Innovation in business models and strategic change in the face of digital disruption: The example of professional services business models based on data

Divakaran, Mishra Chaturvedi
Pro-Vice Chancelor, & Professor, Department of Business Administration Himalayan University, Itanagar, Arunachal Pradesh

Research Article

Date of Submission: 17-05-2025 Date of Acceptance: 20-05-2025 Date of Publication: 19-07-2025

Abstract

Digital innovation is causing major disruptions to the majority of organisations and sectors. The growth of data-driven business models in the professional services sector is the main topic of our conversation. Artificial intelligence, big data, and sophisticated analytics are now permeating several sectors. The knowledge-intensive nature of professional services companies may give rise to particular problems with artificial intelligence and data analytics. Additionally, new start-ups' digital innovation poses a significant risk of disruption to established companies. Two significant problems must be taken into account when attempting to comprehend how these changes will affect the professional services sector. First off, new business models are often produced as a consequence of digital innovation. This begs the issue of whether these models are exclusive to the professional services sector or more general (digital), exhibiting strong industry-wide commonalities. Additionally, there are concerns about whether well-established incumbents or fresh, digital start-ups are the ones driving business model innovation. Second, we need a more sophisticated understanding of the strategic transformation processes in connection to the nature of professional services and technological innovation when an incumbent is forced to change as a result of digital disruption. Two significant additions to the literature are made by our study. In the context of professional services companies, it first critically examines data-driven business models. Second, it presents a number of research hypotheses on the obstacles to and facilitators of digital disruption that incumbents and startups must contend with.

Keywords: Business model innovation, data-driven professional services companies, digital innovation, and strategic change.

Introduction

The continuous spread of digital technologies, including cloud computing, data analytics, mobile technology, and the internet of things, is altering how people live their lives, how businesses operate, and generating new services and goods. "The future of countries, businesses, and individuals will depend more than ever on whether they embrace digital technologies," according to the World Economic Forum (Baller et al. 2016, p. v). Innovative digital business models are often needed as a result of these new digital technologies and the disruptive innovations they allow and propel (Fichman et al. 2014). A major subject in the digital age is business model innovation (Foss and Saebi 2017; Massa and Tucci 2014), which focuses on innovative methods for businesses to generate and capture consumer value (Chesbrough 2006; Fielt 2013). However, little is known about the relationship between digital business model innovation and organisational change (DaSilva et al. 2013). There have only been a few studies done so far (e.g., Westerman et al. 2014), and they often don't concentrate on certain sectors, such professional

services, or address the unique difficulties of business model innovation.
By examining the particular example of data-driven business models in the professional services sector, this study aims to investigate business model innovation for digital innovation. The knowledge-intensive nature of professional services organisations (such as management consulting, accounting, legal, finance, etc.) may give rise to particular concerns about how data analytics and machine learning advancements affect their operational and strategic positions. Additionally, these businesses are presently at great risk of disruption from new start-ups' digital innovations, which are often referred to as LegalTech, HR Tech, Accounting Tech, FinTech, etc. "Professional services appears to be approaching a tipping point, as disruptive technologies drive fundamental changes in the industry's economics," according to the World Economic Forum (2017, p. 4). Two key concerns must be taken into account when attempting to comprehend the effects of digital innovation brought about by data analytics and artificial intelligence on the professional services sector. First off, new business models are often produced as a consequence of digital innovation. This begs the issue of whether these models are exclusive to the professional services sector or more general (digital), exhibiting strong industry-wide commonalities. Additionally, there are concerns about whether well-established incumbents or fresh, digital start-ups are the ones driving business model innovation. Second, we need a more sophisticated knowledge of the strategic transformation processes when an incumbent is forced to change as a result of digital disruption.

This research-in-progress paper's remaining sections are organised as follows. First, we provide a quick synopsis of the professional services sector and data-driven business models. Next, we examine some preliminary concepts for strategic transformation and business model innovation in the face of digital disruption. Finally, we provide our closing thoughts and recommendations for further study.

