

# How to Achieve AI Maturity and Why It Matters

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An AI maturity assessment model and road map for CSPs

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## Summary

### In brief

Artificial intelligence (AI) offers the potential to not only refine and improve communication and media service provider (CSP) businesses, but fundamentally reshape their business models. From facilitating operational improvements such as network optimization through to infusing data analytics across processes and reshaping customer service and marketing through automation, AI represents one of the biggest value opportunities of recent times. CSPs should seize this opportunity and aim to be in the best possible position to capitalize on all the benefits that AI can bring.

### Ovum view

The challenge for CSPs is how to leverage AI in a way that produces optimum results and competitive advantage. The way forward will ultimately be determined by a CSP's AI readiness and capabilities; in other words, its level of AI maturity. Ovum has identified four core phases of AI maturity: AI Novice, AI Ready, AI Proficient, and AI Advanced. And, in partnership with Amdocs, we have designed a corresponding assessment model that identifies the AI development phase to which a CSP belongs. This lets CSPs gauge the extent of their AI abilities and limitations, providing them with an action plan to move forward and strengthen their position. Amdocs and Ovum's Artificial IQ Model is based on assessment criteria spanning five core pillars: strategy, organization, data, technology, and operations. It is highly unlikely that a CSP will have a uniform score across all five pillars; for example, it may attain an AI Advanced score for its strategy, but an AI Proficient score against the data pillar. The model helps to surface any unevenness in AI maturity, helping CSPs avoid taking a "one-size-fits-all" approach. The result is a detailed, actionable assessment of a CSP's AI positioning, revealing where that CSP is strongest and where it is less adept. To help CSPs further, we have crafted recommendations relevant to each AI maturity phase and across each core pillar.

### Key messages

- According to Ovum's *ICT Enterprise Insights 2017/18* survey (and feedback from CSPs studied for this report), CSPs are either trailing AI solutions (close to 30%) or planning their AI strategy (just over 25%). But when it comes to full-scale AI deployments, the number is much smaller (just under 20%), which is understandable given the complexity of AI.
- Some CSPs have yet to embrace AI. CSPs in this position are taking a "wait-and-see" approach to AI, partly through uncertainty about how to progress. But given how fast AI is moving and being adopted by competitors, holding back could mean getting left behind and missing opportunities that AI can bring.
- Machine learning enables a deeper, contextual view of customers which can help transform customer care. For example, it can guide human agents in real time to provide best-fit solutions for a particular issue. AI can also power online virtual assistants and chatbots on messaging platforms to automate some of the roles currently performed by human agents. Not surprisingly, AI in the customer care domain is of much interest to CSPs, and a growing number of CSPs have launched – or are planning to launch – AI-powered virtual assistants.

Examples include Vodafone UK's TOBi messaging chatbot and Deutsche Telekom Austria's online assistant Tinka, which handles around 120,000 customer questions per month.

- AI solutions can drive personalization at scale, creating offers and messages that are contextual and can be carried out in real time across a wide range of criteria. For example, DTAC in Thailand uses machine learning to recommend best-fit tariff plans and packages for customers. Certain CSPs are tapping into these capabilities to enable chatbots for sales support and marketing use cases. US CSP Verizon is a case in point, having developed a chatbot specifically for its Fios TV service. The Fios chatbot provides customer support but also enables users to discover and purchase new content and get personalized viewing recommendations.
- A few ambitious CSPs have launched digital assistants with a voice interface, leveraging more sophisticated AI capabilities than those found in a typical AI-powered chatbot. Such digital assistants can carry out a wider range of functions. Examples include Djingo from Orange, Aura from Telefonica, Nugu from SK Telekom, and Magenta from Deutsche Telekom. From a CSP perspective, digital assistants offer the potential to pull users more deeply into service ecosystems – particularly that of the smart home.
- AI can take network optimization to new levels: it can help with resource utilization, traffic classification, anomaly detection, capacity planning, and risk assessment. Yet AI implementations at the network level are typically at an early stage – especially for fraud management and security use cases. Zhejiang Telecom (a wholly owned subsidiary of China Telecom) and SK Telecom are among those CSPs deploying AI solutions at this level.

