

# The process of business model disruption in knowledge-intensive services: The case of Legal Tech

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**Abstract:** Disruptive technologies were introduced as a concept in the late 1990s, where the process of disruption was largely attributed to technological developments and the inertia of incumbents. Later scholars have emphasized the difference in technological and business model disruption, where recent scholars point to the integration of the two. Whereas technological disruption considers the substitution of user value as a result of a superior technology, business-model disruption is the discovery of a fundamentally different way of dealing with and offering value to the user compared to existing models. The process through which these dual disruption processes takes place at the same time has to a limited degree been researched. While past research has pointed to the role of first and second movers, limited work has been done in understanding how new business models disrupt industries. Past research further emphasizes product-based businesses in their exploration of disruption. The fourth industrial revolution implies considerable disruption in service and knowledge-based industries. The research presented here aims to address the process of this disruption. In particular, we study LegalTech and explore the business models of 400 start-ups based on Angel's List – a list for start-ups and Angel investors – as well as articles on Legal Tech in the Factiva database. The context of law is interesting as it is characterized by a high level of regulation and institutionalization, which restricts and limits the opportunity for innovation. Still, alternative technology-based business models arise and survive. Based on inductive classification, the data reveals 3 main business models that target the existing law industry: platform, software and infrastructure. The research shows that these different business models contribute to disruption in different ways and based on different logics – illustrating how the application of different technologies in different business models impact disruption differently. In particular, the models emphasize ease of access, work process support and prevention. Each of the mechanisms and how these models impact incumbents are discussed in the paper. Thus, the paper develops and details existing disruption theory in enriching existing understanding of the process and models used. By doing this it adds insight of relevance to practitioners in start-ups and incumbent firms, as well as to policy makers.

**Key words:** Business Models, Legal Tech, Disruption, Incumbents, Start-Ups

## 1. Introduction

A lot of research on disruption has focused on technological innovations and suggested that incumbents often have difficulty leveraging and utilizing new technologies efficiently and effectively to avoid inertia (Bower & Christensen, 1995). Recent research however argues that existing firms might not be as inert as suggested in past theory, and that they in fact might be able to transform themselves through innovation in business models (Markides, 2006; Volberda et al., 2018).

Previous industrial revolutions have been concerned with the transformation of physical labour in production of tangible goods. The 4th industrial revolution rather concerns the digitalization, disruption and infusion of technology in knowledge-based work, organizations and industries. In understanding knowledge work, professional service firms (PSFs) offer an interesting and relevant context. PSFs are characterized by the knowledge intensive services they deliver and professional workforce they employ (Greenwood et al. 2005) and studying the digitalization of these types of services give interesting insights in understanding industry 4.0. In particular, we study how the development of Legal Tech, which refers to the use of digital technology in the context of law.

Limited work has been done to understand the process through which digital transformation or disruption takes place based on start-ups. This paper explores this void in existing research and explores the process through which knowledge intensive industries are changing as a result of technology-based start-ups. In particular, we ask: How are technology-based start-ups changing knowledge-based industries?

## 2. Theoretical background

The notion of disruption was first related to how incumbent firms fail when they continue to make the choices that made them successful in the past, instead of embracing new technologies and innovations in their industries (Bower & Christensen 1995). Later research has explored how incumbent firms reorient their strategies and decide whether to enter new markets as a result of technological innovations and disruptions (Eggers & Kaplan, 2009). Another stream of research has focused on business model innovation (Markides, 2006). This research has grown during the last years (Foss & Saebi, 2018), and shown how incumbents' lack of interest or ability to change extant business models might drive them out of business (Markides, 2006). It has also been called for more research on how technology facilitates new business models (Baden-Fuller & Haefliger, 2013). Today, a potentially disruptive force is found in digital technologies that reduce transaction costs and enable instant connectivity, thereby laying the ground for strategic innovation in business models (Anderson & Markides, 2006; McAfee & Brynjolfsson, 2017).

Researchers do not agree on a common definition of what a business model is (Zott et al., 2011). To understand a business model, a number of scholars list a set of dimensions or components as a definition (e.g. Osterwalder & Pigneur, 2010). One widely used definition proposes that business model describes the architecture of an organization's value delivery and capture and explains how the organization operates and coordinates resources and activities (Zott & Amit, 2007). In this way, the business model explains "the logic" of the organization (Teece, 2010). We use this "logic" as a starting point for our classification of business models.

