UNIVERSITY OF CAMBRIDGE
Cambridge Service Alliance

From Processes to Promise:

How complex service providers use business model innovation to deliver sustainable growth

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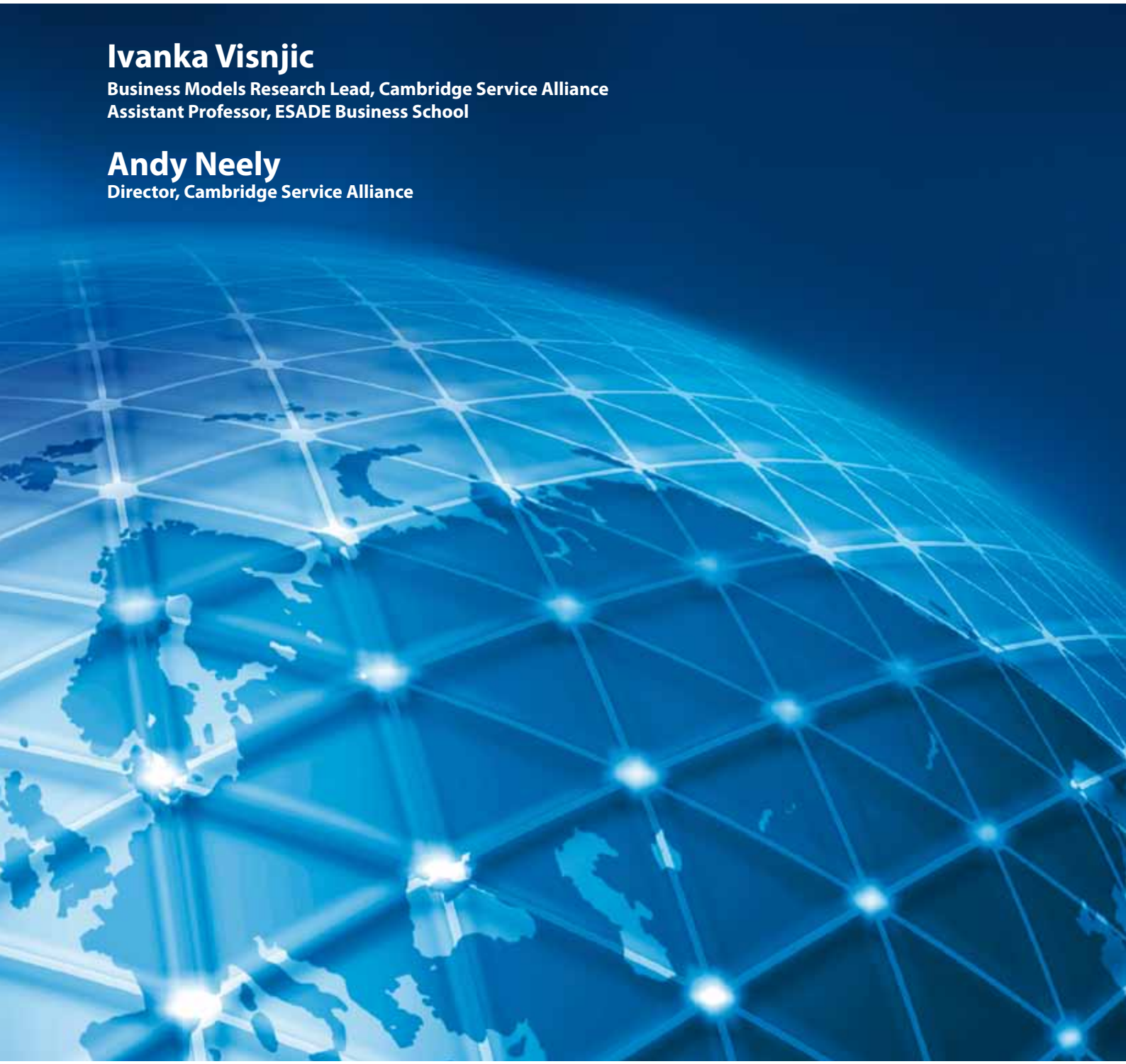

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The Cambridge Service Alliance

The Cambridge Service Alliance is a unique global partnership between businesses and universities. It brings together the world's leading firms and academics, all of whom are devoted to delivering today the tools, education and insights needed for the complex service solutions of tomorrow.

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Founded in 2010 by BAE Systems, IBM and the University of Cambridge's Institute for Manufacturing and Judge Business School, the Cambridge Service Alliance brings together world-leading organisations with an interest in complex service systems to:

- Conduct insightful, yet practical research to improve the design and deployment of high-performance complex service systems.
- Create and develop industrially applicable tools and techniques that deliver competitive advantage.
- Provide an unparalleled network of academics and industrialists that share experience, knowledge and insight in how better to design and deploy high performance complex service systems.
- Develop and deliver public and member-only education programmes to raise the skill levels of organisations.

Joining the Cambridge Service Alliance

Industrial members

The founding industrial members are BAE Systems and IBM. The Cambridge Service Alliance will bring together up to eight further companies prepared to make significant and long-term contributions to support the Alliance. Benefits of joining include:

- Challenging yet practical insights into the design and delivery of high-performance complex service solutions.
- Practical tools, techniques and methodologies.
- Education and training to enhance capabilities in service and support.
- A stimulating international network of the world's best talent engaged in solving problems associated with complex service solutions.

Academic members

The Alliance draws on members from across the University of Cambridge, initially from the Institute for Manufacturing and the Judge Business School.

Internationally leading researchers and educators will be invited to join the Cambridge Service Alliance to meet specific research requirements and the needs of industrial members.

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Executive Summary

The 'pure' service sector represents three quarters of the developed world's economy. Forty per cent of manufacturing firms sell services as well as products. In some cases 'traditional' manufacturing firms generate over fifty per cent of their revenues from services. It is clear that service offers companies significant opportunities to create and capture economic value. Underlying this shift to service is a change in the nature of service. Increasingly firms are focusing on how they can deliver services that help their customers deliver value to their stakeholders. In essence service providers are shifting from being 'doers' to becoming 'problem solvers', capable of orchestrating the delivery of complex services.

Our research explores the challenges and opportunities associated with this shift. Through interviews with 24 managers from 12 different companies we show how complex service providers are innovating their business models to obtain sustainable profits and growth.

A key finding of our research is that these service business model innovations do not occur in isolation. Instead one has to take account of the ecosystem – the business environment in which the service provider operates. This ecosystem consists of all those organisations that are able – directly or indirectly – to influence the service provider's ability to create and appropriate value. Our research suggests that the impact of ecosystems is growing.

