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Utilities' New Business Models: As-a-Service Breaking Through

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Traditional business models in the utilities sector have been coming under pressure worldwide, due to technological changes and increased competition from both within the sector and from new contenders. Customers themselves have been evolving, playing a more active role in energy generation, looking to reduce the risks associated with procuring energy commodities, sourcing more green energy, or aiming for more convenience at home. In this context, utility executives are testing and launching new business models. They are leveraging opportunities offered by new energy and digital technologies to reshape and grow their business. In many cases they are moving beyond the pure commodity business to secure a more sustainable future for their company. Along this journey, top management is confronted with some fundamental questions:

- Which new business models are going to be the most relevant in the coming two years? What will their impact be on revenues and gross margins in the next three to four years?
- What are the execution challenges when deploying these business models?
- What does the roadmap to success look like for each business model?
- Through which KPIs is success to be triggered and measured?

To provide answers to these questions and speed up industry transformation, Capgemini commissioned IDC to conduct a study involving about 160 utilities and new contenders across Europe, Asia Pacific, and North America. Key findings suggest that:

- **The utilities portfolio is evolving, everywhere.** Almost four out of ten believe that within the next three to four years, the impact of new products and services will range from 5% to 9% of their total revenues. The most significant impact on revenues will come from electric vehicle (EV) services, generation and storage @home, and microgrid as a service. However, energy as a service and comfort as a service will be the top margin contributors.
- **Siloed initiatives and unclear roadmaps are hampering execution.** Almost three out of four organizations (73%) agree that uncoordinated, siloed initiatives are the main inhibitor of transformation. Meanwhile the lack of a clear roadmap prevents 64% of utilities from scaling up innovation.

- **New business metrics are needed to trigger success.** When deploying new business models, 55% of utilities admit they are struggling with outdated KPIs.

Mapping New Business Models Landscape

As-a-Service Becoming Mainstream

In two years, more than 9 out of 10 utilities will have deployed Energy or Comfort as a Service to better serve their C&I and residential customers

In their quest for continuous relevance, utilities (as well as their contenders) are aware that their value proposition for clients cannot be limited to the pure commodity sale. In energy supply, the diffusion of two business models aimed at taking a step further by meeting the clients' needs with an end-to-end approach bear testament to the rapid change of mindset. **Energy as a service** and **comfort as a service**, addressing commercial and industrial (C&I) clients and residential customers, respectively, have already been deployed by approximately three-quarters of organizations (74% and 79% respectively). Within the next two years, almost every energy supplier will have moved to these models. These are also top contenders' plans for deployment. Nevertheless, the real depth of the services included in these approaches (for instance, integrated client asset management vs. pure asset financing and maintenance) will be strongly related to the capability of utilities and contenders to take risks on them and to deploy the right set of use cases.

The supply of green energy is also becoming a differentiating element in the relationship with customers, which are increasingly sensitive to sustainability: 42% of utilities have signed a green power purchase agreement (PPA) with energy intensive clients. Additionally, 10% have customers that have already joined the RE100 initiative (committed to 100% renewables), and another 24% have customers planning to join and asking them for help.

Energy as a Service

Energy price volatility has emerged as a major issue for large-scale consumers from the commercial and industrial sector in recent years. Meanwhile, a strong need for energy efficiency and sustainable energy sourcing comes as a consequence of both regulation and corporate social responsibility targets. **Ørsted** decided to launch a new downstream business as a startup to optimize, build, own, and maintain third-party energy assets. Its service is based on four pillars: energy efficiency, embedded generation, sustainable sourcing, and flexibility and optimization.

A very different approach to saving on energy bills, especially but not exclusively for residential clients is envisaged by companies whose purpose is to take over the role of the customers themselves in searching for the best possible offer on the market. Continuous web scraping, combined with data on their clients' consumption patterns, allows **energy marketplaces** to optimize this choice and, going a step further, to proceed autonomously with the supplier switch when the saving reaches a predefined minimum.

Energy Marketplace

Despite energy market liberalization in the U.K. being underway since more than 20 years now, less than 20% of households switched energy supplier in 2017. With almost 60 companies to choose from, this inexplicable inertia means that many consumers end up paying the notoriously expensive standard variable tariffs (SVTs). This is where **Flipper** comes into play. Founded in 2015, Flipper is more than a price comparison website. It finds the best available energy deal and switches its customers to it, taking over the entire process.

Two other business models clearly stand out as winning candidates when it comes to implementation plans for the coming 24 months. **Generation and storage @home**

@home is a further case in point of the industry's profound transformation. Rather than viewing the customer as a passive consumer, utilities are encouraging them to become more active. "Prosumers" will be more and more under the spotlight as small-scale production and storage of energy becomes more affordable. Ironically, the rapid drop of PV and storage prices will make it more profitable even for energy providers to sell home generation and storage equipment rather than purely sell commodities.

Generation and storage @home is very appealing in countries with low population density and/or high solar radiation. Australia tops the ranking of current deployment (55%) and Canada has the highest level of plans for deployment (90%). In addition, the prospect of reaching out to the share of the world population without access to electricity, currently estimated at one billion people, makes this business model appealing for outward-looking companies. Approximately four out of ten organizations plan to deploy it in the next two years, totaling 56% when considering companies that are already offering it.