## 3. Methodology

As an empirical context, we study the development of Legal Tech over the last 5 years (2014-2018). Legal Tech consist of both the legal technologies and the start-up firms based on these technologies (Praduroux, de Paiva & di Caro, 2016), and the study aims to understand the process through which technology-based start-ups impact the area of law. In particular, we have performed an exploratory empirical study. To advance our understanding of the Legal Tech field two main sources of data have been used: Media coverage of the phenomenon of Legal Tech from Factiva during 1990-2018 and a database of 688 Legal Tech Start-ups established from 2014-2018 based on the Angellist, a platform for start-ups.

In particular, all entries on "Legal Tech" and "Legaltech" in English in the Factiva database between 1990 and 2018 were included in the search, resulting in 6.532 entries. To enable the data set to be manageable, only the top 14 journals with more than 40 articles over the time period were considered, in addition ABA journal from the American Bar Association, a high reputable journal in the US.

## 4. Findings

To present our findings we build on an inductively developed process description of the change taking place in the legal field. The database on legal tech start-ups was integrated into this description of the data. In particular, the current state of technology, the market consisting of law firms and clients, and the types of start-ups established will be discussed for each identified phase of the development.

Based on the explorative first process of analysis, three main phases of change were identified: (1) Digitization – E-discovery (2014 and 2015), Digital automation and standardization – Artificial intelligence (2016 – 2017), (3) Digital transformation – client value and ecosystems (2018)

### 4.1. Phase 1: Digitization – E-discovery (2014-2015)

*Technology.* The key concerns of organizations in this phase were the organization and analysis of data, and automation of searches and information handling. Following an explosion in email and social media and other digitally available information – the cost of data management was emphasized in the articles (e.g. 16 June 2014, New Jersey Law Journal). The key software discussed was related to e-discovery, cloud, and predictive coding. E-discovery processes "use automated tools to prioritize and select documents for review" (Grossman & Cormack, 2010). Key developments within e-discovery was in addition related to predictive coding (in later phases denoted as natural language processing) – also referred to as Technology Assisted Review (TAR). In the discussions about predictive coding, the main concern was to highlight the benefits of the technology, rather than describing the actual application and implications.

There was only very limited mentioning of artificial intelligence (AI) in the data. Rather, discussions focused on the lack of technology application in law (e.g. Fulton County Daily Report, 4 August 2014).

*Market.* The discussion of client firms was limited and largely concerned with e-discovery and legal outsourcing. In particular, the decision to choose a cloud-based platform was a key discussion in the data. Also, document management and security were essential themes for the general councils. Legal processes were a key area of improvement for clients and they also sought to make improvements to their legal operations in order to professionalize their legal processes. Repetitive tasks were given to external suppliers based on cost and value considerations – referred to as legal process outsourcing (LPO).

Technology in law firms was primarily related to the core infrastructure of the firm, which included financial, billing and practice management software. Specialists urged law firms to continue leveraging more general office IT-infrastructure (e.g. New Jersey Law Journal, 28 July 2014), but technology was only to a limited degree related to the client experience, with some exceptions. Also, some law firms developed a separate business model of delivering e-discovery solutions to clients (e.g. Buchanan Ingersoll & Rooney).

In this phase, there was a strong demand for more use of technology. The technology was impacting work processes through partial or full automation. As described in Computer Weekly about a new software for law firms (20 February 2014): “The product incorporates an entirely new workflow-based interface that integrates the company’s transparent concept search with a powerful suite of interactive data visualizations... Our core platform has the potential to transform the way people connect with information and to each other.” While this only represented one technology, it had extensive potential to have an impact on the field.

*Start-ups.* The 89 companies in the database listed during 2014 and 2015 on Angellist focused on automation of contracts (e.g. Captain Contract, Lawcanvas and Lit UQ), documents (e.g. Docasaurus and Clausehound), and e-signatures (e.g. Stamplery and Esign Genie). Additionally, start-ups engaged in workflow management, such as automated time keeping (e.g. Ping and Provakil). Additionally, there were a number of companies that aimed to develop legal marketplaces, which could be referred to as platforms (e.g. JustiServe, Advocado, Lawyered and The Summit).