Business models based on data and the professional services sector .Business models are now data-driven due to the development of big data, analytics, and algorithms (Chen et al. 2012; •ther et al. 2017; Newell and Marabelli 2015) (Hartmann et al. 2016). Critical data-driven components form data-driven business models. According to Hartmann et al. (2016), Schüritz et al. (2017), and Wixom and Ross (2017), data is the primary resource, the process of converting data into value is a crucial activity, data-driven or data-enriched goods and services are value propositions, and data may be monetised as a source of income. Based on an empirical research of start-ups, Hartmann et al. (2016) identified six kinds of data-driven business models that are distinguished by primary data source and key data activity. When it comes to developing data-driven business models, companies often have a variety of possibilities. For instance, rather than offering weather forecasting and planning services, the Climate Corporation first used data analytics to provide weather insurance to agricultural companies1. It then transitioned from weather insurance to a digital platform for agriculture that helps businesses make data-driven choices to optimise their profits.

Businesses may enhance, innovate, or disrupt their business model by using data, analytics, and algorithms (Günther et al. 2017; Loebbecke and Picot 2015; Woerner and Wixom 2015). Businesses may utilise data, analytics, and algorithms to enhance their business model by streamlining and optimising their decision-making and business processes (Woerner and Wixom 2015). Businesses may utilise data, analytics, and algorithms to reinvent their business model by discovering new income streams, breaking into untapped markets, and even investigating new sources of competitive advantage via strategic renewal through data monetisation and digital transformation (Woerner and Wixom 2015). A McKinsey report (Chin et al. 2017) claims that

analytics has the power to upend whole businesses and provide new possibilities. For instance, instead of selling the goods directly, some businesses are instead charging for the analytics-enabled service. (For instance, Rolls-Royce's "Power-by-the-Hour"). According to Köther et al. (2017), innovation and improvement strategies may coexist or even occur sequentially. Due to the commodification of big data "solutions," Loebbecke and Picot (2015) caution that traditional firms may not be able to gain a sustained competitive advantage from big data analytics. Additionally, when established business models are disrupted, these firms may find it difficult to innovate new business models. Both governmental agencies (Desouza and Jacob 2017) and non-profit organisations (Desouza and Smith 2014) are concerned about how to best use new digital technology.

One of the most important, lucrative, and quickly expanding areas of the world economy is the professional services sector (Empson et al. 2015). Professional services companies are knowledge-intensive businesses that advise businesses in order to promote economic and commercial interchange (Greenwood et al. 2006). They are mostly made up of experts, and their main assets are knowledge and intellectual capital. According to Empson et al. (2015), professional services firms are characterised by four traits that they all share, to varied degrees: (1) the primary activity of applying specialised knowledge to create customised solutions to clients' problems; (2) specialised technical knowledge of professionals and in-depth knowledge of their clients as core assets; (3) governance arrangements with extensive individual autonomy and contingent managerial authority, where core producers own or control core assets; and (4) an identity where clients and competitors recognise each other as professionals. Professional services organisations carry out three categories of work, according to Maister (1993): (1) procedural work, where the answer or approach is (mainly) well-known and the emphasis is on efficiency; (2) grey hair work, which requires skills and experience; and (3) brain work, which requires knowledge and creativity.

The strategic position of these companies as gatekeepers may be threatened by the growing accessibility and availability of data for everyone (also known as "data democratisation") and new methods of generating and using information (such as crowdsourcing). For instance, in the legal services sector, new start-ups are challenging existing companies with novel digital services like "robot lawyers" (e.g., DoNotPay4) and legal judgement forecasts (e.g., Case Crunch3). Professional services businesses' data-driven business models may vary from those of other sectors because of the industry's unique qualities and the role that technology and data play. For instance, data is a shared resource in several professional service sectors. Consider the legal services sector, where predictive models based on past Supreme Court judge votes and case data have been created to forecast the actions of the US Supreme Court (Katz et al. 2017). Furthermore, new inventions (like digital agents), autonomous tools to complete legal documents, and even suggestions for basic questions and tasks are made feasible by modern technology like machine learning and database availability.

Investigating concepts for strategic change and innovative business models.Based on our first investigation, we suggest that two important concerns should be taken into account when attempting to comprehend the effect of digital disruption on the professional services sector. First, new business models are often the result of digital innovation. This begs the issue of whether these models are exclusive to the professional services sector or more general (digital), exhibiting strong industry-wide commonalities. Furthermore, there are concerns about whether well-established incumbents or fresh, digital start-ups are the ones driving business model innovation. Second, we need a more sophisticated understanding of the strategic transformation processes in connection to the nature of professional services and technological innovation when

an incumbent is forced to change as a result of digital disruption. We will go into more detail about these first concepts and create a few potential business model innovation and strategic transformation scenarios below.

