

A missing piece to maximise digital business capability

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- While IP/legal experts usually play little part in fast-moving and digital activities, IP StratOps deploys novel IP and legal capabilities to co-create and grow digital businesses.
- IP StratOps can be flexibly incorporated into digital businesses with different modes of integration, offering businesses a range of organisational design options.
- Influenced by agile and DevOps methodologies, IP StratOps ensures that digital plays get faster to value with higher certainty.

What if a company was targeting a predictive maintenance use case without the proper operations and aftermarket expertise onboard? Or if it spent tens of millions on building new data-driven services without involving any business development strategists? The chances are that any CEO would view such approaches as major red flags and seek to address them immediately.

Yet many organisations lack a less obvious, but still critical, capability in their digital business teams: strategic planning of data access-, contract- and IP-based control points, and its operational execution – IP StratOps.

Firms use digital technologies to create new offerings and complement existing ones in order to shift from the usual transactional process of selling products and services to developing deeper long-term relationships and delivering outcomes to customers. If successful, this business model is typically highly rewarded by customers and investors alike.

Navigating the digital technology stack may seem daunting but technology decisions may actually be the easy part. Instead challenges lie in:

- the innovative design of a new value proposition;
- the profit formula for how the company will make money;
- how to secure the resources (eg, data) necessary for the value proposition; and
- how to set up the key processes, partner networks, relationships and so on needed to deliver it.

These business model components are, to varying degrees, enabled through control mechanisms such as contracts and intellectual property. For example:

- Your ability to deliver will rely on access to the right data at the right time and of the right quality, which means that data access is key.
- There is no chance you will be able to act on your own, so you will need to partner and license to link up the technology and capabilities required.
- Differentiation may rely on critical patented/patentable technologies, which either provide an opportunity to strengthen competitive advantage or a risk to be managed, if held by someone else.
- A large part of your software stack may be built using open source software, to be carefully managed against key proprietary software functionalities.

Establishing a digital business team without the skills to handle these challenges means that you are setting up your business with an inherent disadvantage – you are entering the game a player down.

Data access, contracts and intellectual property determine digital outcomes

Consider the example of the pay per outcome business model. Companies including Heidelberg Druckmaschinen (print as a service), Kaeser Compressors (air as a service) and SKF (rotation as a service) use IoT technology to offer their customers the option of buying a service instead of goods, where the customer pays only for the outcome while everything else is managed by the supplier. Hitachi Rail will be paid when its customers (eg, UK train operators) complete journeys that meet key performance indicators such as maintenance, fleet availability and onboard temperature. Hitachi owns and maintains the trains and is paid by the UK Network Rail System for on-time service, which converts the capital cost of trains into an operational expense.

Although these models are powered by advanced technology, the value propositions, customer relationships, access to and security of critical data, key partnerships for their operation and continuous improvement and their defence against competitors are all shaped and controlled by key IP positions and clever contracts.

Regarding the interplay between business, contracts and technology at BMW, its CarData service offers third parties customer data (eg, odometer reading and average mileage). Data is shared only with customer consent and in accordance with the EU General Data Protection Regulation and the California Consumer Privacy Act. Only if a BMW customer has chosen to share vehicle data will their insurance company (or any other third party), who must be registered with CarData, receive data in an encrypted format. The insurance company can then offer personalised services based on that vehicle data.

Or consider the light as a service market. Below the surface, patents cover everything from the most basic features of the LED light sources and how a light can be manipulated and adapted, to control, maintenance, remote monitoring and intelligence. In some domains, there is white space for competitive differentiation. Some areas require licences from players such as

Signify, while in others the proprietary positions are fiercely protected. Understanding how intellectual property shapes opportunities and threats is critical for any successful play.

The missing player on the digital team

Job profiles in R&D, IT and business development are shifting to make them fit for digital business. Data engineers, business translators and solution architects are some of the new roles needed and can seldom be found in non-digital organisations. New practices, such as DevOps, shorten the systems development lifecycle and provide continuous delivery with high-quality software. Some companies are extending their DevOps with machine-learning opportunities or MLOps to deploy and maintain machine-learning models in production reliably and efficiently.

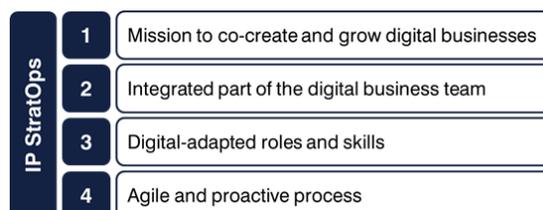
While it is natural for many companies to build these new technology-related roles and invest heavily in the necessary reorganisation, training, reskilling and recruitment, the IP and legal domains are often relegated to the sidelines. There are at least two important reasons for this:

- There is generally a lack of understanding among business executives about the relevance of the strategic management of data access, contracts and intellectual property for digital business.
- The typical reactive support-function model for the existing legal/IP functions disconnects them from the strategic dialogue, making them invisible in the change process.