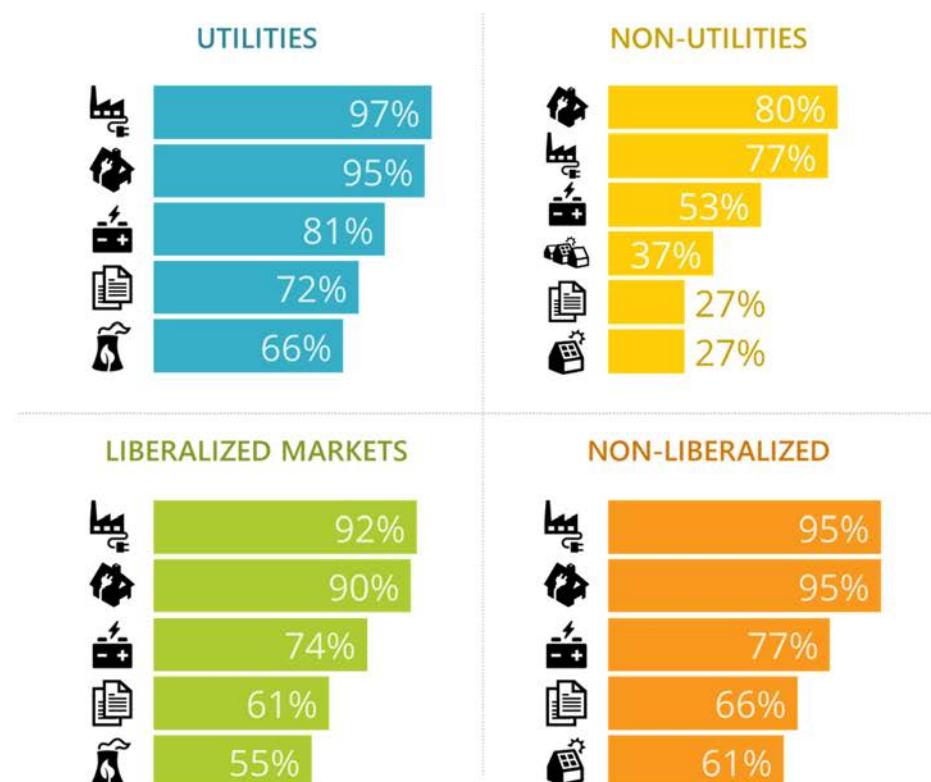
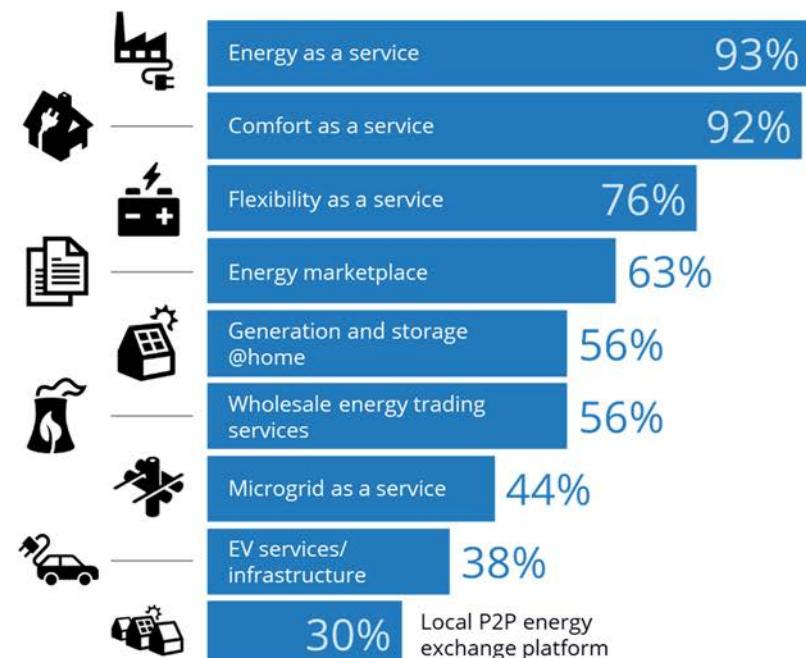
Generation and Storage @home

Italian EDF-owned utility **Edison** offers retail customers the choice between a PV, a battery, or both through its "My Sun" package. This includes financial and technical feasibility analysis, installation, technical support, and even negotiating bureaucratic procedures on behalf of the customer. By acting as a unique interlocutor, it simplifies the process not only from a technical, but also a financial point of view. Substantial energy savings can therefore be achieved depending on actual consumption and the location of the customer's house.

About 36% of companies claim to have already deployed **flexibility as a service**, and another 40% plan to do so within the next 24 months. This business model is the answer to the looming question of how to manage the increasing share of distributed generation in the energy mix more efficiently. To maintain grid stability, a cheap alternative to its physical expansion is needed. However, enabling end users to actively participate in what used to be the sole responsibility of the supply side, and allow aggregators and distribution companies to grow this opportunity will require a favorable regulatory framework. Not least because of the potential this business model has for contenders, since it is third (after energy as a service and comfort as a service) in terms of deployed and planned deployment.

Figure 1
New Business Model Deployment

Q. Which of the following business models has your company deployed or is planning to deploy in the next 24 months?



Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

Many of the business models summarized in Figure 1 are often provided in combination. This is the case, for instance, of Sonnen. Setting decentralized, clean energy generation as its utmost goal, Sonnen started out in 2010 as a producer of batteries to be installed in homes with photovoltaic systems. In 2015 it went a step further, allowing its customers to virtually exchange energy among themselves. A year later, it also started offering ancillary services to the grid, while customers owning both a PV and a battery received the possibility to eliminate their energy bills in exchange for a monthly community membership fee. Currently, their offering not only addresses them, but also potential customers who wish to consume clean energy, but do not own a battery or a PV.

It is important to note that the ongoing transformation of business models is not only relegated to liberalized markets or specific geographies. "Business as usual" is coming to an end everywhere. Additionally, a variety of new contenders are more eager to enter the market with value propositions that are not based on commodity sales. It is the case of generation and storage @home and microgrid as a service, to mention just two examples.

High Revenues do not Necessarily Imply High Margins

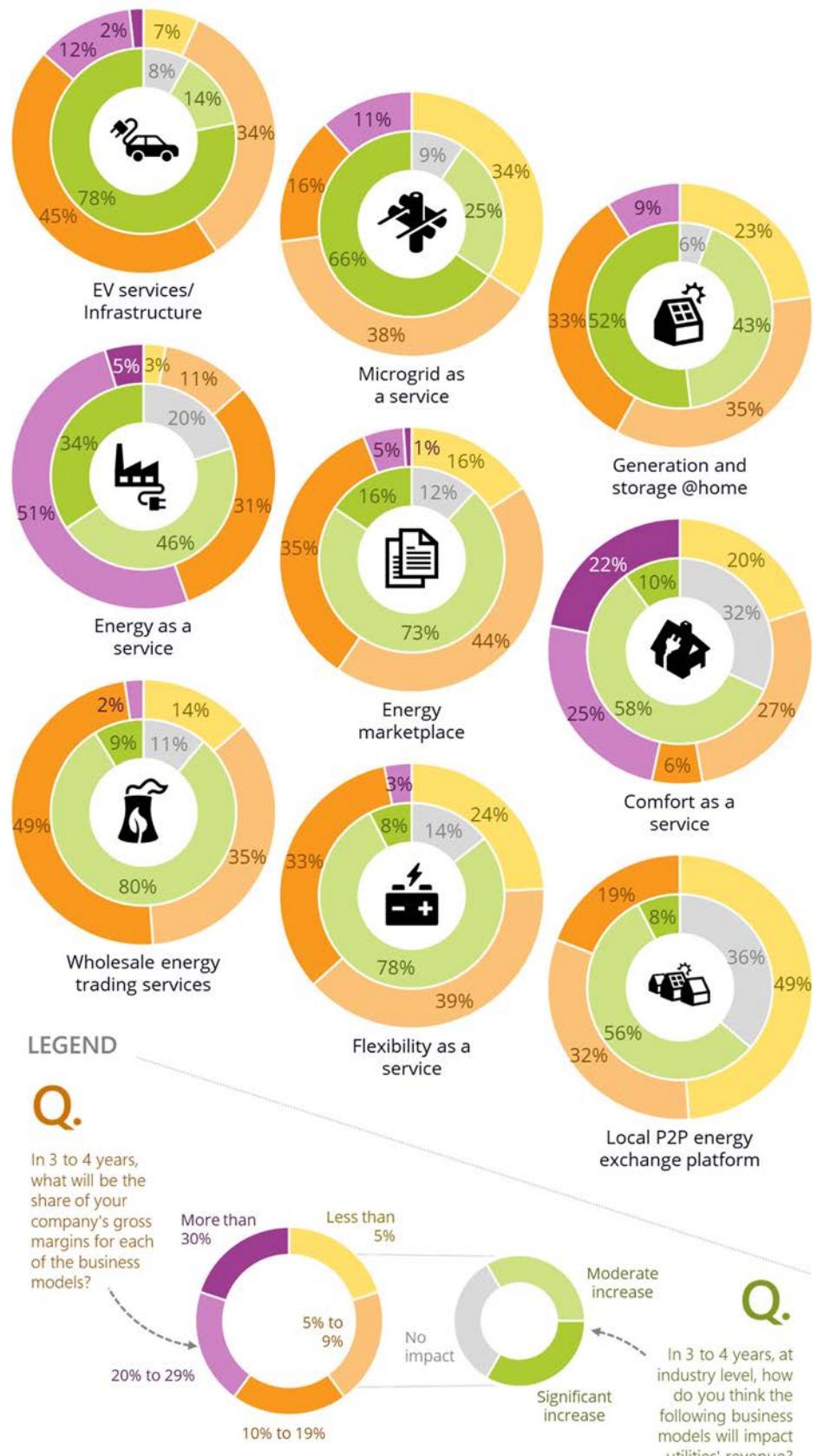
The unique characteristics of the business models are reflected in the expected revenues generated and the contribution to the shares of companies' gross margins. The two metrics might convey contradictory messages in that high revenue generation does not necessarily imply a high share of margins, at least in the short term of the next three to four years.