#### *4.2 Phase 2: Digital automation and standardization - Artificial intelligence (2016-2017)*

*Technology.* In this phase, the orientation of the discussion of e-discovery shifted from whether to have and how to implement discovery software, to recognizing TAR and e-discovery as defaults – as a prerequisite in any big data case. In addition to e-discovery and security, artificial intelligence stood out as a major issue in the data – and more frequently coded than e-discovery in 2017.

Also, Blockchain was gaining interest in the legal community during 2017. A blockchain could be described as done in The National Law Journal on 2 January 2017: “Simply put, a blockchain is a digital network of information, compiled in a decentralized database shared with users that may have access.” However, the discussions of blockchain in the articles primarily focused on the technology per se, rather than on initiatives that were already in place.

*Market.* Clients were becoming increasingly and demanding towards law firms – wanting them to learn technology (e.g. The National Law Journal, 9 May 2016). Thus, clients had an increasing ambition to leverage AI to increase productivity. Some firms were already at the pilot stage – utilizing AI in the improvement of their legal work.

Among the law firms there was an increasing orientation toward technology as facilitating client value and a driver of business, as opposed to a logic of regulatory demand and an enabler to increase efficiency. At the same time, there was a move in terms of the lawyers’ logic of the technology and their recognition that as use is increasing – they need to do something about fear and resistance. At the same time, the fear of jobs being lost as a result of technology was to an extensive degree substituted by increased understanding of the technology.

Technology continued to impact the workflow in law and client firms during 2016 and 2016 – and start-ups were continuously looking for area to improve and change. In particular, it was increasingly recognized that that lawyers need to adopt to the technology, where it is pointed out that firms must align their work processes with technology. This includes elimination of parts of the work flow, changing the collaborative process as well as accepting a larger degree of standardization.

*Start-ups.* The 257 start-ups in the database listed on AngelList in 2016 and 2017 belonged to a varied set of areas. A number of start-ups still seemed to focus on traditional areas such as billing (e.g. TimeSolv), as well as practice (e.g. PracticeLeague, Legodesk), and case management (e.g. Vecor legal). Also, contract and document management, review and creation (e.g. Diligence and Avtal24) was still described as a core area, but in this area, artificial intelligence was regarded as particularly important as a differentiator for new firms (e.g. ClearLAW and Kira). Another key area for start-ups was compliance (e.g. Openlaws and law of the jungle, Traliant, HaxTax, and Lari )

Additionally, a number of start-ups aimed to create client value such as automating client interface and management (e.g. ClientSide and LawPanel). Throughout 2016 and 2017 an increasing number of start-ups focused on artificial intelligence (e.g. Mike within legal research and Patensys in the area of Patents). These companies were not only utilizing the technology, but also developing it for the context of law. The tone-giving company in this respect was ROSS, which was one of the very early start-ups applying advanced AI from IBM.

Finally, and as found in the e-discovery phase, legal platforms where lawyers and client meet was a fixed and durable business model that many start-ups were using (e.g. Legalister, Unity legal, Navigor2law, Legably, Lawfruit, LexGO, Legally). Additionally, a small number of companies were building on blockchain technologies (e.g. Law4TW focusing on document proofing; Exochain in authentication; Cognate in the area of Trademarks).

An increasing number of the start-ups focused on the importance of access to justice to all (e.g. Vanilla Legal and Zariya), and several companies were based on a desire to do common good – rather than to focus on profit. This was also an important way for Bar Associations to develop services that gave underprivileged groups of people access to justice.

#### *4.3 Phase 3: Digital transformation – client value and ecosystems (2018)*

*Technology.* In this phase, rather than primarily talking about the potential applications and the need for the technology, there was a wider discussion about its benefits and disadvantages, for example related to biases. There was an understanding of the inherent conflict of logic in law and technology. While the logic of the legal field seems to be changing compared to 2017, as the field was moving beyond the AI-hype, gaining a more realistic and down to earth understanding of the technology was seen as more important. Thus, there seemed to be a movement in logic on technology from recognizing the relevance of integration between law and technology towards realism in the actual use of solutions. While lawyers were aiming to get the technology to work, they to an increasing degree seemed to have a user and problem - orientation and innovation-based approach to technology, which traditionally had been more explicit in technology industries as opposed to in the legal field.