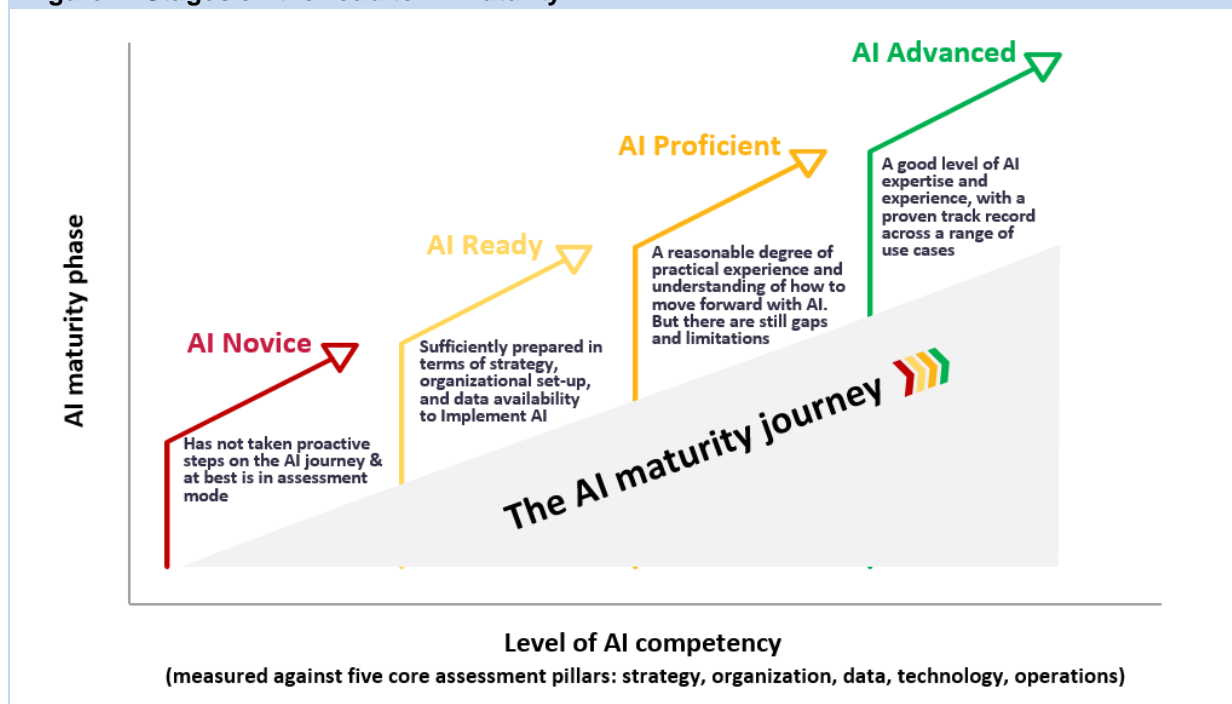
## The journey to AI maturity

### Development phases in AI maturity

Today there is great variation in where CSPs are situated on their journey to AI maturity. Some have already committed to AI, with a defined strategy and solutions of some kind in place. Others are still experimenting with new capabilities as their confidence grows. Many more are at an earlier stage altogether, formulating a plan of action or even wondering how to take the first step. But to move forward and benefit from all AI has to offer, CSPs need to understand their development needs and their readiness for AI in relation to their strengths and weaknesses.

AI maturity can be aligned with the four core developmental phases shown in Figure 1. The first phase is the AI Novice, and as the term suggests, a CSP in this position is still in assessment mode and has not started its AI journey. An AI Ready CSP is in a position where it is able to move forward and implement AI, but still has issues that need to be addressed if it is to make further progress. The AI Proficient CSP has made solid progress in its AI journey and has a reasonable degree of practical experience with AI and an understanding of how to leverage it – but there are still some gaps and limitations to be addressed. The AI Advanced CSP is at the most mature developmental phase: it possesses a good level of AI expertise and can demonstrate a proven track record across a range of use cases. However, determining exactly where an individual CSP sits in relation to these phases is complex. To address this challenge and help CSPs on their AI journey, we have developed an AI maturity assessment model.