Thankfully, as digital business has matured at leading companies, so too have roles and operating models for data access, contracts and intellectual property. Since the space is still relatively new and will continue to evolve there are many different organisational set-ups, depending on the particular company. Independent of how they have allocated accountabilities and work between business owners, technology, intellectual property, legal, procurement, strategy and other business functions, certain key patterns recur.

IP StratOps is a refined blueprint for combining these key patterns to co-create and grow digital businesses. It combines practices and tools to address strategic planning for data access-, contract- and IP-based control points and their operational execution. Influenced by agile and DevOps methodologies, IP StratOps supports the digital business lifecycle end to end to reach value faster and with higher certainty.

Figure 1: Key patterns of the IP StratOps blueprint



Mission to co-create and grow digital businesses

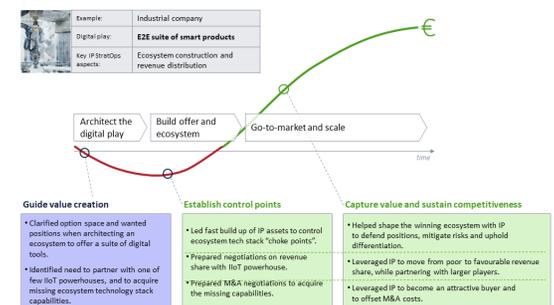
IP StratOps functions are not found in traditional areas of businesses but in dynamic settings where value chains are in flux, data and technology stack interdependencies are large and winning requires capabilities beyond individual companies. Their mission is not to draft and maintain patent portfolios.

In the early phases of a digital play, the role of IP StratOps is to help architect the business model by clarifying the option space and selecting positions where capabilities can create advantages. In the following build-up phases, it can ensure that control points are fully or partially established, that access to critical assets is secured and that partnerships and ecosystems are constructed effectively. When going to market and scale, IP StratOps is critical for ensuring that value is captured and that control points are leveraged to sustain competitiveness and profitability.

One multinational engineering company set out to offer an end-to-end suite of smart digital products that would revolutionise its customers' production processes. It wanted to ensure that IP StratOps capabilities were added to the business team from day one.

Initially, the IP StratOps team worked with the rest of the business team to clarify the option space when selecting desired positions, understanding competitor positions and movements in the value chain by adding their IP/legal expertise and IP intelligence data to the analysis. In doing so, they helped make an informed choice about which of a handful of industrial IoT (IIoT) powerhouses to partner with and specified which missing capabilities to acquire.

Figure 2: Example of an industrial company leveraging IP StratOps capabilities throughout different stages of the digital play



The IP StratOps team then led a rapid and focused build-up of IP assets to beat competition to control differentiating choke points in the emerging technology stack. Leveraging that initial IP portfolio (primarily patent applications), the team helped the business owner to move from an unfavourable starting point to a beneficial revenue share in the negotiation with the much larger IIoT powerhouse. In negotiations with acquisition targets, the company was an attractive buyer because of its conscious and forward-looking IP position, which helped offset acquisition costs.

An integrated part of the digital business team

Context awareness determines speed, performance and impact for any business activity, but perhaps even more so for contracts and intellectual property. The old support-function approach requires the business team to understand which questions to ask, find someone who typically lacks context in intellectual property/legal to answer these and explain to them what they want to know and then evaluate whether the answers are useful and if any actions should be taken.

In practice, this often means that IP/legal experts are not involved in the process for fast-moving and digital parts of the business. They will rarely contribute to the strategic dialogue, sub-optimal decisions will be made without properly considering positioning and control aspects, and risk mitigation, leverage and competitiveness are likely to be hampered by slow execution. Even if digital business leaders proactively include experts, their generally reactive, counselling way of working would still make them incompatible with the team's needs.

IP StratOps is different. It is built from the same philosophy as those of agile digital business teams, namely that a timely and synergistic contribution can only be achieved with all partners equally integrated within the team, fully plugged into the business context. This makes IP StratOps a natural part of the business team and a co-owner in the common business purpose, which partakes continuously in the strategic learning process.

There are various ways that it can be integrated into digital business teams. Different organisational design options include the following:

- One automation company integrated its IP StratOps directly with product owners to operate side by side with the fast-moving digital business, and with dotted lines to the group IP and legal organisations.
- One engineering company is building a hub-and-spoke model with distributed IP StratOps capabilities in relevant business segments, facilitated by a centre of excellence under corporate digital.
- One ICT company decided to multi-locate its new IP StratOps capabilities, so that all team members are embedded in their respective business areas and can acquire deep business understanding, while ensuring competence development and a one-portfolio-approach as part of corporate intellectual property.