Our logic begins with the fact that new digital business models often accompany digital disruption (Fichman et al. 2014; Fielt and Gregor 2016). Practitioner publications (e.g., Deloitte Australia 2012; Deloitte Australia 2014) significantly highlight the disruptive impact of digital technologies on the business models of various industries, which may suggest the need for more focused academic research in this area. New digital business models often gain traction in one or a small number of industries before expanding to other sectors. For instance, the idea of crowdsourcing via digital platforms gained popularity in the late 1990s and early 2000s because to sites like Wikipedia, Innocentive, and SETI@home (McAfee and Brynjolfsson 2017). Crowdsourcing has been used in recent years for strategy consulting (e.g., Deloitte) and legal services (e.g., Legal Services Link). It is unclear if these models will function there as well, and if so, how much they may need to be modified to take into account the industry's unique possibilities and dangers as well as the firm's strengths and limitations.

Based on concepts from, among others, Chesbrough (Chesbrough 2010; Chesbrough and Rosenbloom 2002), Christensen (Christensen 1997; Christensen and Raynor 2003), and Govindarajan and Trimble (2005; 2010), we see two possible choices regarding the new business models themselves and the initiators of these models when a particular industry is confronted with new business models due to digital disruption. First, the new business models themselves may be more general, exhibiting strong cross-industry parallels, or they may be specialised to a certain sector or company. As shown by their (initial) successful use in other sectors, the generic business models place an emphasis on innovative ideas (like crowdsourcing) and digital breakthroughs made possible by digital technology (such quick access, automated matching, and global reach). The digital business model will be significantly altered or even completely reimagined as a consequence of the particular business models' use of the tried-and-true procedures and arrangements of the industry or even organization. This will lessen the disruptiveness of the business model, which can be both beneficial (because it will be more in line with the current operating environment and strategic framework and face less opposition) and detrimental (because it will be less likely to offer radical new benefits or appeal to new customers).

Second, new digital start-ups or long-standing incumbents may be the ones that initiate business model innovation in a certain sector. In a digital environment, established professional services businesses (such as McKinsey, Accenture, etc.) may take use of their brand name, human capital, knowledge, project/matter/client databases, and experience. However, other characteristics, like their traditional business model and their specific organizational form (partnership model), may hinder them in adapting to digital disruption. For example, when the professional logic (i.e., the interpretive schemes or institutional logics of a profession) is strong, professionals can be highly risk averse (Barratt and Hinings 2015). Moreover, they may have trouble in acquiring or integrating the digital capabilities required. New start-ups have the chance to access human and intellectual capital in the particular industry and then scale it through digital platforms that support intellectual asset re-use, personalised knowledge resource delivery, and automated learning systems to anticipate and respond to future service needs, even though they may not have the same reputation and brand recognition as the incumbents (Davenport et al. 2003).

Business model

Specific Generic

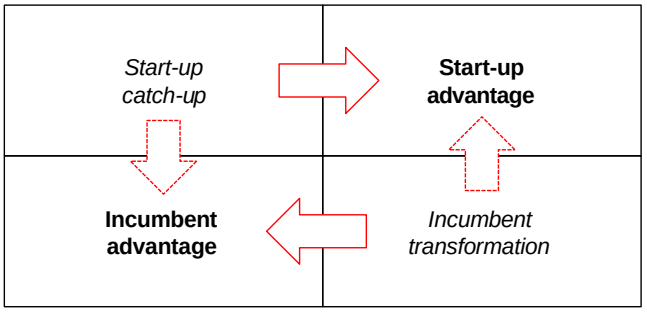


Figure 1: Business model innovation scenarios.