Figure 1: Stages on the road to AI maturity

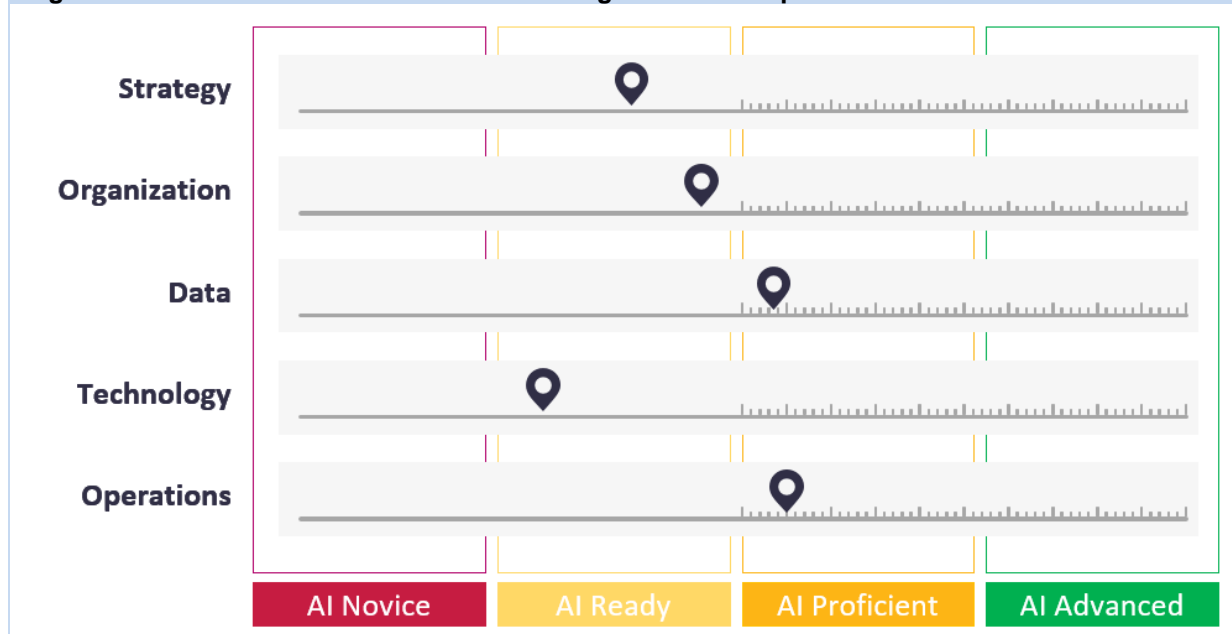


Source: Ovum

## Determining the AI maturity phase

Where a CSP is positioned in its AI journey can be determined based on five core assessment pillars and associated assessment criteria. How a CSP scores against these criteria calibrates its AI maturity phase across each pillar, as illustrated in Figure 2. It is highly unlikely that a CSP will have a consistent score and position across all the core pillars, and the model is designed to surface any nuances. The majority of CSPs will have different levels of maturity across the different pillars. For example, a CSP's data capabilities assessment could merit a score that places it in the AI Proficient phase, and yet that CSP's inability to support AI at an organizational level might place it in a less-advanced maturity phase for the organization pillar. The model is thus able to build a detailed, actionable assessment of a CSP's AI positioning that will help the CSP understand where it is strongest and where it is less adept.

**Figure 2: Illustrative Artificial IQ Model scoring across core pillars**



Source: Ovum (scoring shown is purely illustrative)