That is precisely the case with **EV services/infrastructure** and **microgrid as a service**. They rank first and second respectively in terms of revenue expectations at industry level, although they do not top the corresponding ranking in terms of companies' gross margins. On the contrary, the latter is viewed as a low-margin business model, with a third of organizations saying less than 5% of their company's gross margins will be derived from it in three to four years, while an additional 38% of organizations estimate 5%-9%.

EV Services/Infrastructure

Betting on electric mobility, in 2013 Dutch distribution system operator Alliander founded **Allego**, to provide infrastructure and services for EVs even beyond country borders. Allego, which was recently sold to an investment company specialized in sustainable infrastructure projects, became an important provider of charging solutions for electric vehicles, independent of any specific energy supplier. It owns a network of almost 8,000 charge points in Germany, the Netherlands, and Belgium, and is one of the project partners of Ultra-E and the project leader of MEGA-E projects, both aiming to create ultra-fast charging locations across the European Union.

Figure 2
New Business Model Revenues and Gross Margins



Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

While business models that have already achieved a high level of maturity are expected to generate high margins in the short term, this might also point towards an underestimation of the potential value of business models currently in experimental stages. Indeed, the **Local P2P energy exchange platform** occupies the last place in current implementation and expected revenues at industry level, while its share of gross margins is also considered negligible.

Local P2P Energy Exchange Platform

In late 2016, New Zealand's largest electricity and gas distributor, **Vector**, started testing a trustless, transparent, and interoperable energy trading platform which makes use of blockchain technology. It would enable people in Auckland to buy and sell power without using an electricity retailer. The potential of this technology is still high; in fact, several applications are currently under development. These include microgrid operation, automated asset management, and carbon trading.

Similar observations are true for its industry-level equivalent **Wholesale energy trading services**. Even if all that turns out to be true, utilities could be missing the crux: the presence of a blockchain-based platform for energy exchange bears a huge opportunity cost for them. A great deal of attention should be paid when evaluating the future risks of such disruptive business models, especially given the pace at which they could scale up. Defensive acquisitions and active involvement may be necessary before it is too late for the utility sector incumbents to react. And this is exactly what the project partners of Enerchain are trying to avoid by getting involved in this initiative, which aims at understanding not only the technical implication of the usage of blockchain, but most importantly the financial benefits and the impact on the overall construct of wholesale trading.

Wholesale Energy Trading Services

A consortium of more than 40 companies, most of them European utility giants (e.g., Statoil, Centrica, RWE, EDP) participate in the **Enerchain** project, started in 2017. Its aim is the decentralization of energy wholesale. Application areas include P2P wholesale trading of gas and electricity, leveraging blockchain technology. Proofs of concept have already been delivered and work is conducted on the integration of Enerchain software with standard ETRM systems as well as the inclusion of new energy products.

Needless to say, regulation is a decisive factor in innovation propensity. With the exceptions of **Energy as a service** and **Comfort as a service**, organizations from countries where the utility sector is not liberalized consistently give lower estimates of the share of their companies' gross margins attributable to the other seven innovative business models. Complacency may therefore turn out sour in these countries, where fear of competition has been limited so far.

Utilities' Smart Cities Business Yet to Develop Beyond the Comfort Zone

Besides thinking about the industrial, commercial, and residential sector, stakeholders in the energy sector need to keep a close eye on cities. Technological change has made small-scale implementations a reality, allowing municipalities (rather than only states or regions) to independently engage in their own transformational process. Not surprisingly, Singapore ranks highly in most domains of utilities smart city investments and first in current and planned investments in water/sanitation, lighting, and buildings. Overall, however, utilities appear to be less eager to invest in smart city domains compared to their appetite for implementing the other new business models. Utilities are obviously more active in introducing advanced services in the domain of lighting, water, and waste management. The latter, for instance, is a domain in which almost four out of five (79%) utilities claim to have already invested. However, 53% respond that they have either already invested in smart public lighting or plan to do so in the coming two years, while the corresponding figure for water and sanitation solutions is 27%.

The advent of IoT technology and, in more general terms, digital transformation raises the bar with respect to data value. Volumes of data generated are larger, plus data is coming in different forms from varied sources. The emergence of urban data platforms can help solve the problem of efficiently organizing data in addition to harnessing value from it. Utilities investment in this direction is still limited (18% are investing), making it difficult for them to move beyond their traditional comfort zone towards more digitally based business approaches. This is expected to change in the future, with 52% of utilities and energy service companies planning to invest in this domain in the coming two years, taking advantage of their presence in the territory and the exploitation of existing physical infrastructures.