As shown in Figure 1, there are four potential strategic positions when examining the new business models and their creators.We speculate that the incumbents will probably have a competitive edge when digital business models are increasingly industry-specific. In this instance, several of the essential elements of the digital business model are in line with the strengths of the incumbents. Additionally, we anticipate that as digital business models become more industry-neutral, The start-ups will thus probably have an edge over their competitors. While the incumbents are hampered by their dominating logic and technical heritage (such as tech debt), digital start-ups will profit from their agility and greenfield approach. Furthermore, conventional businesses may be reluctant to adopt new digital initiatives for fear of income cannibalisation.

Furthermore, we propose that when the incumbent is at a disadvantage, they should change and either discover methods to capitalise on the start-up advantage or use their current capabilities. The incumbent is put in a difficult situation since they suggest different strategies. They will be compelled to discover methods to combine their new data-driven effort with their current business on the one hand, and to distinguish it from their current business on the other. When a start-up is at a disadvantage, they must either discover methods to exploit start-up advantages or find ways to capitalise on the incumbents' strengths. For the start-up, this poses a conundrum since they suggest opposing strategies. They will be drawn to cooperate with incumbents on the one hand, and to engage in direct competition with them on the other.
The strategic transformation of established professional services organisations is of particular importance to us. Although there is some general guidance on disruptive innovation (Christensen 1997; Christensen and Raynor 2003) and strategic innovation (Govindarajan and Trimble 2005), these methods do not address the dynamics of technology innovation or the knowledge-intensive nature of professional services. As such, we intend to look deeper into how these two factors play a role in the strategic transformation as professional services firms come in a wide assortment of forms (Figure 2). As such, we may expect that their transformation approaches and barriers may depend on this. A critical dimension to classify these firms (or their business units) is in respect to their dependence on existing knowledge assets. A firm with high dependence on existing knowledge assets will have established high barriers to entry for their competitors. As an example, firms offering consulting services in the defence and security arena would meet these criteria. These firms depend on decades on knowledge assets that include social capital, prior project experiences, and specialized know-how that is not easy to acquire on the market instantly. A firm with low dependence on existing knowledge assets will need to continuously innovate to stay ahead of its competitors by keeping its knowledge assets fresh and relevant. Let us be clear, we are not arguing that a firm’s existing knowledge assets are of no value. What we are saying

that is that in order for the firm to compete, they cannot use their dependence on their existing knowledge assets as a measure of how insulated they are from competitor's actions (due to the history, costs, or resources required to acquire or replicate the knowledge).

With respect to the dynamics of technology innovation, IT can be an operational capability or a strategic (dynamic, improvisational) capability (Pavlou and El Sawy 2010). Of particular importance is that a strategic IT capability can support organizations with the transformation in moderately to highly turbulent environments. In addition, the IT architecture of the organization will also determine to which extent an organization can evolve and integrate new IT-based solutions (Alwadain et al. 2016). A straightforward matrix that may be used to map professional services businesses on the two dimensions is shown in Figure 2. We expect that the more depended a professional services firm is on industry-specific knowledge assets the more complex and unique the technology and implementation of technological innovation required. As a result, technology's function and capabilities will need to be more dynamic. When a less strategic but more continuous improvement role and technological competence are needed, the less reliance on industry-specific knowledge assets will enable a more repeatable and straightforward process-driven approach.

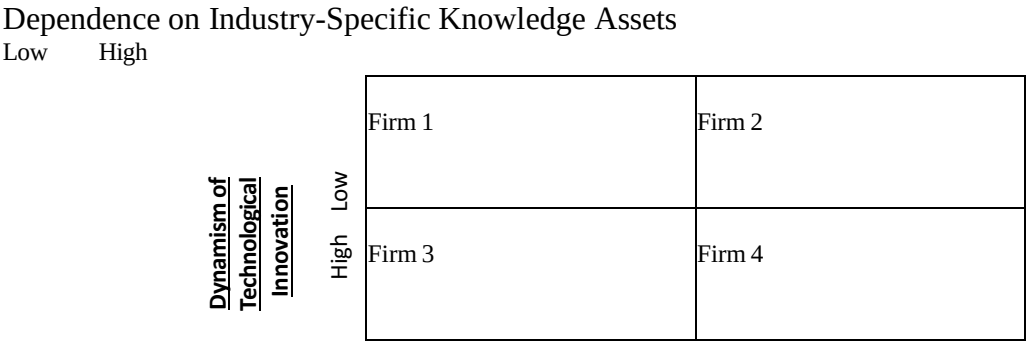


Figure 2: Strategic transformation scenarios.