We also find that business model innovation involves service providers extending their 'value proposition'. They move from offering relatively simple services, such as IT support or equipment maintenance, towards more comprehensive service offerings, such as 'cloud' computing capacity or guaranteeing equipment availability. In doing so, complex service providers position themselves as solution-providers, offering to be held accountable for the delivery of service outcomes.

Service providers have three options to extend their accountability. First they can extend the scope of services they provide. Second they can increase the timeframe over which these services are provided. Third, they can change the nature of the contract, by guaranteeing outcomes and performance levels. Each of these innovations offers new opportunities to create value, by more closely aligning with the customer's business model.

Importantly the service provider also has to decide how to structure the service delivery system. Service providers may remain accountable for the ultimate service delivery, but they do not need to undertake all of the elements involved in service delivery. They have the freedom to decide how the service will be delivered. This freedom means they can innovate the service delivery system. Often they use technology – smarter services – to enhance service delivery.

Rarely do single service providers have all of the capabilities required to deliver services. This is particularly the case as value propositions become more complex and service delivery systems become more technologically dependent. By partnering, service providers can fill their own competence gaps, but by partnering the service provider is also exposed to more risk.

Separating what the provider is accountable for from how this promise is delivered increases the accountability spread. As a consequence the service provider is exposed to risks that originate from: (i) the value proposition, (ii) the value delivery system – either of the provider or the broader ecosystem, or (iii) beyond the ecosystem.

Our research reveals how complex service providers are innovating their business models in the pursuit of increased growth and profitability. It also enables us to identify the organisational capabilities that organisations need in order to successfully innovate their business models. These capabilities relate to the three aspects of service business model innovation – the value proposition, value delivery and accountability spread.

So, for example, the service provider should have a thorough understanding of the way its customers do business, and create and capture value, in order to define effective value propositions. The service provider must be able to clearly define and articulate the value proposition and its benefits to customers and build confidence in the viability of their value proposition.

To deliver value effectively the service provider must have the organisational capabilities required to manage and orchestrate the ecosystem. It must make the right decisions about who to involve in value delivery, be able to assess and choose the best partners, and build and maintain productive relationships with them. The service provider must also be able to work effectively with the customer to co-create value.

Service providers also require capabilities to deal with the accountability spread produced by service business model innovation. Some of these capabilities concern risk identification. Other capabilities relate to being able to measure and manage the risks arising from changing the value proposition and delivery systems, and containing and sharing this risk together with other members of the ecosystem. Being able to articulate and price the risk is important; it involves identifying appropriate mechanisms, commercial and legal constructs, for example, with which to operate effectively across the network and capture value.

Finally, for executives who want to pursue this approach to business model innovation, we suggest some initial measures. Steps should be taken to establish and analyse the value proposition, value delivery system, and resulting accountability spread. Efforts made to understand and map the ecosystem. These and other critical activities should be embedded into the roles of key individuals with the accountability to drive profitability. Leaders should prepare for transformation and change.

Introduction

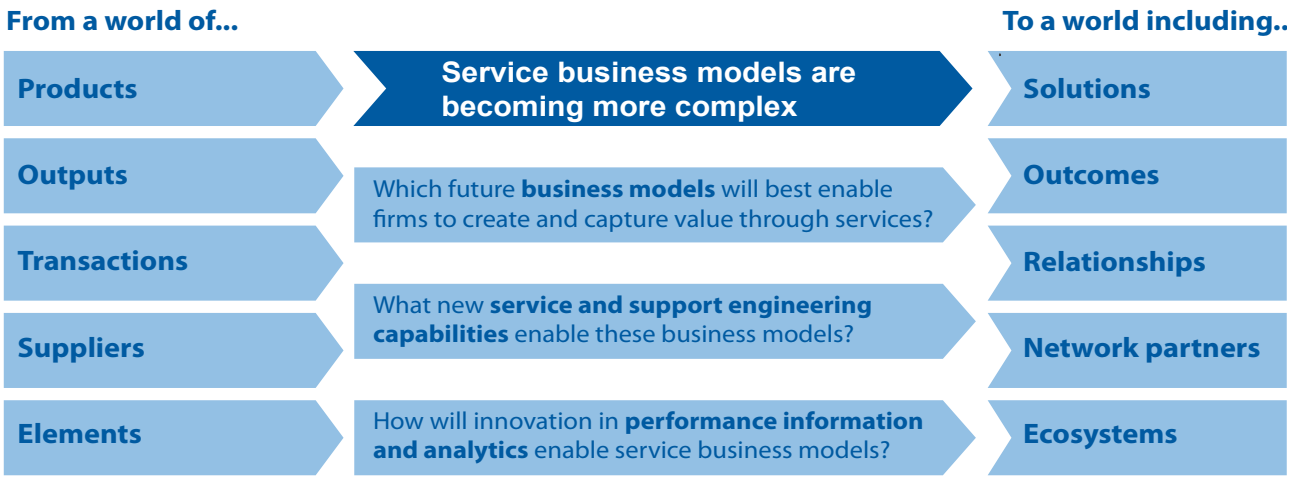
Organisations in today's global economy face a major strategic challenge. How do they position themselves in a way that continues to offer opportunities for sustainable growth and profitability, in an increasingly complex, resource constrained, and competitive business environment?

The response to this challenge has been to move away from traditional definitions of what a company offers its customers. Take manufacturers, for example. Most manufacturers today are not only manufacturers, but also include an extensive element of service provision as part of their offering to customers. Service-oriented firms are moving from products and outputs towards solutions and outcomes and from transactions and suppliers towards relationships, networks and ecosystems. In this world, successful organisations take the role of solution providers with accountability for more complex and encompassing service solutions. Through their relationships with other members of the broad business environment – the ecosystem – and the help of new technologies, they create and capture value, by offering 'smart' services to their customers.

Yet, although the complex services market appears to offer considerable opportunities for growth, little research has been conducted on how best to maximise those opportunities. Considerable time and effort has been expended on understanding how product firms create and capture value. Business executives and management academics have focused on business strategies such as product differentiation, cost efficiency and product innovation. Well-known tools and frameworks such as Michael Porter's five forces strategy framework, value chain analysis, and the core competencies concept have been developed to support these strategies. The world of complex services, however, is far less well understood. Do the rules, the theories, the frameworks and the strategies for growth that were developed primarily for products hold true for complex services? Or is something different required? This was the context for our research.

This practitioner-oriented white paper explores the challenges and opportunities associated with the shift to complex services. In particular, our research, involving interviews with 24 managers in 12 organisations, looks at how complex service providers are using business model innovation (changing the way they do things to create, deliver and capture value) and their ecosystems to try and obtain sustainable growth and profits. It offers a framework to help understand the business model innovation process, outlines some capabilities complex service providers need to successfully undertake business model innovation, and suggests initial steps to be taken on that journey.