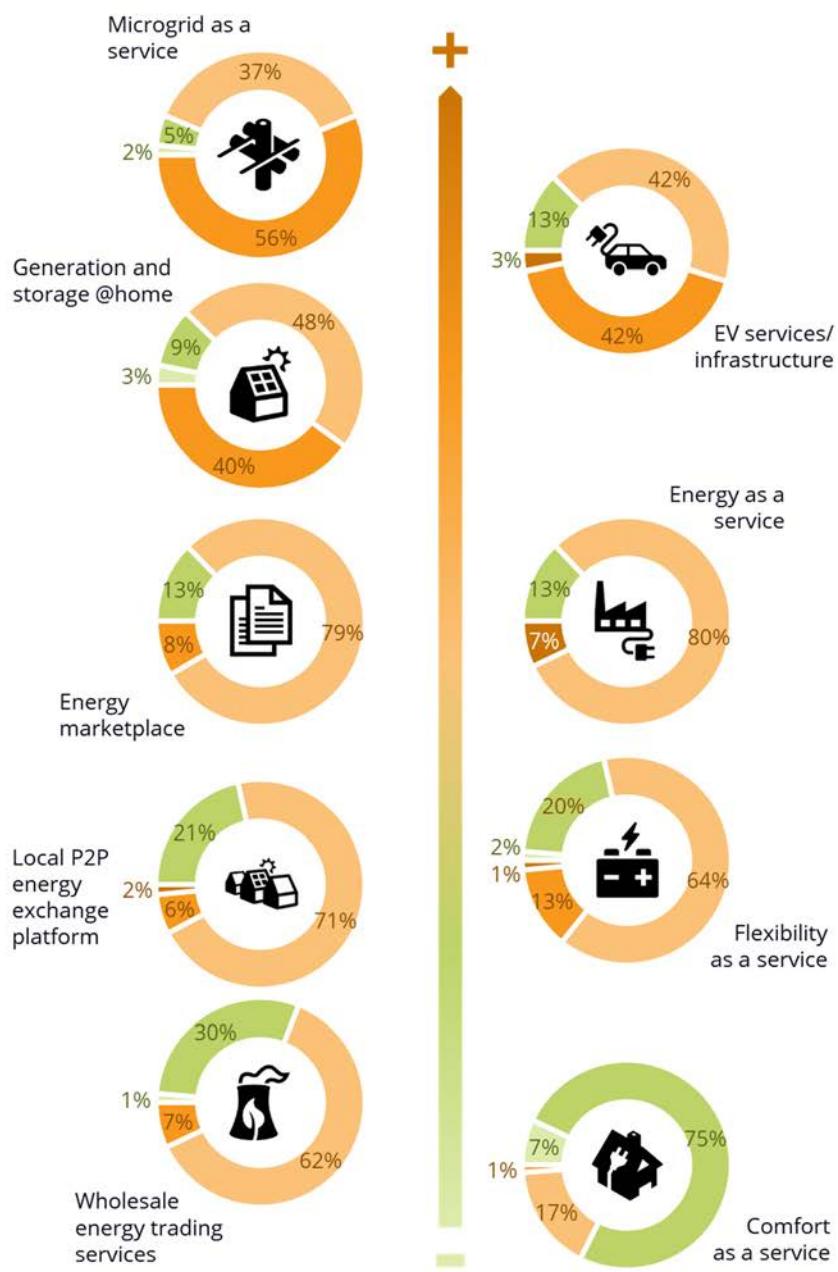
Different Levels of Complexity Challenge Deployment

Even though new business models may constitute a form of a guarantee for future growth during times of upheaval, their technical complexity combined with other execution challenges might impede rapid implementation. A crucial factor is the installation of physical infrastructure and the extent to which this is required for a full-scale deployment of a certain business model.

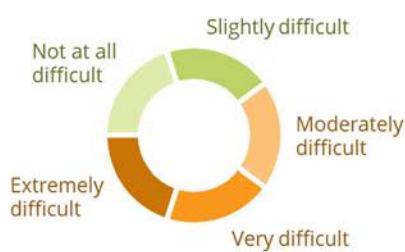
Microgrid as a service is a perfect example. A lack of industry-wide standardization and a high degree of specificity among clients (e.g., campuses, military bases, hospitals, business parks, islands) does not allow for a steep learning curve. Not surprisingly, more than half (56%) of utilities and contenders consider the technical implementation of such an undertaking as very difficult, and an additional 38% as moderately difficult. The corresponding figures for the United States and Canada are lower, while those for Europe are higher, confirming the relatively advanced maturity of this business model in North America.

Microgrid as a service
is seen by utilities as the
most difficult business
model to deploy

Figure 3
New Business Models Complexity



LEGEND



How do you rate the technical complexity in implementing the following business models?

Q.

Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

For 3 out of 4 companies, uncoordinated, siloed initiatives are the biggest challenge when deploying a new business model

For almost 65% of utilities the lack of a clear roadmap undermines execution

Overcoming Barriers to Deployment

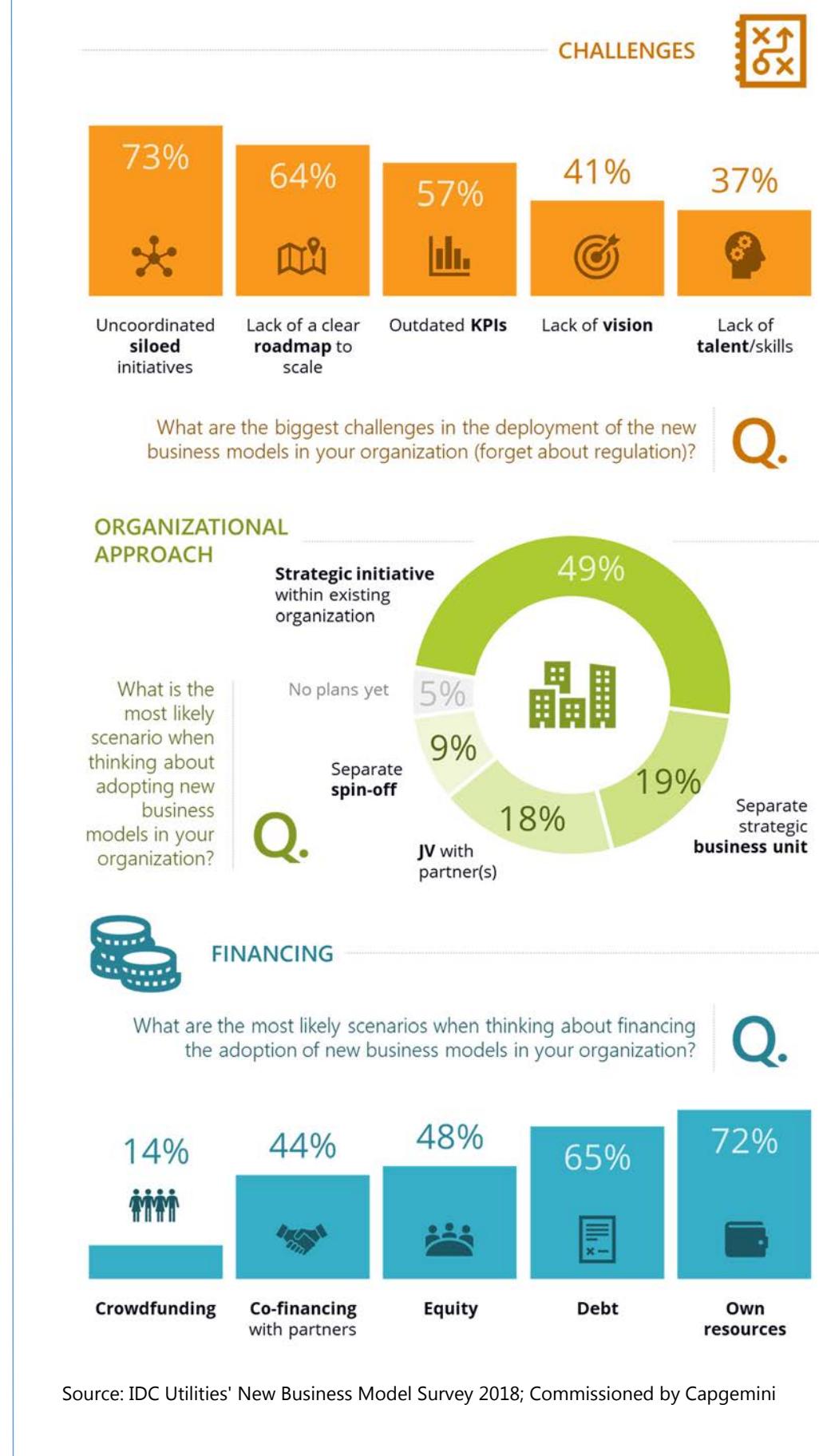
Beyond technical complexity, innovation and change notoriously challenge internal structures. By their very nature, they go against the traditionally conservative mindset. Utilities and potential entrants to the market often have the capacity to experiment with technically demanding business models, but are faced with serious internal shortcomings.