*Market.* The increased number of start-ups and firms utilizing technology had implied that law journals started talking about an alternative ecosystem for legal services, which can be defined as: “businesses and roles that sit outside the traditional provision of legal services by solo practitioners, law firms and in-house counsel. This ranges from pure legal tech innovations to blended alternative legal service providers that leverage technology and human capital. This ecosystem can be broadly categorized into two areas: (1) businesses that increase the efficiency of corporate law firms and in-house legal departments and provide for the more efficient delivery of legal services to their corporate clients; and (2) businesses that provide easier, greater and more cost-effective access to legal services for individuals, small businesses and others who are currently underserved by the legal profession.”

The true disruptive implications of the technology were to an increasing degree understood in the field, in the sense that they not only had implications for the transformation of tasks, but that they impact work processes, which will substituted according to technology. As pointed out by New Jersey Law Journal, 1 January 2018: "During this beginning phase we'll see many attempts to mimic and simply automate existing processes as they exist today. However, those processes were developed and perfected with the tools at hand. As we introduce new tools and techniques, facilitated by machine learning, processes will evolve. Maturity will have reached the industry when we can look at a process and see no resemblance to how it was done in the past,"

*Start-ups.* Building on the 46 companies listed on AngelList during January until April 2018 (4 months), there was a pre-dominant orientation towards application of artificial intelligence in the technology of the business models. In particular, there are start-ups aiming to apply AI in the area such as patents (e.g. PRF), compliance (e.g.

LegalSeba) and contract review (e.g. Donna). Additionally, companies are working with chatbot-technology (e.g. Trustbot for Non-disclosure agreements (NDAs)). Also, there was still a focus on case and practice management (e.g. DocuCase; Lecare) and contracts (e.g. Juris, Evisort). Finally, there were still a number of start-ups that aimed to establish and run legal marketplaces (e.g. Tiago; Lexiom, FlexLegal and LegalPal).

**5. Discussion**

The findings illustrate the development of the legal industry and Legal Tech over a 5-year period (2014-2018). In particular, following the development of technology, the market maturation and the application of the technology in start-ups, the process through which the legal industry changed can be described based on 3 business models: (1) software/automation/AI, (2) Portal/platform and (3) infrastructure/blockchain. Each of these and the processes they impact will be discussed in the following as well as illustrated in Figure 1.

1. **Software.** The software-based business models are present in the whole period of the study, and start out largely in the form of e-discovery, where search functions were important. Later, AI and more advanced software was developed and integrated in different types of processes in client and law firms. Software based business models focus on developing automated solutions for very small tasks that can be integrated into existing work processes. These types of business models to an extensive degree also integrate AI. The process of change that follows from these types of businesses is largely transformational and each of the start-ups tries to develop models that complement existing processes in law firms or client organizations e.g. in the area of documents, e-signatures or work flow or time management. Thus, these types of business models transform the law firms and their clients through the substitution of tasks. To the degree that the majority or all tasks in a process is replaced by technology over time, disruption could result. The likelihood of software-based models being disruptive is further largely dependent on whether AI develops from specific to more general applications.
2. **Platforms.** As opposed to the software-based businesses the platforms focus on facilitation of contact between lawyers – or solutions to legal problems in the form of standard documents - and clients. Thus, the platform model does not refer to cloud software solutions, but rather to facilitative models that make markets more efficient. A key form of platforms are “virtual law firms”, which are sites that help client find and connect to a particular lawyer that a client needs. Rather than supplementing the existing processes of law firms and clients, the platforms offer legal services in a disruptive way for incumbent law firms in that they intermediate the value creation of law firms as organizers of legal knowledge and suppliers of specialized knowledge to particular client problems. This is largely solved by technology in virtual firms. In the case of many start-ups that focus on “access to the law”, the platforms take the form of both a portal which offer extensive information about a particular area of the law, such as i.e. immigration.
3. **Infrastructure.** Finally, start-ups based on distributed ledger technologies, often referred to as blockchain, were identified. This type of technology not only demands the efforts of a single start-up, but the involvement of a wide set of stakeholders in an ecosystem. Thus, rather than having implications for the work processes of clients and lawyers or the market structure of lawyers and clients, these types of technologies and start-ups targets the underlying infrastructure of law – proposing to set up technology that can enable preventive measures to be taken to limit the demand for legal services – for example in the form of smart contracts, that are automated and apply themselves at the appropriate time.