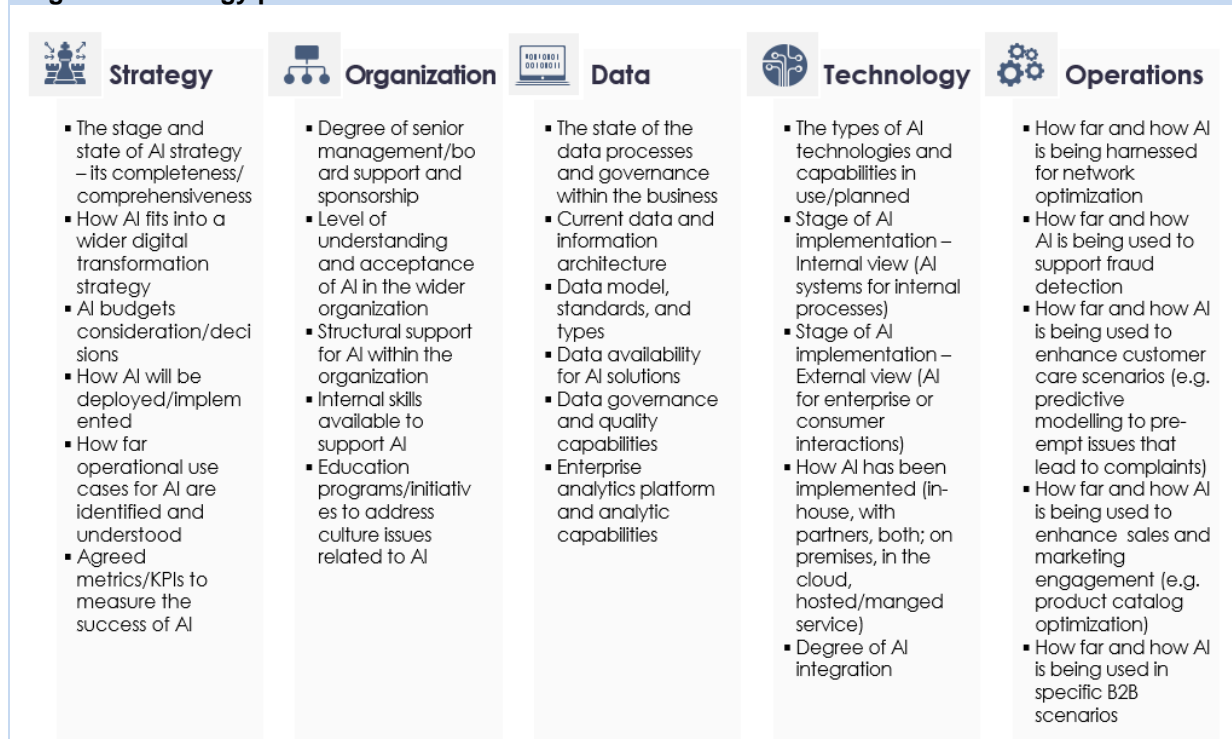
## AI maturity model: core pillars and assessment criteria

The AI maturity model is based on five core pillars that form the critical foundations for an AI-driven CSP: strategy, organization, data, technology, and operations. Each pillar contains a detailed set of criteria and associated questions designed to assess a CSP's level of AI maturity (see Figure 3).

- **Strategy:** The strategy pillar examines the state and nature of a CSP's plan of action and road map to support AI.
- **Organization:** This pillar examines how culturally and organizationally ready a CSP is to support AI and its effects on business transformation.
- **Data:** This pillar assesses the state and availability of a CSP's data assets and its analytics capabilities, as these are crucial for a successful AI deployment.

- **Technology:** This pillar explores and assesses the different AI technologies and capabilities being leveraged by the CSP, and how the CSP has gone about implementing AI solutions.
- **Operations:** This pillar assesses where and how CSPs are implementing AI across four core operational elements: customer support, sales and marketing engagement, networks, and fraud detection management. The associated questions explore a range of potential use case scenarios, in both a B2C and B2B context.

**Figure 3: Strategy pillars and associated criteria**



Source: Ovum

## AI maturity phases: detailed view

### AI Novice

#### What this means

AI Novice is the most immature phase, where the CSP has not taken proactive steps on the AI journey and at best is in "assessment mode." The CSP will not be in a position to take advantage of the opportunities offered by AI capabilities, hindered by the lack of a cohesive strategy, limited organizational alignment, and insufficient data availability. AI Novice CSPs must take action now to avoid falling behind more advanced players in the market in the shape of other CSPs, OTTs, and consumer tech players. The attributes of the AI Novice CSP are listed in Table 1.

**Table 1: AI Novice attributes by assessment pillar**

Pillar	Attributes
Strategy	The AI Novice has no specific AI strategy at present or is still trying to formulate a strategy. Not surprisingly, CSPs at this stage may not have given serious thought to AI budget considerations, even though this is an integral part of AI strategy planning.
Organization	AI will not be high on the executive or board agenda for AI Novices. There will likely be no in-house AI experts, let alone plans in place to recruit them or train up existing data scientists.
Data	Data sources and management may be sufficient for current CSP requirements, but are unlikely to meet the demanding requirements of AI projects. The current data management approach and analytic capability of the CSP are likely inflexible and designed to satisfy traditional reporting requirements rather than new data use cases focused on business development and operational optimization.
Technology	Very limited or no AI-specific technologies in place, with no immediate-term plans for implementation. Partnerships for AI capability delivery are not in place.
Operations	CSPs at this stage will not have a deep understanding of either internal or external AI use cases.