Although our research focuses on the providers of complex services, the findings are relevant to a much wider audience, including regulators, policymakers, and service-oriented firms more generally.



- Services are not easy to scale – costs are high, margins are compressed
- Services often involve long-term commitment and performance-based contracts
- With multiple parties co-operating to ensure delivery

Our research methods

We conducted case study research of 12 firms that provide or participate in the provision of complex services. Firms were selected as follows: two rail transportation solution providers; two energy and water utilities; two defence solution providers; two support service providers; and four consulting service providers with either an IT, logistics or innovation specialisation. The firms selected were from different sectors and ecosystems, and provided different types of complex services. The selection process was guided by a survey of ten academic and five practitioner experts, who recommended relevant sectors, and also complex service providers with innovative business models. We also wanted our firms to represent different ecosystem dynamics. In particular, service providers that worked with single or multiple customers within one type of ecosystem – for example, providing any support services for city councils – as well as service providers that worked across multiple ecosystems – for example, only building and construction support services for any type of client. Overall, six firms operated in a single-client ecosystem, two operated in ecosystems with multiple similar clients that are dominant within a geography and, finally, four firms operated across different ecosystems with multiple clients.

Data collection involved an initial in-depth interview with a number of senior managers who had responsibility for and a stake in strategic direction, execution and the firm's performance, such as the CEO and the CIO or managing consultant, for example. Questions were designed to reveal details about the firm's business model, its content, structure and governance, the firm's activity system, other members of the ecosystem, and their activity systems. The senior executives were asked questions that related to the firm's value proposition and delivery, value creation in the ecosystem and other aspects of business model innovation. Transcripts of the interviews were category coded, the business models analysis was first performed for every firm individually and then the second stage of the analysis was performed by comparing business model characteristics across firms. The results were compared across the categories and sub-categories, to identify patterns, which start to explain the value creation process in business models developed by complex service providers and other members of their ecosystem.

Finally, our findings have been discussed with firm representatives at a series of workshops, and the cross-firm analysis results shared with a diverse group of academics and practitioners. All comments presented on individual cases or the cross-firm analysis have been accepted and incorporated into our ongoing analysis.

Innovating Across the Ecosystem

The innovation opportunities for complex service providers stem from changing the way they think about and construct their business models for service provision. In the past, most organisations adopted a relatively straightforward transactional approach to their business model. They designed, manufactured, sold and delivered, a product or service to a customer. In the first instance, that business model started to evolve as the organisation added sub-contracting, and outsourcing, to their value chains.

More recently the distinction between products and services has become increasingly blurred, as organisations innovate the design, build and delivery towards integrated product and service offerings that deliver value-in-use. And so we arrive at a more complicated, relationship based, networked approach to the business model, which becomes a collection of activities, spanning an ecosystem of organisations, designed to address perceived market needs and create and share value together with partners and other ecosystem stakeholders. Value creation begins to take on the shape of a value net or a web rather than a value chain.

Thus complex service providers have moved away from the simple delivery of services or products, and are positioning themselves as solution-providers that take accountability for the delivery of the outcomes.

Operating in an ecosystem

The ecosystem consists of all those organisations able to influence the service provider's ability, directly or indirectly, to create and appropriate value. This includes partners, customers, competitors and collaborators, but also organisations that influence the competitive climate such as regulators, lobbying firms, and governments. Customers, for example, may exert a powerful influence over the ecosystem. This is particularly true in markets, such as utilities, transport and defence, where one customer or decision-maker dominates. A council, for example, might decide to draft a procurement tender in a way that triggers cost competitiveness or, alternatively, that stimulates innovation and promotes partnerships between service providers.

Several factors related to the characteristics and dynamics of an organisation's ecosystem affect a service provider's ability to innovate its business model and create value. These include the ecosystem's structure, the way power is distributed throughout it, and the service provider's position within it, for example. Organisations continually use business model innovation to try to find a more advantageous position within their ecosystem, from which to generate and capture value.

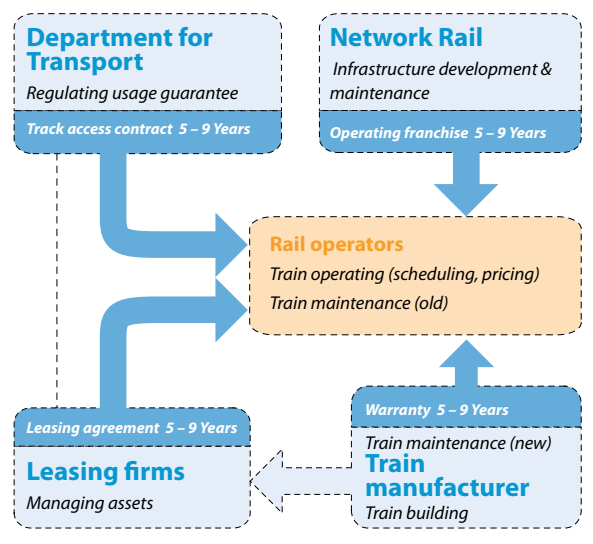
Creating the conditions for innovation

It is easier to understand the way that complex service providers innovate their business model if we consider their business model in two parts. The first part is the value that the service provider creates for customers and which they are accountable for providing – computing capacity, aircraft engine capacity, or simply a warehousing service, for example. This is termed 'the value proposition'. The second part of the business model covers the way that value is delivered – through IT systems installations, engine design and maintenance, or warehouse management, for example. This is 'the value delivery'. Framing the value proposition in terms of assuming accountability for an outcome or taking responsibility for a promised outcome, rather than simply administering service processes required to achieve this, creates space for the service provider to innovate the way that it fulfils that promise. It can take the existing value proposition and reconfigure it, create a different value proposition, or reconfigure the value delivery systems. In each instance the service provider can involve other members of the ecosystem as part of the innovation process. Complex service providers use the ecosystem to innovate their business models. As well as creating more opportunities for growth, however, this type of business model innovation exposes the service provider to risk. This may involve increased exposure to existing known risk, or taking on new risks. We label the collective risk taken on by the service provider as 'the accountability spread'. Effective management of the accountability spread is critical not only to the service provider's ability to innovate, but also to its long-term sustainability and survival.

Formulating the value proposition

Complex service providers change the value proposition that they are accountable for in several ways. The key here is that the service

The ecosystem in action



The UK railway industry is a good example of an ecosystem in action. For several decades now, train manufacturers have innovated their business models as they respond to regulatory changes in rail transport that have redefined firm boundaries.