Coordination and coherence are the key words describing the prerequisites for a successful deployment of innovative business models. Almost three-quarters of organizations (73%) share the view that uncoordinated, siloed initiatives represent a challenge when doing so, while 64% cite the lack of a clear roadmap to scale.

Moreover, a choice of organizational nature needs to be considered at the very early stages when thinking about deploying new business models. Separate spin-offs guarantee a high degree of independence for the new enterprise, akin to the start-up spirit that is lately also penetrating the energy industry. However, this comes at the cost of knowledge transfer from the parent company. A remedy to this problem can be found in the more common strategic initiatives in the existing organization or as separate business units. With a total of 68%, these two scenarios are the definite preference of organizations, while the former is the option chosen by a mere 9%. A joint venture with partner(s) could help strike a balance between the two, aiming to create win-win situations. As much as 18% of utilities and contenders would opt for this scenario, taking into consideration that collaboration increases the organizational effort required.

Lastly, related to the aforementioned choice is the decision about how to finance the deployment of a new business model. While large corporations have historically used their own resources, smaller ones have to rely on either equity financing or unconventional methods like crowdsourcing. Indeed, this is exactly the picture emerging when looking at the 75% of utilities leveraging their own resources as opposed to an equivalent figure of 57% for contenders. Using own resources tops the ranking in Europe. Debt financing is the preferred form of financing in North America, where 87% of organizations use it, and in Asia Pacific (63%). Furthermore, less than one out of ten utilities trust crowdfunding as a realistic scenario for financing an innovative business model, while almost 37% of non-utilities would consider doing so. Overall, the popularity of equity financing and co-financing with partners (48% and 44% respectively) reflects organizations' preference not to externalize the process of adopting a new business model, as described in the previous paragraph.

Figure 4
Approach to Business Deployment



New business models' deployment journey needs to be modular, scalable, and extendable

Roadmaps for a Successful Transformation

To handle complexity and support utilities executives to develop robust roadmaps, an execution guide has been developed by IDC following the principle of horizon thinking and tested with the utilities and their contenders.

In each horizon, different use cases are considered, introducing the logic of a transformation journey that is designed to be:

- *Modular* — breaks the effort into chunks (use cases), delivering immediate business value
- *Scalable* — thinks through how the road map will evolve
- *Extendable* — accommodates changes as they develop.

Figure 5 summarizes the use cases roadmap for each of the business models, as prioritized by the 160 companies surveyed. The rest of the section exemplifies the roadmaps of the top three business models ranked in terms of both contribution to company revenues and level of complexity.