Source: Ovum

## AI Ready

### What this means

CSPs that are AI Ready are in a suitable position to start their AI journey: they are sufficiently prepared in terms of strategy, organizational set-up, and data availability to move forward and implement AI technology and solutions in defined operational scenarios. Such CSPs must take the next step by making tactical investments to enable the relevant skills, technology, and data to start realizing these plans. The attributes of the AI Ready CSP are listed in Table 2.

**Table 2: AI Ready attributes by assessment pillar**

Pillar	Attributes
Strategy	CSPs that are AI Ready will have formulated a basic AI strategy, although it is likely to be short term and focused on kick-starting the process. They will have identified use cases for AI in proof-of-concept scenarios, but will not have implemented them. The high-level approach to implementation will be based on point solutions at department/operational unit level with no central program. The AI strategy will be supported by existing budgets, not a dedicated AI budget.
Organization	CSPs that are AI Ready will have senior and board-level support for AI, but not necessarily across all department heads. There is unlikely to be much understanding of AI in the wider organization. AI Ready CSPs will have foundational skills in the form of data scientists, but only a few will have recruited many, if indeed any, AI experts.
Data	Data availability throughout the CSPs IT landscape will be advancing, with some focal points such as an enterprise data warehouse providing a degree of governance enforcement. Point solutions for analytics requirements are the likely approach, with limited organization-wide views.
Technology	Some limited trialing of AI or adjacent technologies is likely to have begun, with plans in place for investment in the foreseeable future. Current or planned use cases of AI technologies will not yet be integrated into the CSPs existing systems and processes. Early-stage partnering with AI technical experts is likely to have begun.
Operations	A CSP that is AI Ready will start cautiously – in many cases with soft launches and extended trials. There will be a focus on internal use cases that are less complex to implement and where the benefits/ROI are easier to identify. CSPs in this position will also look at AI to enhance certain B2C customer-facing operations, with an emphasis on customer care.

Source: Ovum



## AI Proficient

### What this means

CSPs at this phase in their AI development have a reasonable degree of experience and an understanding of how they want to move forward with AI. But there are still gaps and limitations in their strategy road map, data capabilities, and technology resources. These shortfalls affect the range and depth of AI-powered operational scenarios they can address, which ultimately means missed opportunities. The attributes of the AI Proficient CSP are listed in Table 3.

**Table 3: AI Proficient attributes by assessment pillar**

Pillar	Attributes
Strategy	CSPs that are AI Proficient have a defined AI strategy in place, but it is typically short to medium term rather than a detailed long-term blueprint. AI Proficient CSPs will have embraced digital transformation but may not yet be advanced on the journey. AI will be treated as a standalone strategy that is not directly connected to digital transformation, or if it is viewed as part of the digital transformation equation it will be leveraged for specific use cases and/or within specific areas of business operations. The aim will be to have a centralized platform in place to support AI, with a short-term focus on "quick wins" at departmental level. AI Proficient CSPs will have started to define dedicated AI budgets, although the majority will still source funds from existing budgets. AI Proficient CSPs will have a good grasp of use cases for AI, having implemented use cases for internal processes and certain external use cases.
Organization	AI Proficient CSPs have commitment to and support for AI at senior executive and board level. But support across the wider organization is decentralized (i.e. split across different teams that do not work together on AI deployment, strategy, and use cases). This is a weakness. In terms of in-house expertise, CSPs enjoy adequate, but not remarkable, resources. A CSP that is AI Proficient will have a few data scientists with AI expertise.
Data	Data throughout the CSP is generally available for AI use cases and supported by a governance framework that helps ensure standards and formats are well understood across the organization. Advances in the data management approach are supported by recent investments, such as an organization-wide data lake to further improve data gathering, management, and availability. Analytics within the CSP are likely focused on a central platform that supports a wide variety of use cases, but may not integrate advanced predictive and other data science capabilities.
Technology	Significant progress is being made with AI technologies within the CSP, likely connected to a centralized AI platform approach. Well-developed relationships with partners offering AI technical expertise are in place, and a pragmatic approach to deploying technology for best fit within the use case (on-premises, cloud, or hybrid) is applied.
Operations	CSPs will have implemented AI for a good range of internal processes (e.g. billing automation, churn, segment analysis). AI for external use cases will typically be focused on B2C scenarios (usually less-challenging customer care and sales/marketing functions). There will be less, if any, focus on B2B use cases, although there may be plans in place to address this.

