-perspective research privileges market participants rather than marketplace operators, or a market regulator" (p.15)

"Clarke (2001) identified as key differentiating factors [in electronic market forms] the category of tradable item, the nature of the exchange – particularly the timing and directness of reciprocity (Bambury 1998) – the importance of risk management and trust, the extent and nature of regulation, the number of parties involved, the sizes of the parties involved, and the power relationships among the participants" (p.18)

"... the shapes of, and the processes in, many marketspaces are significantly affected by laws and regulatory agencies, and by corporations and associations with statutory regulatory responsibilities (such as stock exchanges), auditors, and industry standards. Although depicted here as being external to the market, some reach inside in order to observe, to log and perhaps audit transactions, and even to intervene" (p.18)

"... research can adopt the perspective of a regulator, such as a government agency responsible for industry supervision, an auditor, or a marketplace operator whose functions include monitoring of the behaviour of market participants" (p.19)

"regulatory arrangements include infrastructural mechanisms that take advantage of IT to shape, or to intervene in, electronic markets" (p.19)

"Dual-perspective Research can be usefully conducted on many stakeholder-pairs. Important examples include marketplace-operator and trader; buyer and seller; trader and financier; and marketplace operator and regulator" (p.19)

"Table 1 Examples of research opportunities

Single Researcher Perspective

Regulatory Users: Regulatory Agencies, Auditors, Marketplace Supervisors

Dual Researcher Perspectives

Regulatees and Regulators

Multi-Researcher Perspective

Public Policy: Competition, Market Power, Consumer Rights, Discrimination" (p.24)

RM (7) Formal

P All

RP Dual and Multi

D Ec, Soc

**Oesterle H. (2020)** 'Life engineering' Electronic Markets 30, 1 (2020) 49–52

"... human values such as well-being, human rights, transparency, traceability of decisions, work-life balance and human autonomy. While welcome, the ethical guidelines that have emerged so far are difficult to translate into objectively verifiable actions" (p.50)

"The Quality of Life Model shown in the Fig. 1 below was created with that goal in mind. It attempts to summarize the findings of the happiness research available today, and represents the factors of happiness (and unhappiness) as a neural network of 13 needs" (p.50)

"... internationally accepted rules that prevent obvious misuse of machine intelligence to the detriment of human beings. Examples include the right to privacy of personal data, the right to explanations of decisions, or the right to equal access to the internet. Both market economy and state control, such as in Chinese social scoring, hold opportunities and risks. Individuals can use the proposed Quality of Life Model to orient their lives toward sustainable high quality. Companies today use highly differentiated knowledge to encourage people to satisfy their short-term needs

(hedonia), but could also aim at long-term satisfaction (eudaimonia), as corporate social responsibility (Schmiedeknecht and Wieland 2015) tries to do" (p.51)

"a Life Engineering discipline needs to cover the following [including]: ... Control mechanisms for sustainable quality of life. People, businesses and government organizations must use this knowledge to develop technology and collaboration mechanisms for the benefit of people, not just capital" (p.51)

RM (7) Formal and (2) Infrastructural

P All

RP Beneficiaries

D Ec, Soc

**Goeldi A. (2020)** 'A blind spot for the dark side: the monopolies we didn't see coming' Electronic Markets 30 (2020) 55–56

"Regulators struggle because [giant platforms incl. Amazon, Google, Facebook, Apple] don't fit the traditional anti-trust playbook. How can you argue that a monopoly is harmful to consumers if the monopolist gives away its service for free? We have seen some government action around privacy concerns, but most measures seem toothless. Without a doubt, we will need new types of regulatory approaches as societies globally are trying to come to terms with this phenomenon" (p.56)

RM (7) Formal

P All

RP Beneficiaries

D Ec, Soc

**Dratva R. (2020)** 'Is open banking driving the financial industry towards a true electronic market?' Electronic Markets 30 (2020) 65–67

"The European Regulation on open banking entered the game in 2015 ... The big or financially strong players are starting to build up their digital platforms and financial ecosystems to take advantage of open banking regulation: for example, it is now possible to gain access to much of the data needed to provide a seamless and comprehensive digital banking experience for customers all collected inside a single app" (p.66)

RM (7) Formal

P All

RP Regulatees

D Ec

~~**Reck M. (2020)** 'Xetra: the evolution of an electronic market' Electronic Markets 30 (2020) 69–73~~