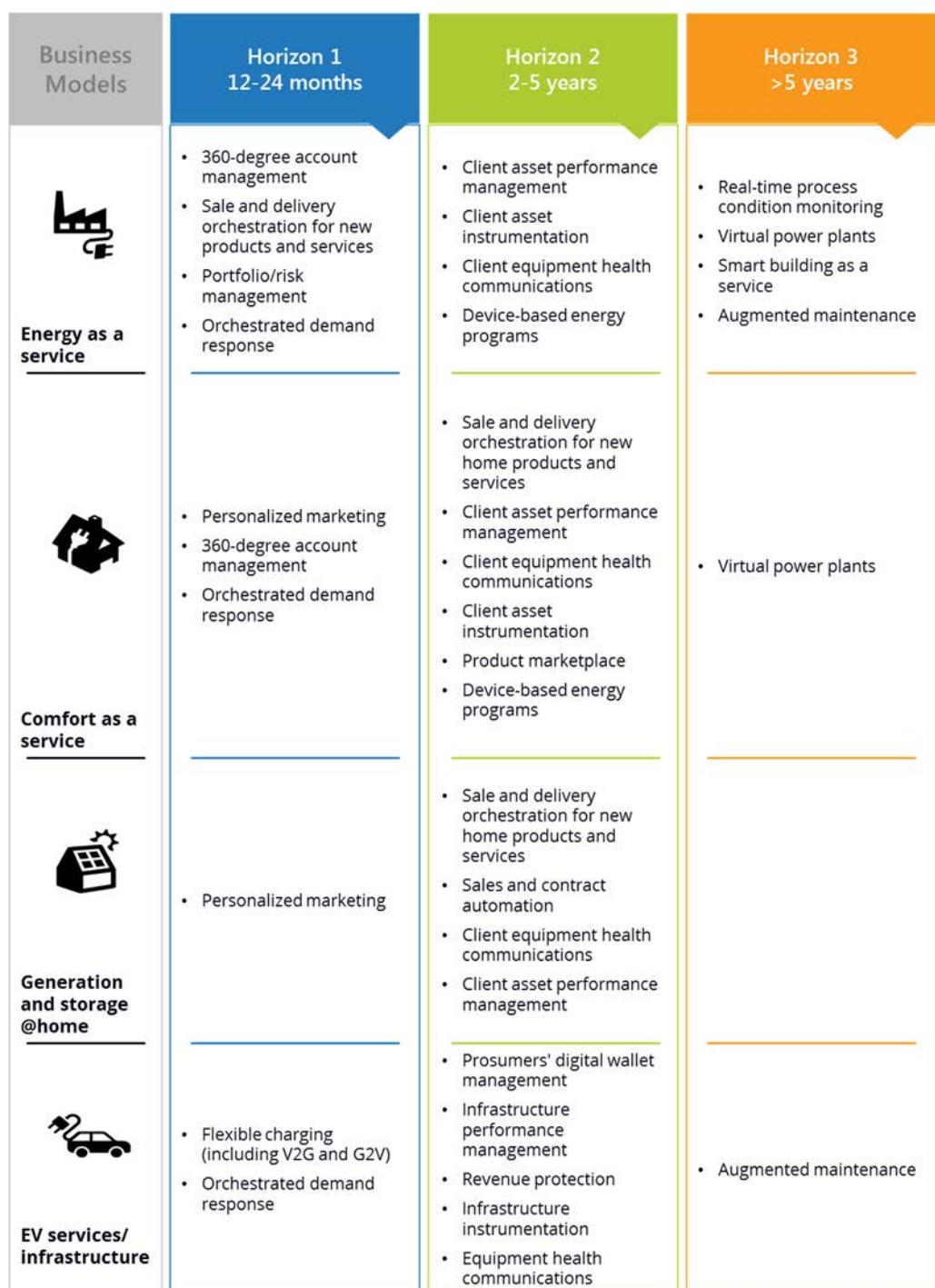
EV Services/Infrastructure

At the heart of decarbonization efforts and the industry's hopes of reversing the trend of stagnating electricity consumption in the developed world, electric mobility perfectly exemplifies how utilities strive for relevance. Physical infrastructure and the services functioning on top of it will be essential in the diffusion of EVs.

In the first horizon of this business model deployment, the focus will have to lie in equipping utilities with use cases that are fundamental to the secure functioning of the grid. *Flexible charging* (i.e., the dynamic charging of EVs' batteries) takes into account the storage capacities of EVs and thus makes use of a trait which to a certain degree is a novelty in energy economics. Unlike energy consumption in general, EV battery charging can be postponed. Adding to that use case, *orchestrated demand response*, meaning the use of customers' cars to provide demand response to the grid, completes the notion of electric mobility as a cornerstone for future electric systems.

Subsequently, the second horizon consists of use cases necessary for the operational aspects emerging along the journey of implementation. *Infrastructure instrumentation* and *infrastructure performance management* respectively reinforce the idea of "connectedness," which is increasingly critical in a world with bidirectional flows, and of the power of analytics for asset failure prediction, also reducing the needs for inspections. *Revenue protection* also builds on the analytics of meter data to detect potential anomalies in the service, and finally *prosumers' digital wallet management* is tantamount to a flexible tariff system that considers both withdrawal and insertion of power from and to the grid.

Figure 5
Business Models Roadmap



Business Models	Horizon 1 12-24 months	Horizon 2 2-5 years	Horizon 3 >5 years
 Microgrid as a service	<ul style="list-style-type: none"> Distributed energy management Predictive power control Orchestrated demand response 	<ul style="list-style-type: none"> Digital microgrid automation Asset performance management Closed loop outage management 	<ul style="list-style-type: none"> Microgrid digital simulation Augmented maintenance Self-healing microgrids
 Flexibility as a service	<ul style="list-style-type: none"> Orchestrated demand response 	<ul style="list-style-type: none"> Prosumer enrollment programs Distributed energy management Device-based energy programs Wholesale trade automation 	<ul style="list-style-type: none"> Virtual power plants
 Local P2P energy exchange platform		<ul style="list-style-type: none"> Prosumers' digital wallet management Prosumer enrollment programs Automated contract communication towards the grid Local trade automation Automated personal trader 	
 Wholesale energy trading services	<ul style="list-style-type: none"> Dynamic demand forecasting Portfolio/risk management 	<ul style="list-style-type: none"> Traders enrollment programs Wholesale trade automation 	
 Energy marketplace	<ul style="list-style-type: none"> 360-degree customer management Personalized marketing End-to-end automation of meter-to-cash process 	<ul style="list-style-type: none"> Customer bill simulation and estimation engine Offering monitoring and selection engine Sales and contract automation 	

Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

In the third and last horizon, unsurprisingly, use cases are technically even more complex. *Equipment health communication* describes an elevated degree of IoT characteristics embedded in the infrastructure with additional integration of maintenance in a utility's scheduling, while *augmented maintenance* (supported by augmented and virtual reality — AR/VR — or even digital twins) from a current standpoint is nothing but the ultimate level infrastructure maintenance can reach.

Generation and Storage @Home

An emerging business model at the forefront of a paradigm shift of unprecedented scale, generation and storage @home involves financing, installing, maintaining of distributed generation and storage capacity, and potentially the integration of private EV charging points for residential customers. It shares the notion of the "prosumer" with the previously described EV infrastructure/service, but it is clearly distinguished from it, because of the huge risk it entails for traditional utilities' business models. While EV infrastructure/service is an opportunity for expansion, generation and storage @home seriously threatens utilities' core business. A future in which electricity consumers are not marginal producers, but significantly autonomous, calls into question the fundaments of the energy system as we know it. Utilities can proactively pursue this business model or give up on it and let contenders grow, at the cost of seeing a decline in revenues and margins.

The first horizon requires strong *personalized marketing*. Being relevant for the customer is gradually turning into an imperative for companies. The same goes for being capable of offering relevant services, including the possibility to become a prosumer and use the grid mainly as a reliability service.

In the second horizon, utilities are staying relevant by offering *client asset performance management* and moving towards the third and last horizon, *client equipment health communications*. Both are the retail equivalents of use cases also present in EV infrastructure/service and essentially outline utilities' future role as a service provider, in that case with reference to maintenance. *Sale and delivery orchestration for new home products and service* also illustrates this aspect; utilities will have to remove the burden of project management from the shoulders of their customers if they are to win (and maintain) their clients' trust. Last, but not least, *Sales and contract automation* is needed throughout, as it means nothing less than the automatization of customer acquisition and contract creation.