Source: Ovum

## AI Advanced

### What this means

CSPs with an AI Advanced score have achieved a good level of AI maturity and are ahead of other CSPs in the AI journey. These CSPs have AI expertise and experience, with a proven track record in AI-powered use cases. They are typically more advanced in digital transformation and are often larger organizations with more resources at their disposal to invest in AI. But CSPs that are AI Advanced cannot be complacent and must ensure they keep ahead of new developments in AI and the potential impacts on their business (both positive and negative). The attributes of the AI Advanced CSP are listed in Table 4.

**Table 4: AI Advanced attributes by assessment pillar**

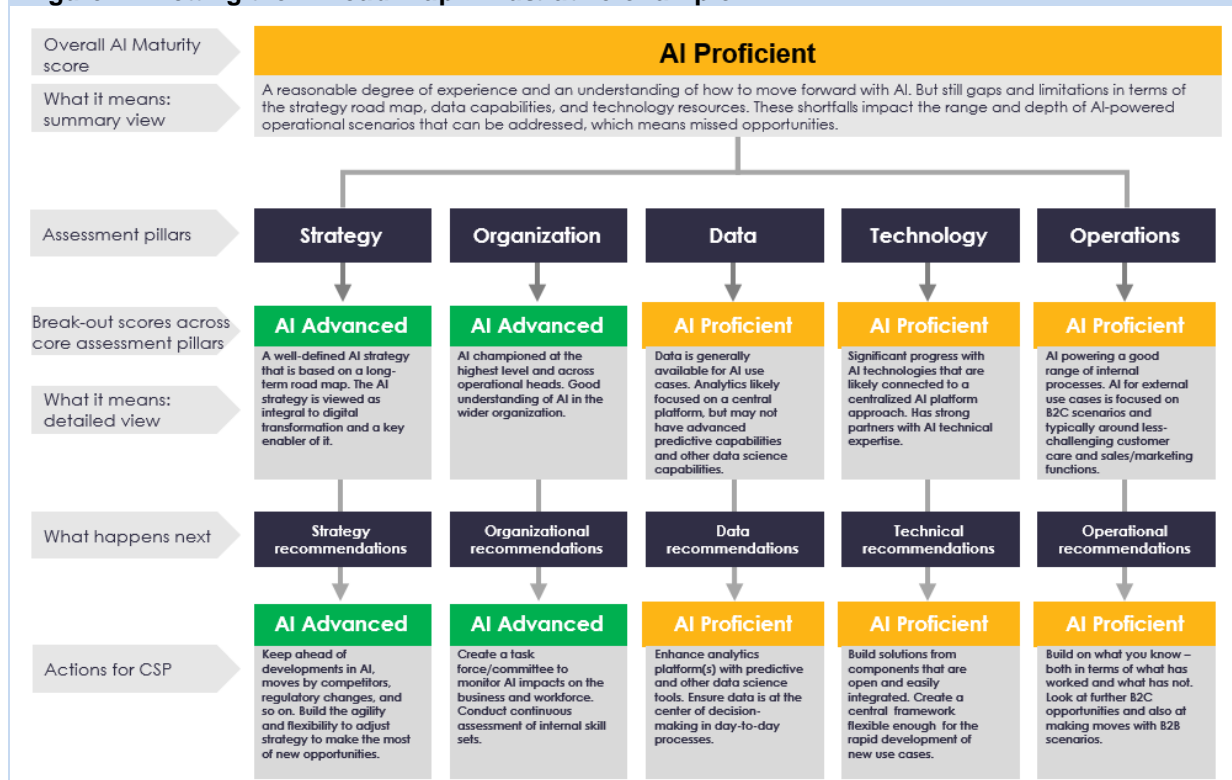
Pillar	Attributes
Strategy	AI Advanced CSPs have implemented a well-defined AI strategy based on a long-term road map. The AI strategy is viewed as a key enabler of digital transformation. For CSPs in this phase, AI both drives digital transformation and shapes new services and capabilities. There will be a dedicated, generous AI budget. The high-level strategic approach to implementation will be based on a central AI platform with corporate-wide standards for deployments across operations. There will be metrics in place for all AI use cases, some highly specific and ambitious.
Organization	An AI Advanced CSP will have AI championed and supported at the highest level – board, senior management, and departmental/operational heads. There will also be a good understanding of AI across the wider organization, with a largely positive perception of AI among employees.
Data	Data management within the CSP is well advanced, combining multiple sources with a standardized and well-governed approach to assure quality, format, and ownership of data types. Data is available in (or close to) real time, even for some of the most demanding use cases. A CSP-wide analytics platform supports dynamic analytics requirements, from historical reporting through predictive analyses. Data science is an integrated part of analytics within the CSP, enabling the discovery and operationalization of new data insights and use cases. Data is widely recognized as a valuable asset that requires senior-level business support and is backed by a program of investment in new technologies that further enhance data availability while maintaining ongoing CSP data requirements.
Technology	AI technologies are already adopted and are at the approved project stage or being deployed. They are most likely to be integrated into the CSP's existing systems and have AI capabilities infused across or influencing products, services, and operations. Well-established relationships with AI expert partners provide AI capabilities to a blended model of delivery that incorporates the CSP's own in-house expertise. A centralized platform model, supported by a center of excellence, governs new AI deployments. These leverage a standards-based approach to AI development and may utilize open source and systems with pre-integrated AI capabilities.
Operations	An AI Advanced CSP will have implemented AI to power a good range of internal processes, external B2C use cases, and certain B2B scenarios. AI solutions will be optimized to drive cross-domain value and ensure alignment across business processes, maximizing value for both customers and the CSP. A CSP that is AI Advanced will have ensured that privacy by design is built into use cases, meaning that AI services and initiatives are developed with privacy at their core from the start, rather than as an afterthought.