Final thoughts and next studies .

We concentrated on business model innovation and strategic transformation in this research-in-progress article as professional services organisations deal with digital disruption brought on by big data, advanced analytics, and artificial intelligence. We are particularly interested in the impact of industry-specific knowledge assets and technological innovation, as well as the obstacles and facilitators for start-ups and incumbents. Instead of establishing a theoretical framework, we develop our first concepts in order to investigate this subject.

We want to investigate strategic transformation and business model innovation in connection to the emergence of data-driven business models in the legal services sector. This research will concentrate on the B2B legal market sector, which does not match the more common B2C digital disruption models, operates in the higher value portion of the legal professional services industry, and depends more heavily on more complicated knowledge assets and past project experience. One major multinational traditional legal firm, one medium-sized traditional national law firm, and one young start-up law company will be the subjects of our first multiple case study. The purpose of this research is to compare established conventional model law firms across various geographic footprints and sizes with a start-up company in order to determine the extent to which

data-driven business model aspects are already present (as-is). In order to determine the potential future prospects of a data-driven business model for B2B law firms, we also want to conduct a Delphi research to compare our preliminary findings with the thoughts and views of industry experts.

References

Alwadain, A., Fielt, E., Korthaus, A., and Rosemann, M. 2016. "Empirical Insights into the Development of a Service-Oriented Enterprise Architecture," *Data & Knowledge Engineering* (105), pp. 39-52.
Baller, S., Dutta, S., and Lanvin, B. (eds.). 2016. *The Global Information Technology Report 2016: Innovating in the Digital Economy*. Geneva: World Economic Forum.
Barratt, M., and Hinings, B. 2015. "Service Innovation in Professional Service Firms: A Review and Future Research Directions," in *The Oxford Handbook of Professional Service Firms*, L. Empson, D. Muzio, J. Broschak and B. Hinings (eds.). Oxford, UK: Oxford University Press pp. 238-254.
Chen, H., Chiang, R. H. L., and Storey, V. C. 2012. "Business Intelligence and Analytics: From Big Data to Big Impact " *MIS Quarterly* (36:4), pp. 1165-1188.
Chesbrough, H. 2006. *Open Business Models: How to Thrive in the New Innovation Landscape*.
Boston, MA: Harvard Business School Press.
Chesbrough, H. 2010. "Business Model Innovation: Opportunities and Barriers," *Long Range Planning*
(43:2-3), pp. 354-363.
Chesbrough, H., and Rosenbloom, R. S. 2002. "The Role of the Business Model in Capturing Value from Innovation: Evidence from Xerox Corporation's Technology Spin-Off Companies," *Industrial and Corporate Change* (11:3), pp. 529-555.
Chin, J. K., Hagstroem, M., Libarikian, A., and Rifai, K. 2017. "Advanced Analytics: Nine Insights from the C-Suite," McKinsey & Company.
Christensen, C. M. 1997. *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*.
Boston, MA Harvard Business School Press.
Christensen, C. M., and Raynor, M. E. 2003. *The Innovators Solution: Creating and Sustaining Successful Growth*. Boston, MA: Harvard Business School Press.
DaSilva, C. M., Trkman, P., Desouza, K., and Lindič, J. 2013. "Disruptive Technologies: A Business Model Perspective on Cloud Computing," *Technology Analysis & Strategic Management* (25:10), pp. 1161-1173.
Davenport, T. H., Thomas, R. J., and Desouza, K. C. 2003. "Reusing Intellectual Assets," *Industrial Management* (45:3), pp. 12-13.
Deloitte Australia. 2012. "Digital Disruption: Short Fuse, Big Bang?," Deloitte Touche Tohmatsu. Deloitte Australia. 2014. "Digital Disruption - Harnessing the 'Bang': Stories from the Digital Frontline,"
Deloitte Touche Tohmatsu.
Desouza, K. C., and Jacob, B. 2017. "Big Data in the Public Sector: Lessons for Practitioners and Scholars," *Administration & Society* (49:7), pp. 1043-1064.
Desouza, K. C., and Smith, K. L. 2014. "Big Data for Social Innovation," *Stanford Social Innovation Review* (12:3), pp. 39-43.
Empson, L., Muzio, D., Broschak, J., and Hinings, B. 2015. "Researching Professional Service Firms: An Introduction and Overview," in *The Oxford Handbook of Professional Service*