In 1993 the Railway Act set in motion the privatisation of the nationally owned rail industry. Since then the UK Department for Transport (DfT), representing the public as the final customer, has attempted to stimulate competition and encourage investment and innovation by creating a rich and complex rail ecosystem with a diverse set of players.

The DfT continues to reshape the rail ecosystem by determining what to procure, and from which market player. It recently invited manufacturers to offer train leasing, previously offered exclusively by specialised leasing firms, as a part of their service. The DfT has also increased the length of the service contract it awards manufacturers.

providers approach the value proposition challenge from the perspective of fulfilling the customer's needs, rather than providing something that fits in with their own core capabilities and activities. The intention is to find solutions that enhance the customer's business model.

Reconfiguring: One way to create a new value proposition is to reconfigure the existing value proposition in a way that increases value for the customer. Take the situation where a customer uses several specialist service providers as part of its business model, coordinating those operations itself. A complex service provider could assume responsibility for the supply of those specialist services, even if it did not have the competencies required to deliver them. In assuming responsibility for providing an integrated service solution, the provider hopes to use ecosystem resources to innovate the coordination and delivery of these interlinked services in a way that adds value for its customer.

For example, a supply chain consultant interviewed as part of the research offered a customer supply chain solution that included various services, including transportation. From the user's perspective, transportation was closely linked to the other elements of supply chain solution, such as procurement and warehousing. The supply chain consultancy excelled in other services, but specialised transportation providers were more competitive in providing transportation. Instead of refusing to include transportation in the solution, the consultancy took responsibility for the end-to-end supply chain solution and began to partner with specialised transporters.

Extending the proposition: The service provider can go much further than merely reconfiguring the value proposition, however. Complex service providers can also extend their service offer, to create a more comprehensive value proposition. A defence system provider might extend its offer from the delivery of a standardised military aircraft to providing a 'guarantee for an air combat capability with certain technical specifications over 20 years'. In doing so the firm expands its value proposition from a simple transaction to an outcome encompassing a complex array of services. The solution provider takes responsibility for designing an aircraft with certain specifications, and responsibility for the availability of the systems over a 20 year period including services, such as maintenance and monitoring. Much of this may not be within the solution provider's competence at the time of the agreement.

There are three main ways that the service provider can extend its value proposition. It may extend its accountability in terms of the scope of the activities provided. Usually, some of the 'new' activities are already provided internally by the customer itself, such as the through-life maintenance of the aircraft in the example above. Secondly, the service provider can provide the activities required over an extended period of time. An equipment manufacturer may extend its value proposition for the maintenance of a train on an ad hoc basis to a maintenance contract spanning several years. Once again this shifts the value proposition from the transactional to the relational, creating a closer relationship between service provider and customer.

Thirdly, the service provider can change the nature of the contract by guaranteeing outcomes and performance levels. So a defence manufacturer, instead of providing engine maintenance, may offer 'power by the hour' with defined levels of availability and reliability of the engine. Or a supply chain consultant would guarantee a certain level of inventory and availability of stock, rather than billing for the hours spent on the transformation project.

Some challenges: Complex service providers intending to create a persuasive and viable value proposition for their customers should be aware of some potential ecosystem associated pitfalls. For example, the characteristics of ecosystem members can have unintended consequences that make business model innovation more difficult. Certainly this is true for direct buyers of a service and their customers, as well as other stakeholders such as regulators.

Competing incentive systems may present a challenge in a customer that has complex organisational structures and multiple internal stakeholders. There may be a tendency to develop a value proposition that satisfies key decision-makers, but that is

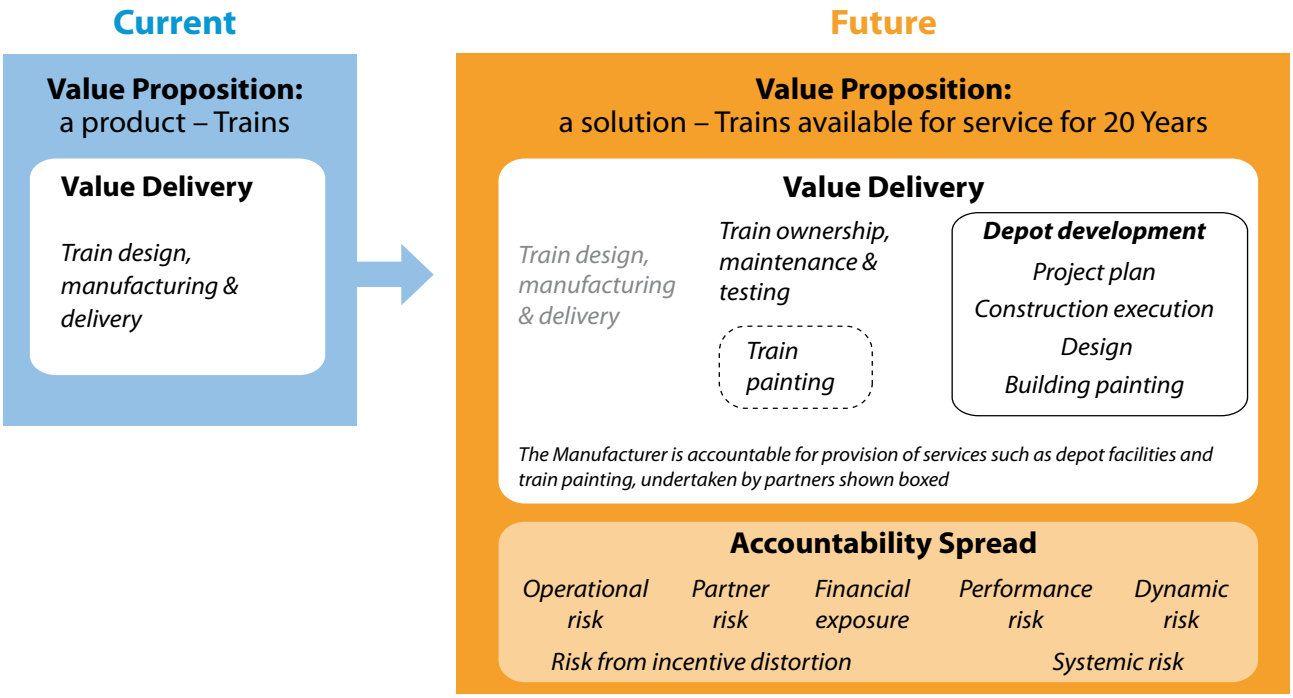
not necessarily the best solution for the customer's business as a whole. Or, if the interests of the service provider and the internal purchasing team differ, it can create competition between the service provider and the stakeholders within the customer organisation.