Digitally adapted roles and skills

To be a co-owner and co-creator in a digital business team requires new and different skill sets. While it is important to collaborate closely with traditional IP and legal roles, the unbroken bridge between business strategy and deep legal and IP expertise offered by IP StratOps is what makes the crucial difference. Merely tagging a software-centric patent attorney to digital teams will not fill the gap. Contrary to most people's intuition, it can even sometimes be easier to repurpose talents from, for example, business development or product strategy teams, than from intellectual property or legal.

At the core of IP StratOps are three new business personas that characterise professionals working within such teams:

- the visionary architect;
- the entrepreneurial specialist; and
- the whole picture analyst.

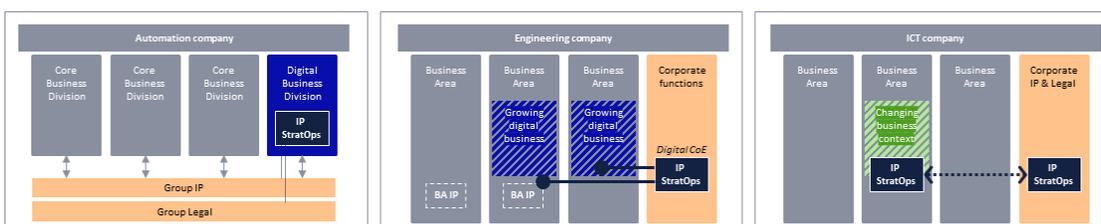
One or several of each form the IP StratOps team, which typically comprises between three and five people.

The visionary architect is a business/IP expert with a strategic mindset and co-creation leadership skills. They integrate the perspectives of the team with their own original thinking to shape and communicate a clear value position and control vision, engaging with digital business leaders and empowering the team to continually plan, execute and adapt resources in rapid, iterative cycles.

The entrepreneurial specialist is an IP technology/IP legal expert (eg, a lawyer, patent attorney, data scientist, open source expert, licensing expert or litigator) with an entrepreneurial mindset and cross-functional collaboration skills. They engage with innovators, negotiators and dealmakers to create, manage and leverage intellectual property (broadly defined) for business advantage, while also fostering connections across functions and specialist teams (eg, strategy, intellectual property, legal, procurement) to mobilise key expertise and get things done.

The whole picture analyst is an business/IP intelligence expert with an analytical mindset and clear communication skills. They collect and analyse intelligence data from all available sources, including IP and legal databases, to achieve holistic and objective insights into the business context. They support the strategic learning process by clarifying options, assessing risks and fostering a data-driven course of action.

Figure 3: Example IP StratOps implementations



There are different models for how companies resource their IP StratOps teams. In one example a company putting together its first IP StratOps team recruited a visionary architect internally from the business strategy department. It quickly equipped him with IP skills through an intensive training programme and brought in one of the most entrepreneurial IP portfolio managers from corporate intellectual property to be his complementing right hand. The first version of the team was completed by appointing a business and engineering graduate with an interest in intellectual property as the whole picture analyst, and by bringing in an experienced patent attorney with the right IP legal expertise. The team ran a 100-day training and norming programme to boost IP StratOps skills and set the new way of working, and continued to hold regular norming sessions to discuss and promote the right behaviours.

Another company brought in a team from an external partner to quickly stand up the new IP StratOps capability, bridge the immediate talent gap and prove the value of the new function. This external team then helped recruit and train the permanent IP StratOps team, led by a visionary architect enlisted from an adjacent industry with experience as a business owner leading digital business development.

An agile and proactive process

Most companies have adopted more or less agile approaches to innovation and product development with regard to digital use cases. This entails a sharp focus on results and performance and an approach aimed at creating more responsive, efficient and

effective organisations whose teams and individuals have greater balance, motivation, innovation and productivity. IP StratOps is born out of the same philosophy to self-organise and find the best way to address the common challenges of the larger business team, while working in rapid and iterative cycles.

The agile nature of IP StratOps makes it highly compatible with organisations using, for example, a scaled agile framework (SAFe) or large-scale scrum. IP StratOps can help overcome the mismatch between traditional long-time cycles for intellectual property and rapidly shifting agile innovation. The iterative strategic planning of data access-, contract- and IP-based control points that characterise IP StratOps can typically merge with epic owners' planning cycles in the SAFe approach on portfolio level and with programme increment planning for agile release trains. IP StratOps professionals can be directly plugged into agile teams' sprint planning meetings as well as retrospectives.

Faster to value with higher certainty

Digital-use cases powered by connectivity, data and analytics are no longer a future opportunity for consideration, but a market expectation and are key to sustained competitiveness. As digital-enabled business models are based on data access, contractual control and intellectual property, companies will need to add IP StratOps capabilities to avoid entering the game one player short. IP StratOps may not be the most important player in the digital team, but it increases the probability of successfully capturing and scaling value, and in many cases it is key to have a ticket to play at all. **IAM**

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Figure 4: Example IP StratOps process that combines strategic planning, operational execution and change in an iterative loop