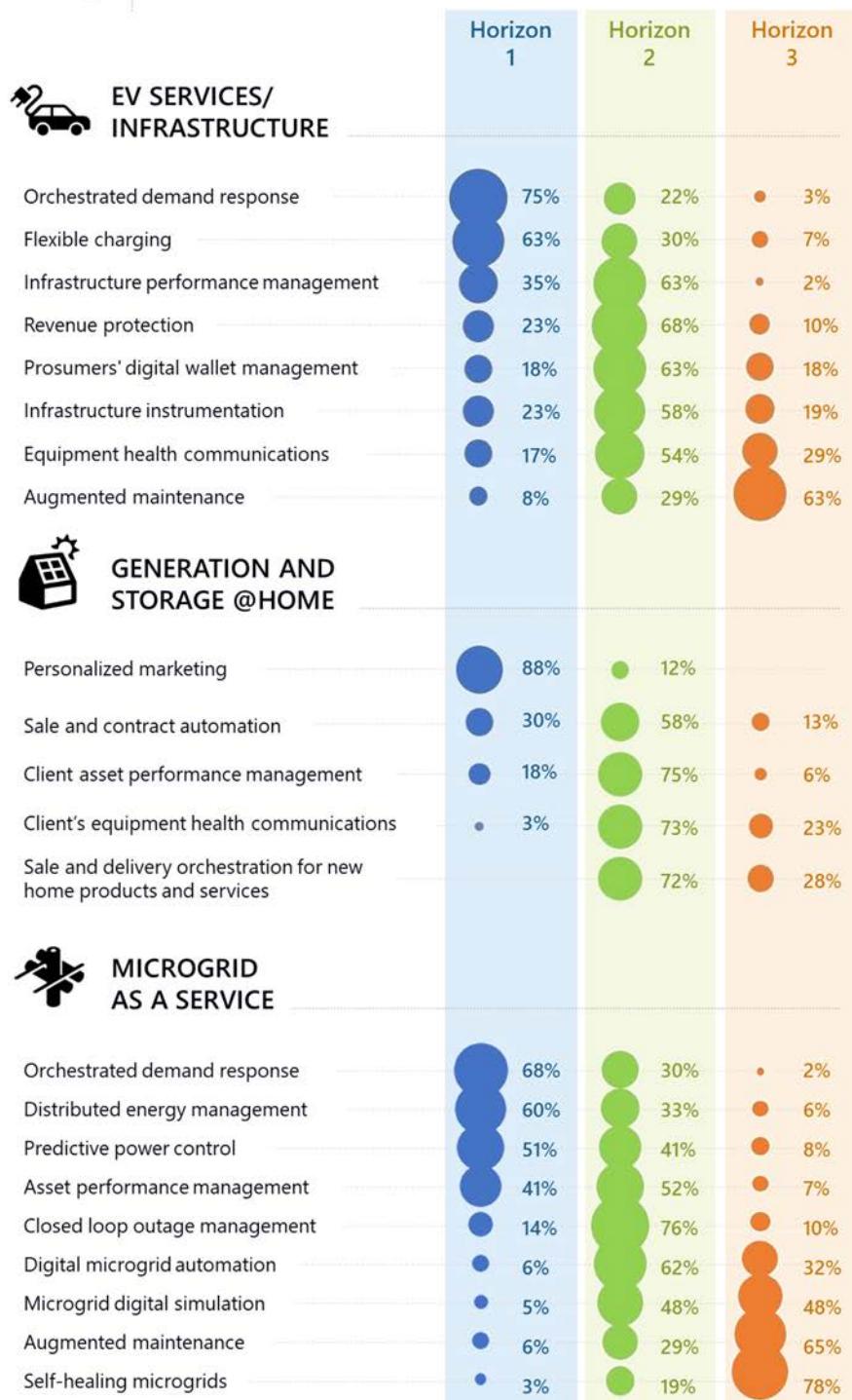
Microgrid as a Service

Microgrid as a service further testifies to the nature of the sector's recent development with the as-a-service business models. The rapidly declining cost of key enabling technologies, such as distributed energy sources (DERs) and battery storage, combined with the overwhelming effect of ICT improvements, convey significant value to a potential independence from the grid, and make microgrid attractive also in the context of complete grid coverage. Extreme weather conditions may well make it advantageous to disconnect from it. Furthermore, large interconnection projects for islands or other remote locations bear immense

Figure 6
Use Cases' Roadmap Examples

Q.

In the toward the specified business model, when are the following use cases going to be mainstream?



Note: Bubble size represents the percentage of respondents. Bubbles sum to 100% horizontally.

Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

financial costs. Not to mention the untapped potential in the developing world, where the rationale for such an investment is even more explicit. Regulatory intervention is crucial and should further encourage the creation of microgrids, facilitating investments in this area. Operators would therefore be more willing to sustain the upfront costs by distributing it among their clients and along the time axis.

The first horizon groups use cases which a correct functioning of a grid builds upon. *Distributed energy management* enables the seamless integration of DERs into the microgrid using distributed energy resource management systems (DERMs) without undermining its reliability. *Predictive power control* further enhances the microgrid's reliability by accurately planning loads, while *orchestrated demand response* turns consumers to active stakeholders of grid balancing as outlined before.

The second horizon is once again focused on asset failure and outage. *Asset performance management* prevents the former using analytics, while *closed loop outage management* remedies the latter by having AI diagnose and respond. *Digital microgrid automation* also has the objective of predicting failures, yet achieves it through the simulation of various scenarios.

In the last horizon we have *microgrid digital simulation* which describes the holistic approach towards operation, including energy flows, quality assurance, and asset performance. *Augmented maintenance*, as explained previously, reaches out to AR and VR to guide technicians in their maintenance work. Finally, in its ultimate state, a microgrid as a service provider should be able to offer *self-healing microgrids*, capable of monitoring themselves, rerouting or shedding load if necessary in the case of outage, and asset damage minimization.

Outdated KPIs are considered a challenge by **55% of utilities** when deploying new business models

Triggering Success with a new Toolset of KPIs

As companies make their own transformation journeys, the choice of the right KPIs becomes vital, determining part of their success (or failure). Indeed, more than half of organizations (55% of utilities and 63% of contenders) consider outdated KPIs as the biggest challenge in business model deployment. As this transformational shift unfolds, it will incur changes not only in the content of business itself, but also in the way success is measured and achieved. The success of business models needs to be tracked and a new set of KPIs measuring business innovation, customer advocacy, workforce transformation, and data capitalization should be fully leveraged.