For example, public sector customers often have strong internal purchasing teams mandated to procure services internally or from external providers. These purchasing teams are usually judged on their ability to provide 'value for money' or cost-effectiveness, and make decisions based on these criteria. A complex service provider may offer an innovative and competitive service with the potential to provide value to the customer. The purchasing team, however, may make its purchasing decision driven by incentives such as price competitiveness, or selfish organisational interests if, for example, external providers are competing against the team's internal provision of service. A complex structure may also mean the customer has more complicated decision-making processes involving multiple stakeholders and this can stall the purchasing process and limit the likelihood of the customer agreeing to the value proposition. Other factors, such as the nature of the market and concentration of customers, also affect the relative importance of ecosystem members. Customers that help complex service providers co-create the service, or have an active part in delivery of that service, play an important role at the strategic as well as operational level.

Value delivery using the ecosystem: As well as changing the value proposition, service providers can also innovate their business model by changing the way they deliver value. This is where the ecosystem is particularly important. The service provider is faced with a challenge. It wants to provide a value proposition that fits in with its customer's business activities, yet may not have all the competencies it needs to do this. It is at this point that the service provider turns to the ecosystem.

A key part of the value delivery element of business model innovation involves deciding how best to use the ecosystem to deliver those activities and solutions that the service provider is accountable for. By harnessing the resources in its ecosystem the service provider, partnering with organisations that have specialised capabilities, for example, can reconfigure its value delivery systems to cover any competency gaps. One option is to change the content of the activities. For example, a facility maintenance provider who contracts to provide a safe building may decide to hire a security systems provider to install and operate security cameras, instead of providing a 24 hour security guard. Alternatively the service provider may decide to change the structure of the business model, by assigning activities to better-placed ecosystem partners, handing over surveillance of key facilities to a specialised security firm, for example.

Four principles: The research shows that four principles guide the way that service providers approach the innovation of their value delivery systems. Service providers tend to hang on to those activities where they already have or want to develop competencies. A water utility might retain all the activities that relate to its core water infrastructure planning activities, including those relating to the effects of climate change - an area where it hopes to develop greater expertise. Where activities are strategically linked to the service provider's core activities, then those activities are also likely to be retained. An ICT firm might continue to produce standardised products – such as mainframes – if they are a necessary means of entry to providing through-life support and consulting. After UK rail privatisation, for example, train operators began to outsource train maintenance services to train manufacturers, aware of the specialist competences required and the strategic links between equipment design and services that existed. The manufacturer service providers were more likely to design good trains and spare parts if they were also responsible for



the servicing and functioning of those trains.

The provider will liaise with ecosystem partners to deliver complex activities that are not core to the service provider's activities and competencies. If a water utility firm had to provide large technically complicated water containers as part of its value proposition, for example, it might partner with construction experts to design and deliver them.

At the same time service providers continue to outsource simple service activities to more competitive markets in order to leverage competitive forces in other parts of the value network. For example, train manufacturers outsource painting and logistic providers outsource transportation.

Benefits: Offering a more comprehensive service solution to customers results in a number of benefits for providers. Moving to a more relationship-based approach will inevitably create stronger relationships with customers and attract new customers. Expanding the scope of service activities or changing from a service process to a service outcome grows revenues, while extending the length of a contract assures future revenue flows. Also, the broader the scope of service provision, the greater the opportunity for business model innovation. A more comprehensive service solution also allows the service provider to make more substantial investments in business model innovation. With product innovation, the innovator can often secure the value of their innovation through a variety of means, not least IP protection. Service innovations are more difficult to patent, and therefore easier to imitate. As the service provider cannot protect the innovation on the market, the only way it will invest in innovation is when it is protected by the contract. The longer the service contract, therefore, the higher the expected revenue streams and the greater the investment.

Accountability spread

When service providers innovate their business model by taking new accountabilities and opening up the value delivery system they are exposed to new risks – 'the accountability spread'. These risks may be operational, financial, dynamic, systemic, performance or incentive related. They occur during both elements of business model innovation – the value proposition, and value delivery – and may also be connected to the operation of the broader ecosystem, in which the service provider, its partners and customers operate.

The service providers take responsibility for providing the customer with a particular solution, which may involve access to specialised resources, such as skilled mechanics or spare parts. There is an operational risk attached to contracting to provide such a service. The service provider may underestimate the scope and complexity of the activities it is accountable for,. Or the service provider may underestimate the increased complexity involved in providing the new value proposition.

Alternatively, where members of the ecosystem are engaged in the delivery of services the provider may encounter partner, supply chain, or customer exposure risks, depending on which member of the ecosystem is involved. Another aspect of operational risk is the provider's ability to manage different operational cycles across the ecosystem, or change delivery regimes depending on the circumstances. So, for example, a service provider may have to tie its operations to election cycles, or swiftly switch from delivery systems optimised for peacetime operations, to a delivery system optimised for times of conflict.

Service providers may also incur greater financial risks. Deciding to retain ownership of an asset, as when train manufacturers offer trains as a service charged on a 'per day' basis instead of just selling the train to the customer, for example, creates two types of financial risk. There is the risk of miscalculating the residual value of the asset, plus the risk of volatility in the financial markets over time.

There may also be incentive-related risks. Changing the business model and redrawing the service provider's boundaries can create a distortion of incentives risk. When car manufacturers changed their business model and extended their value proposition to include car leasing they distorted incentives. They soon realised it was very difficult to incentivise their sales team in a way that accounted for long-term risks. The salesman pressured the analysts pricing the leasing contacts to reduce their prices. The analysts knew that if they under-priced the contract, the under-pricing would only become apparent some time later when both analysts and salesman were likely to have left.