~~Minimal discussion of regulation~~

~~**Zavolokina L., Miscione G. & Schwabe G. (2020)** 'Buyers of 'lemons': How can a blockchain platform address buyers' needs in the market for 'lemons'?' Electronic Markets 30 (2020) 227–239~~

~~Limited mention of regulation~~

**Marella V., Upreti B., Merikivi J. & Tuunainen V.K. (2020)** 'Understanding the creation of trust in cryptocurrencies: the case of Bitcoin' Electronic Markets 30 (2020) 259–271

"Regulation (regulations helps cryptocurrencies promotes trust and reliability)" (p.266)

"Bitcoin can never die - regulation can only make it to be strong and trusted by many people" (p.266)

"contrary to a certain segment of the user beliefs, many users believed that regulations would make Bitcoin more reliable and, thus, would convince many others to use it. According to the legal experts (Kaplanov 2012), Bitcoin would flourish under legal regulation" (p.266)

"The latest trends argue that Bitcoin requires regulation in order to survive as a security and become a viable form of investment and holder of value (Burks 2017)" (p.269)

Kaplanov, N. (2012). Nerdy money: Bitcoin, the private digital currency, and the case against its regulation. Ssrn, 25(1). <https://doi.org/10.2139/ssrn.2115203> .

RM (7) Formal

P All

RP Regulatees

D Ec

**Hesse M. & Teubner T. (2020)** 'Reputation portability – quo vadis?' Electronic Markets 30 (2020) 331–349

"cross-platform reputation portability [gives rise to] the need for clear regulatory guidance" (p.331)

"the REGULATORY FRAMEWORK represents an important dimension [of Digital Identity Management] as current legislation and policy-making greatly influence both the platform landscape as well as individual user rights" (p.334)

"Given the power of reputation, users' benefits from portability between platforms become obvious – be it to avoid lock-in effects (European Commission 2017), overcome the inherent "cold-start" problem when first using a platform (Wessel et al. 2017), or to realize price premiums (as providers) and increase chances of being able to book services (as consumers) (Otto et al. 2018; Qiu et al. 2018; Resnick and Zeckhauser 2002). Consequently, platforms could indirectly benefit from imported trustworthiness, increased sales numbers, and higher prices and, in turn, fuel their own business model" (p.335-6)

"enabling (or even enforcing) reputation portability has emerged as an interesting option for regulation (European Commission 2017)" (p.336)

RM (7) Formal

P All

RP Dual – platforms and their users?

D Ec, Soc

### Summaries of Relevant IJEC Articles (3)

**Hsu P.-F., Kraemer K.L. & Dunkle D. (2006)** 'Determinants of E-Business Use in U.S. Firms' International Journal of Electronic Commerce 10, 4 (Summer 2006) 9–45

Hsu et al. (2006) examined whether "regulatory concern" was a significant inhibitor of adoption of E-Business by U.S. corporations. However, 'regulatory concern' was limited to "inadequate legal protection for Internet purchases", "business laws do not support e-commerce" and "taxation of Internet sales" (p.44), and hence the notion of 'regulation' was mostly about controls over misbehaviour by the corporation's suppliers and customers (which would generally be regarded as 'enablement' rather than 'regulation', and secondarily about one aspect only of a (fiscal) regulatory nature, taxation.

The conclusion was that "the United States has a positive regulatory environment for supporting e-business" (Hsu et al. 2006), by which the authors meant that constraining regulation on others was adequate, and constraining regulation on the respondent organisation was limited or weak.

**Bacarin E., Edmundo R.M. Madeira E.R.M. & Medeiros C.B. (2008)** 'Contract E-Negotiation in Agricultural Supply Chains' International Journal of Electronic Commerce 12, 4 (Summer 2008) 71–97

Bacarin et al. (2008) considered e-contracts in agricultural supply chains, and defined 'regulations' to comprise "sets of rules that regulate a product's evolution within the chain. They specify constraints (e.g., government regulations) and quality criteria" (p.73). Their concern is to establish a framework within which requirements are specified, and performance against them is monitored and enforced.

**Manahov V. & Zhang H. (2019)** 'Forecasting Financial Markets Using High-Frequency Trading Data: Examination with Strongly Typed Genetic Programming' International Journal of Electronic Commerce 23, 1 (2019) 12–32

Manahov & Zhang (2019) is concerned with regulatory impositions on high-frequency exchange trading. On the basis of simulations, they argue for much shorter 'minimum resting trading order periods' (i.e. the shortest time within which an order can be withdrawn).