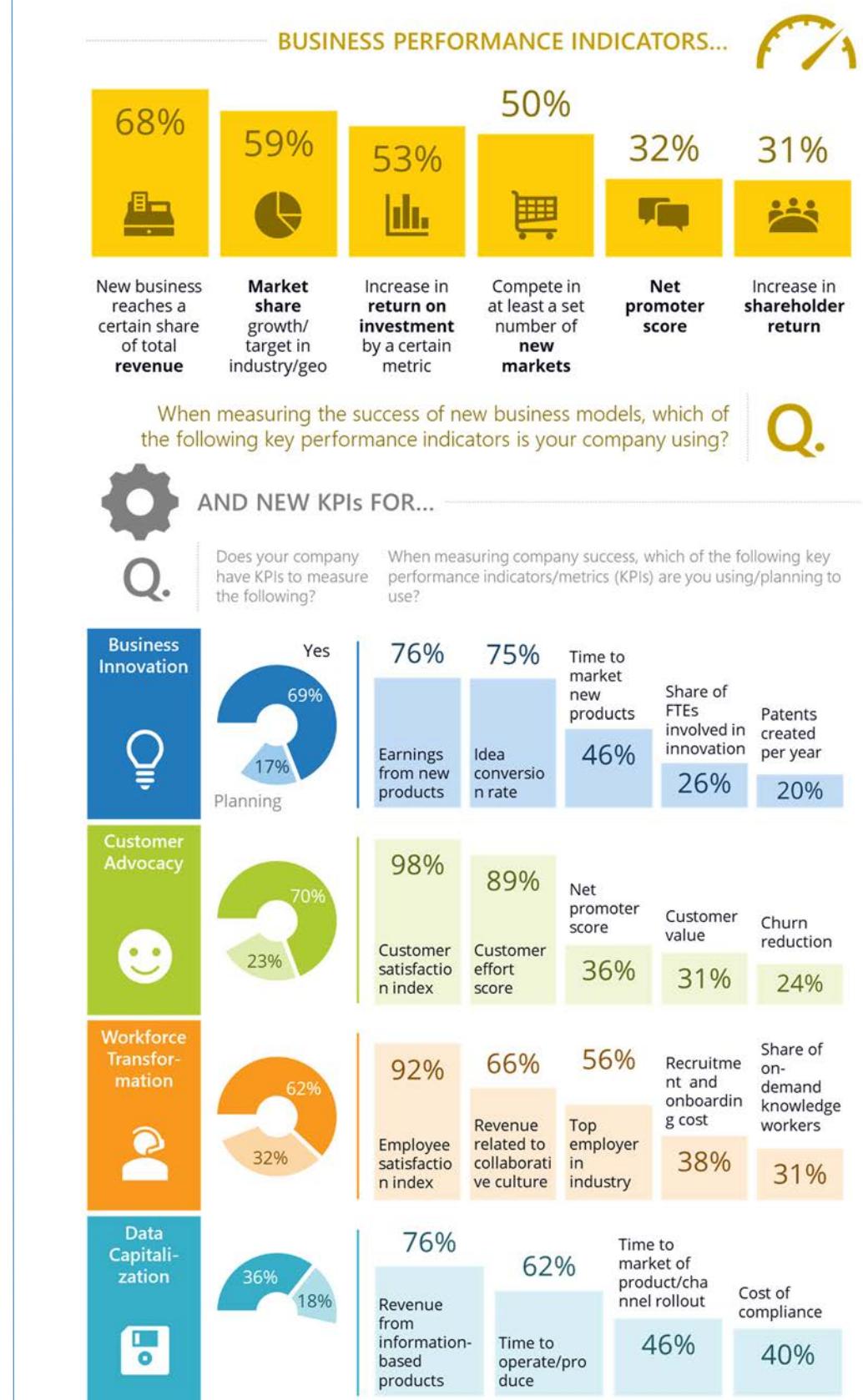
The success of business models is not only measured based on specific financial performances, but also in terms of contribution to the transformation of company mission and revenues. 68% of utilities and contenders will look precisely to measure that.

Business innovation is a crucial component in itself. If anything, innovation describes the very essence of utilities' transformation and should be treated with appropriate attention. To measure business innovation, three-quarters of organizations will use the ratio of "earnings from new products and services to earnings from existing products and services." Approximately the same number express a preference for the "idea conversion rate." Patents created per year only appeals to a fifth of utilities.

The concept of *customer advocacy* is eventually making its way. Gone are the days when regulation staved off utilities from competition, guaranteeing stable high yields. This is true even in non-competitive energy markets, where the competition indirectly exists anyway. A staggering 70% of companies claim to already have key performance indicators in place for measuring customer advocacy and an additional 23% plan to adopt them. Almost all of them (98%) measure or plan to measure customer satisfaction improvement. Although this might seem reassuring, particular attention should be paid by utilities and contenders to the customers' entire experience, which is not accurately captured by the traditional customer satisfaction index. It is promising that 89% of organizations use or plan to use customer effort scores as a metric of company success in terms of customer advocacy. And the net promoter score, currently adopted by only 32% of companies, will move beyond the domain of customer advocacy to measure entire company success. 74% of utilities and all contenders using NPS are measuring or planning to measure all employees, rather than just sales and customer representatives with this metric.

And then there is the other pillar that organizations will need to focus on: people. The workforce is undergoing its own transformation, mainly due to technology and changing demographics, but also because of the cultural shift that the abovementioned change brings. Not surprisingly, two-thirds of organizations use or plan to use growth in revenues or profits as a consequence of their innovative/collaborative culture as a KPI for measuring success with respect to *workforce transformation*.

Figure 7
The Toolset of KPIs to Track



Source: IDC Utilities' New Business Model Survey 2018; Commissioned by Capgemini

Another interesting finding is that almost a third (31%) would use the percentage of on-demand knowledge (e.g., crowdsourcing) for the same purpose, reminiscent of the fact that utilities are no exception in this radical transformation of workforce.

Last, but not least, utilities need to measure company success in terms of their capability to *valorize/capitalize data*. Data is the pillar of the cognitive transformation that the world economy and companies are experiencing. It is encouraging that utilities are going to use metrics such as "percentage of revenue generated from information-based experiences", or that they will measure how data is reducing time to operate, go-to-market, and compliance costs.

Instead of hampering execution, KPIs should be used to encourage change. Contenders consistently outcompete utilities in current usage of KPIs for the abovementioned business challenges, an additional sign of the gap in the mindset of established entities and potential entrants. Utilities should be aware of the need to learn from them, as it would make hardly any sense to embark on the journey of innovating while making use of outdated KPIs. And indeed, the overall picture emerging from the study makes a case in point of how KPIs are changing in light of the ever-evolving business environment.

Guiding Along the Path to New Business Models

Business-as-usual will not be enough to grant utilities a bright future. Technology innovation is introducing new contenders that are changing the nature of the traditional utilities value chain itself. Some of these contenders are flexible organizations which, despite lacking the financial robustness of utilities, often find themselves several steps ahead in terms of innovation and customer trust. Concentrating efforts on business models with high potential and executing the following roadmaps centered on business outcomes will be key for utilities' future success. In summary, IDC recommends:

- **Disrupt yourself before others do it.** Innovative utilities will undoubtedly thrive, leaving less space for backward-looking companies. If you have not yet started, use this study to investigate the business models which best fit with your organization and deploy them.
- **Remember that execution eats strategy for breakfast.** Make sure that your company has a clear vision in terms of what it is looking to achieve and how it sees the ecosystem evolving. But then focus on execution and move away from the transformation deadlock which is still trapping most of your peers. Develop agile programs based on a modular, scalable, and expandable approach. Use the horizon thinking framework to reverse engineer the use case journey. Adopt new metrics to foster and measure success. And leverage this study as a reference point to map out your company journey.
- **Bring the entire company on board.** Do not neglect focusing on the internal stakeholders' alignment. This is key for a successful transformation. Leverage this study to stimulate discussion and ensure the leadership team collectively agrees on where the organization should be heading, and how.
- **Build an ecosystem to close the gaps.** To successfully execute, look beyond the boundary of your company. Collaborate with partners, including service companies, startups, and crowdsourcing platforms to create a solid ecosystem that will enable you to bridge capability and skills gaps, perform tasks, lower the risk and cost of innovation, and advise you along the journey.

Appendix

Methodology

This IDC White Paper presents a section of the major findings of primary research, commissioned by Capgemini. The survey ran in May 2018 and covered 130 senior decision-makers from utilities and 30 non-utility companies present in the energy business or considering an entry in the coming two years. The geographic scope spans France, Germany, Italy, Sweden, the United Kingdom, Australia, India, Malaysia, Singapore, Canada, and the United States.

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