Partnering vs outsourcing

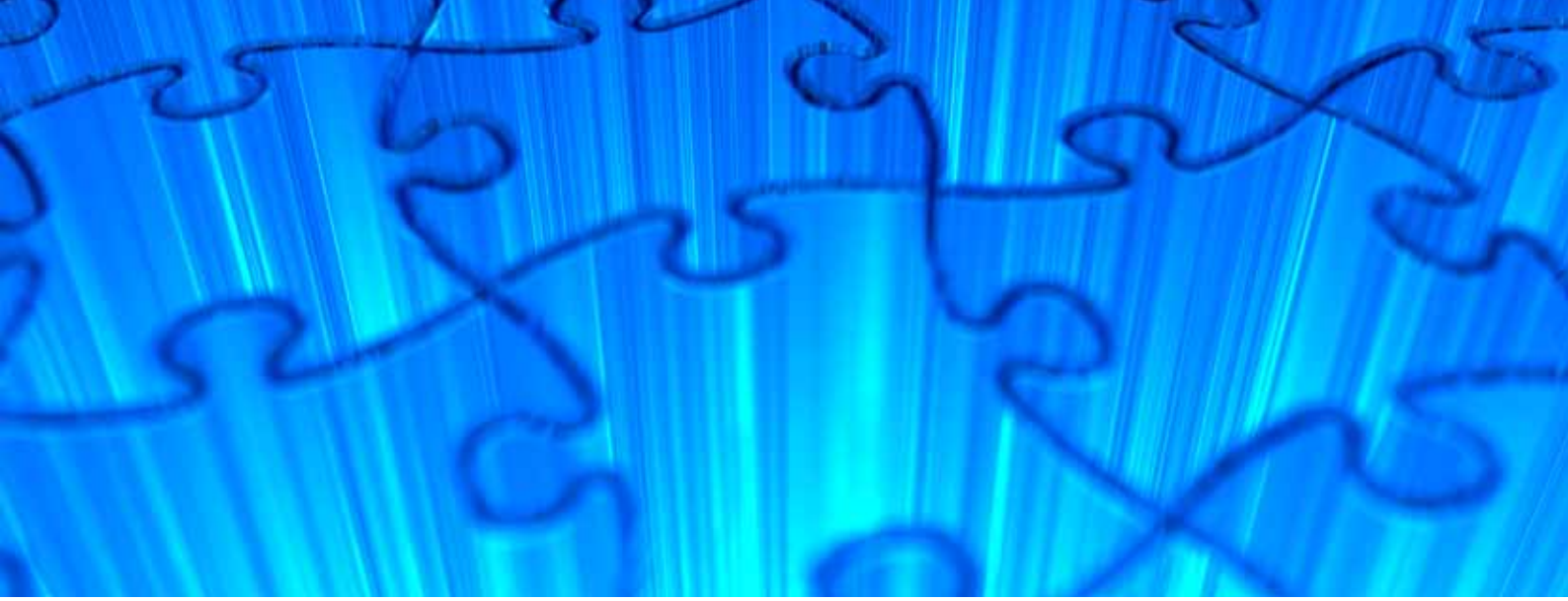
It is important not to confuse partnering and outsourcing. Outsourcing relationships are often viewed as client-provider relationships with transactional governance mechanisms and a strong element of price negotiation. The outsourcing firm looks to stimulate competition in supply markets, and designs a one-time agreement to procure delivery of a certain service activity. Partnering is more about relationship building. Governance mechanisms tend to be broader and longer. Plus the provider looks to develop relationships with its ecosystem partners and takes more of an interest in their long-term prosperity.

If a provider views service activities as comparatively simple and non-complex, it may mistakenly assume that there is no risk associated with those activities and adopt an outsourcing position. However, inducing high-levels of competition downstream may lead sub-providers to shirk on service quality and thus generate greater risks. Given that the provider is accountable to the client for the provision of the overall solution, it is the provider that will bear the consequences of any default.

As service activities are rarely simple and risk-free, in the sense that the provider can be assigned with clear accountability for the outcome, our findings suggest that partnering is a more appropriate approach to governance within the ecosystem. Indeed moving from an outsourcing perspective to partnership perspective is a form of business model innovation in itself.

A train operating customer, for example, may have less incentive to minimise the wear and tear of the train if another party in the ecosystem – the train designer – has responsibility for the through-life provision of a functional train. Even ecosystem participants indirectly related to the service provider can add to the distortion of incentives. A train manufacturer that commits to a specific train delivery timeframe may be held up by an infrastructure operator responsible for assigning train testing times. Performance-related risks also arise. For example, a provider switching from delivering a service as a process – warehousing activities – to framing service as an outcome – reduced inventory levels with good availability – inevitably embraces additional performance risk, such as incurring penalties for failing to meet performance targets.

Finally there are some risks that are particularly associated with engaging with other members of the ecosystem. Partners may fail to deliver. Other members of the ecosystem may behave in a way that impacts on the ability of the service provider to fulfil its responsibilities to the customer. Organisations may not be able to coordinate and manage partners across the ecosystem to fit with the operational cycles of their customers. Beyond this the broader environment of the ecosystem creates its own sources of risk. Dynamic risks arise due to the changing conditions over time, economic or environmental, that affect either the service provider or the ecosystem. If a provider guarantees the capability of a complex piece of equipment over 20 years the spare parts sub-suppliers may not be in business in 20 years time. Finally systemic risk arises when a source of risk beyond the ecosystem leads to system-wide failure – as with the credit crunch and ensuing banking crisis.



Core Capabilities for Business Model Innovation

The complex service providers we studied engage in business model innovation to achieve sustainable growth and profitability. But how the elements of complex service business model innovation fit together is only part of the picture. To combine these elements in a successful way that translates potential gains into actual benefits requires certain organisational capabilities. Our research identified these capabilities, which relate to both aspects of business model innovation – the value proposition and value delivery – as well as dealing with the accountability spread.

Value proposition capabilities

A better understanding of the customer's business allows service providers to design a value proposition that best fits with the customer's business model. The service provider should have a thorough understanding of the way its customers do business, and create and capture value. This should include understanding their customers' ecosystem constraints and institutional dynamics, and any need to satisfy key stakeholders within the customer's organisation.

As one support service provider noted, the public spending cuts affecting local councils at the moment represent an opportunity for them to work with their customers. Together with their customers they are rethinking the ways in which they can offer a multi-service approach to meet the needs of the communities served by their customers, adding value without compromising quality.

The service provider must be able to clearly define and articulate the value proposition and its benefits, not only to customers, but also internally, and to potential partners across the network.
As many service offerings are both complex and intangible it is not always easy for the customer to understand the service offering or evaluate it. Specialised capabilities, the use of visualisation and modelling expertise, that allow the service provider to demonstrate value to their customers are useful. Equally, though, simply describing the mechanics of the value proposition, and the logic behind it can be enough to convince customers. A service provider simply might spell out how better spare parts availability will improve customer satisfaction in the customer's business, and therefore lead to greater repurchasing and sustained sales growth.
Service providers must build confidence in the viability of the value proposition and its ability to deliver that value. Even if a provider can convince a customer of the value of the proposition, the customer may still feel it is taking a leap of faith on value delivery. The provider has to reassure the client that it will be able to orchestrate delivery. An outcome-based service goes some way to providing assurance in terms of potential default. However, complex services tend to be multi-faceted value propositions – engine safety, for example – and not easily expressed in monetary terms, or contracted for. Thus reputation, trust, and the quality of relationships are paramount in reinforcing customer confidence. Service providers should be able to demonstrate that they can collaborate effectively with their customers, the customer's stakeholders, and other members of the ecosystem.