Firms, L.
Empson, D. Muzio, J. Broschak and B. Hinings (eds.). Oxford, UK: Oxford University Press pp. 1-22.
Fichman, R. G., Dos Santos, B. L., and Zheng, Z. E. 2014. "Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum," *MIS Quarterly* (38:2), pp. 329-353.
Fielt, E. 2013. "Conceptualising Business Models: Definitions, Frameworks and Classifications,"
Journal of Business Models (1:1), pp. 85-105.
Fielt, E., and Gregor, S. 2016. "*What's New About Digital Innovation?,*" Paper presented at the Information Systems Foundations (ISF) Workshop, Canberra, AU.
Foss, N. J., and Saebi, T. 2017. "Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go? ," *Journal of Management* (43:1), pp. 200-227.
Govindarajan, V., and Trimble, C. 2005. *Ten Rules for Strategic Innovators: From Idea to Execution*.
Boston, MA: Harvard Business Review Press.
Govindarajan, V., and Trimble, C. 2010. *The Other Side of Innovation: Solving the Execution Challenge*.
Boston, MA: Harvard Business Review Press.
Greenwood, R., Suddaby, R., and McDougald, M. 2006. "Introduction," in *Professional Service Firms (Research in the Sociology of Organizations, Volume 24)*, R. Greenwood and R. Suddaby (eds.). Emerald Group Publishing Limited, pp. 1-16.
Günther, W. A., Rezazade Mehrizi, M. H., Huysman, M., and Feldberg, F. 2017. "Debating Big Data: A Literature Review on Realizing Value from Big Data," *The Journal of Strategic Information Systems* (26:3), pp. 191-209.
Hartmann, P. M., Zaki, M., Feldmann, N., and Neely, A. 2016. "Capturing Value from Big Data: A Taxonomy of Data-Driven Business Models Used by Start-up Firms," *International Journal of Operations & Production Management* (36:10), pp. 1382-1406.
Katz, D. M., Bommarito, M. J., and Blackman, J. 2017. "A General Approach for Predicting the Behavior of the Supreme Court of the United States," *PLoS One* (12:4).
Loebbecke, C., and Picot, A. 2015. "Reflections on Societal and Business Model Transformation Arising from Digitization and Big Data Analytics: A Research Agenda," *Journal of Strategic Information Systems* (24:3), pp. 149-157.
Maister, D. H. 1993. *Managing the Professional Service Firm* New York, NY: Free Press.
Massa, L., and Tucci, C. L. 2014. "Business Model Innovation," in *The Oxford Handbook of Innovation Management,* M. Dodgson, D. Gann and N. Phillips (eds.). Oxford, UK: Oxford University Press,
pp. 420-441.
McAfee, A., and Brynjolfsson, E. 2017. *Machine, Platform, Crowd: Harnessing Our Digital Future*, (1 ed.). New York, NY: W. W. Norton & Company.
Newell, S., and Marabelli, M. 2015. "Strategic Opportunities (and Challenges) of Algorithmic Decision-Making: A Call for Action on the Long-Term Societal Effects of 'Datification'," *The Journal of Strategic Information Systems* (24:1), pp. 3-14.
Pavlou, P. A., and El Sawy, O. A. 2010. "The "Third Hand": It-Enabled Competitive Advantage in Turbulence through Improvisational Capabilities," *Information Systems Research* (21:3), pp. 443-471.
Schüritz, R., Seebacher, S., Satzger, G., and Schwarz, L. 2017. "Datatization as the Next Frontier of Servitization: Understanding the Challenges for Transforming Organizations," in *Proceedings of the 38th International Conference on Information Systems (Icis 2017)*. Seoul, South Korea.

Westerman, G., Bonnet, D., and McAfee, A. 2014. *Leading Digital: Turning Technology into Business Transformation*. Boston, MA: Harvard Business Review Press.
Wixom, B. H., and Ross, J. W. 2017. "How to Monetize Your Data," *Sloan Management Review* (58:3),