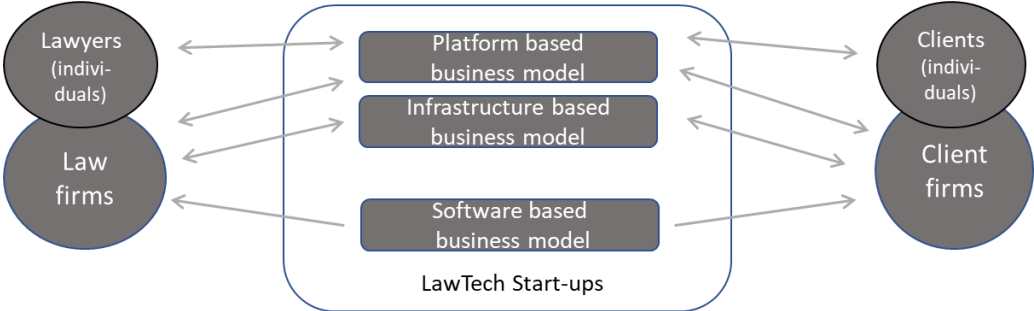


Figure 1: Illustration of the Start-up transformation/disruption process in Legal Tech.

Past literature has to a limited degree pointed to the proposed alternative models and processes of disruption. Rather than proposing transformation or disruption as a dichotomy, the above findings propose that research needs to look at the nature of and the processes through which business model change is taking place, and the differentiation in business models that allow this to happen. Thus, in this way the research adds to current understanding of business model innovation and disruption as proposed by Markides (2006) and Baden-Fuller & Haefliger (2013).

To sum up, the research presented above proposes three processes of transformation and disruption from start-ups in the legal industry:

- a. Through work processes in the form of software-based start-ups. This is likely to take the form of transformation in the short run, but at technology advances and can substitute whole processes, i.e. as AI becomes wider and more general, the disruption of law firms and legal work is likely to be disruptive.
- b. Through platforms, which substitute the role of law firms as organizers of legal knowledge. This is likely to be disruptive in areas that have a limited degree of complexity and where the relatively lay client is likely to be able to specify their legal problem.
- c. Through blockchains that enable the establishment of underlying infrastructure that changes the nature of contracts and the way they are automated.

## 6. Conclusion

This paper has shed light on the underlying processes of transformation and disruption of knowledge work in the context of law. In particular, based on media articles and a database of Legal Tech start-ups, three main forms of business models that each impact the change processes differently were identified: (1) software based, (2) platform based, and (3) infrastructure based. Each of these models impact the existing industry structures differently through (1) work processes, (2) facilitation of transactions in the market, and (3) through industry infrastructure.

These findings are highly important and relevant for practitioners in legal services and in the broader context of knowledge intensive services. For clients, these alternative business models could be leveraged internally in different ways to enable efficient utilization of services to meet their legal needs. For law firms, these models and the start-ups that utilize them represent real and, in some cases, imminent threats that they need to be very vary of.

While legal services represent an interesting case in studying knowledge intensive work, there are several limitations to the generalizability of the study. In particular, existing theory points to the heterogeneity of professional services firms with different types of knowledge, where normative knowledge, such as is the case of law, is only one. Further research should look more in depth at technical and syncretic types of knowledge (Malhotra & Morris, 2009) and study a wider set of industries within professional services and beyond.

Also, the research is based on second hand. Further studies would benefit from adding qualitative data to further understand the actual processes and to be better able to tease out the nature of the underlying processes of disruption. Understanding these processes are essential for existing business to overcome the digitalization that is due to impact most industries in the years to come.

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