Delivering value

The service provider must also possess certain capabilities that enable it to fulfil its value delivery obligations. To begin with, a provider must be able to distinguish and isolate those service activities that it has competencies for and intends to deliver itself, as opposed to those that are best placed with partners. It must make the right decisions about who to involve in value delivery, be able to assess and choose the best partners, and build and maintain productive relationships with them. A water utility firm we interviewed, for example, adopts a partnership approach for the provision of standard services, such as sewage maintenance and cleaning, which might seem more suitable for contracting out. However, the service provider has identified the quality of provision of that service activity as critical to its reputation. It makes sense for the water utility to forge long-term relationships with trusted partners and take interest in their long-term performance, as opposed to driving down to the lowest price by encouraging competition in the market, possibly at the expense of quality and reputation.

The service provider must also possess the skills required to manage and orchestrate ecosystem members. It must align the incentives of

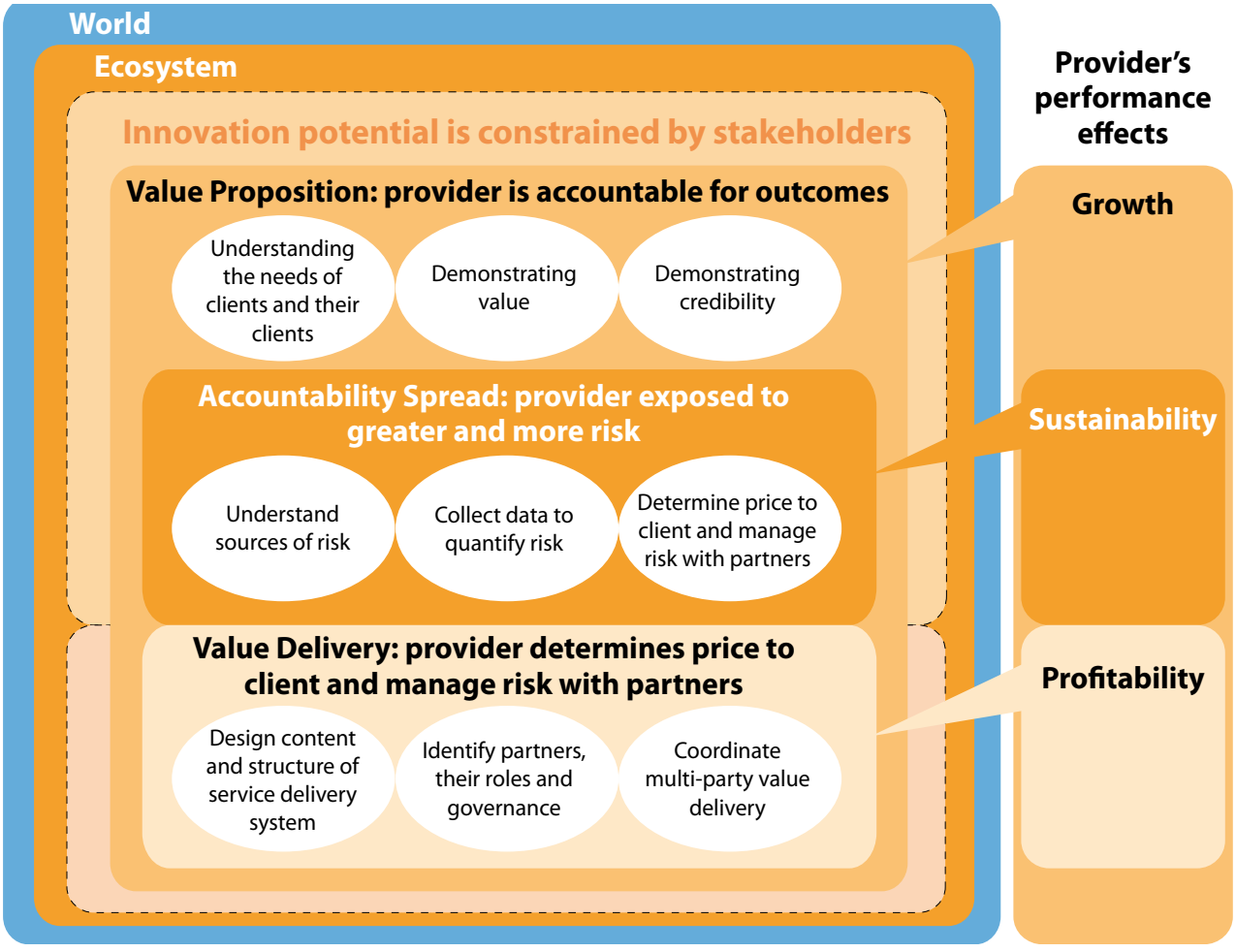
the various stakeholders involved in order to coordinate processes, and be able to orchestrate the provision of activities that each partner needs to deliver, as part of the overall solution. Coordinating across partners, especially with respect to their different roles and operational cycles, as well as cultures and organisational structures can be extremely challenging for the service provider. Imagine having to coordinate a four-partner alliance consisting of a software firm, automotive manufacturer, supply-chain consultancy and accounting consultancy to deliver end-to-end client IT solutions within a specified timeline. Focusing on the role of the customer is particularly important. Customers are often closely involved in co-creation of the value proposition (and their actions impact on the network's ability to deliver that value). Finally, as mentioned above, the service provider must be able to establish credentials. If the service provider can demonstrate that it has worked successfully with reputable partners, it sends an important and positive signal to the client about the provider's ability to deliver the value proposition. One support service provider, for example, took the representatives of partner IT consultancies to negotiation meetings with its customers. It allowed the provider to demonstrate how it planned to automate the support processes the client was handing over, and inspire confidence that it was capable of doing that successfully.

Dealing with the accountability spread

Service providers also require the capabilities to deal with the accountability spread produced by business model innovation. These capabilities are absolutely critical, both in terms of securing innovation opportunities, and avoiding the potential downside inherent in business model innovation activities.

Failing to tackle the value proposition or value delivery elements of business model innovation effectively may limit a provider's ability to grow and become more profitable. But failing to assess and manage the accountability spread and ecosystem exposure arising from business model innovation, may not only deny the service provider any gains from business model innovation, but in extreme cases threaten its very existence as an organisation.

Yet, despite the potential downside of failing to deal adequately with accountability spread, there is a vast difference in terms of the attention firms devote to this issue. One respondent reported that his firm used structured and well-defined processes to calibrate solutions, and guaranteed its offers. Another, however, revealed his firm had suffered substantial losses due to providing guarantees of performance levels that were ultimately unattainable, mainly because of an unreliable supply chain. Some of these capabilities concern risk identification. For example, one train solution provider



was surprised at the unexpected operational risks it identified after changing its service from ad hoc provision of train maintenance to the responsibility for the availability of trains. Even though the same maintenance activities were performed, the provider had to learn to schedule maintenance differently and during that learning process accumulated significant penalties.

Other capabilities relate to being able to measure and manage the risks arising from changing the value proposition and delivering that value with ecosystem partners. The capability to measure risk will depend on the nature and quality of the provider's information systems and their ability to capture risk data, analyse the data and transform it in meaningful information that underpins the risk decision making. In managing the risk the service provider may decide to transfer that risk to the customer in the pricing or, when possible, preempt the adverse event and minimise the risk.

For example, aircraft engine manufacturers have succeeded in considerably reducing the risk of engine failure by monitoring the health of the engine while in operation, using sensor technology. Sensors capture different parameters of engine function, such as heat and vibration, for example. The data then gets transferred in real time to analysts who use statistical techniques to identify abnormal engine behaviour, and take the appropriate action when required.

Being able to articulate and price the risk is also important, and involves identifying appropriate mechanisms, commercial and legal constructs, for example, with which to operate effectively across the network and capture value. Appropriate measures and risk management mechanisms need to be put in place across the network, to ensure that is risk shared across the network.

For example, if the performance of a sub-service component delivered by an ecosystem partner can be isolated, the service provider may want to draft a performance-based contract with its partner to cover that. In a case where a supply chain consultancy outsources transportation, it may want to attach a penalty to delays in transportation, for example. In other cases, however, it is not easy to isolate the performance associated with a sub-service. In these cases other governance mechanisms, such as alliances and joint ventures, where the 'gain and pain' of the overall solution is shared, will be more appropriate.

Conclusion

Our research has important implications for senior executives of complex service providers and the other organisations that inhabit complex service solution ecosystems. The research findings are also particularly relevant for policymakers who want to know more about the shift towards complex services.

The white paper reveals in some detail how complex service providers use business model innovation in the context of the ecosystem to create growth. In particular, it distils down the strategies that different organisations use, to create a framework for understanding the business model innovation process, and the capabilities required to successfully navigate that process.

In addition, we have highlighted the importance of mastering several concepts associated with business model innovation in complex service provision.

Firstly, there is the notion of accountability. Service providers must think of value proposition in terms of what they are accountable for providing, rather than what they actually deliver. This helps the organisation to view business model innovation through a problem-solving lens. Asking how can we provide a value proposition that solves the customer's problems? How can we then best use ecosystem resources to solve the problem of fulfilling delivery of that solution? How can we innovate to create and capture the most value in doing so?

Another important concept is the power of the ecosystem. Business model innovation does not happen in a vacuum, but in the context of a constantly changing ecosystem, in which the members, the power and position of those members, and the relationships between them, are continually shifting. Even a change in the provider's business model, as it actively influences customers or stakeholders, can and does affect innovation in the ecosystem. As the boundaries of the business model are redrawn by changes in accountability scope, for example, the boundaries of the ecosystem may change accordingly.

Finally, there is the balancing of risk and reward. Business model innovation, of both value proposition and value delivery, creates risks. Yet only by creating risk can the complex service provider create the opportunity for reward. In contracting for the provision of a solution or outcome that satisfies the customer's needs and creates growth, the service provider moves beyond the boundaries of its core competences. The provider risks being unable to fulfil its obligations to the customer. Yet at the same time it creates an opportunity to conceive and deliver an innovative solution using the resources of the ecosystem. Due to its reliance on the ecosystem, factors such as relationships, reputation, power and influence, are key for business model innovators. Furthermore, organisations must not think of the ecosystem as a static entity, but as a dynamic system that requires them to actively engage with its members. The goal is to use business model innovation and other strategies to manoeuvre to the most advantageous position and remain there.

Note that, in the world of complex services, business model innovation is not a staged, linear process. Innovation of the value proposition and delivery is simultaneous and ongoing. As the service provider approaches business model innovation from a problem-solving perspective, it will begin to actively seek out interesting and attractive problems to devise innovative solutions for. And, in doing so, it will navigate towards a more optimal position in its ecosystem.

For service providers business model innovation is a considerable challenge. It is both complex, and risky. It requires new ways of thinking about business solutions. It is also, potentially, very rewarding. We hope that our research, the concepts, business model innovation framework, the list of required capabilities, and the action points set out in this paper, help managers in complex service providers to successfully understand and drive business model innovation within their ecosystems.

Initial agenda for leaders

For executives who want to pursue a business model innovation approach to service provision we suggest some initial measures, based on our research of organisations that are already successfully innovating their business models.
Twelve key issues to consider are:

For value propositions:

1. To define a robust value proposition you have to clearly and profoundly understand your customer's business – how they create and deliver value for their customers. Only when you understand the complexity of their business can you define an aligned value proposition.
2. To grow your business, look for ways of increasing the scope of your value proposition. You can do this by extending the scope of activities you provide, extending the timeframe over which you provide them and/or changing the nature of the contract guaranteeing outcomes and performance levels.
3. Build credibility in the eyes of your customers. Use your demonstrated ability to deliver value propositions to increase the scope of your accountability.
4. Recognise the distinction between value proposition – that which you promise to the customer – and value delivery – the way the value proposition is delivered. You do not need to undertake all of the activities involved in value delivery; the reward lies in the accountability for the value proposition and knowing how to best deliver it, not necessarily in the delivery itself.

For value delivery:

5. Re-think the traditional approach to value delivery; is the old way still the best way to fulfil the promise to the customer? Can technology support more innovative and efficient ways of service delivery?
6. Explore how the ecosystem partners can support you in value delivery. Ensure all partners play to their strengths and that through the ecosystem you have access to all of the necessary organisational capabilities.
7. Understand the customer's role in value delivery and ensure the customer understands their role. The customer plays a crucial role in service success.
8. Explore ways in which multiple services can be combined to create ever-greater value. With careful innovation the by-product of some services can form the input to others.

For accountability spread:

9. Understand and model the range of risks your business model innovation creates. Think beyond operational and financial risks, to include dynamic, systemic, performance, incentive or partner-related risks.
10. Consider risk as one of the core elements of the value proposition. Are you taking up more risk on behalf of the customer and therefore should price it accordingly? Can you find ways to contain risk in a better way than the customer, by, for example, investing in better information sources about the underlying risk factors, and create better margins?
11. Clarify and communicate the value delivery boundaries in order to contain partner-related risks. Create explicit ecosystem governance and co-ordination mechanisms. Aligning metrics, incentives and contracts is essential to ensure collaboration.
12. Ecosystems and business models are dynamic. Design organisational mechanisms so that the business model innovation takes place in real time, as the ecosystem evolves. Anticipate changes in the ecosystem.

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