Source: Ovum

## Next steps: how to progress in the AI journey

Our assessment model helps CSPs determine where they are on the journey to AI maturity across the core pillars of strategy, organization, data, technology, and operations. The next challenge CSPs face is determining how to make progress on that journey. We have set out recommendations tailored to each AI maturity phase and across each core pillar. This means CSPs can pick and mix exactly those recommendations that align with their scores, rather than relying on a one-size-fits-all approach. We illustrate how this works in Figure 4.

**Figure 4: Plotting the AI road map – illustrative example**



Source: Ovum

## Recommendations for CSPs with AI Novice scores

### Strategy

Many CSPs in the AI Novice phase will demonstrate a wait-and-see approach to AI, partly due to uncertainty about how to progress. They may hope that holding back will enable them to learn from other CSPs' mistakes and successes. There is merit in this approach, but given how fast AI is evolving and being adopted by other CSPs, AI Novice CSPs risk getting left behind and missing opportunities. This could affect their positioning in a digital services market disrupted by fast-moving OTT and consumer tech players, many of which have deep AI expertise.

The AI Novice must create a task force to assess AI possibilities across the business and against all parameters related to the strategy, organization, data, technology, and operations pillars. It must identify and understand its AI-related strengths and weaknesses before it can move forward. This may

seem a daunting task, but the good news is that a pool of experts (e.g. technology and solution vendors, SIs, and consultants) is on hand to help; AI Novices do not have to go it alone.

### **Organization**

AI support must come from the highest level in the organization – without this, AI will not succeed. AI Novice CSPs should set up management-led AI task groups and if necessary seek external experts to provide education and insights on AI dynamics. Novice CSPs must assess existing skills and capabilities, to understand where investment is required.

### **Data**

Plans for investing in and managing data must be made a matter of urgency. Novice CSPs must first understand what data is available, then assess the tools and processes they have in place to manage that data before making it available for AI opportunities. This means assessing existing and new sources of data, in core transactional systems and systems that manage customer-related data. Improvements to core data management capabilities (e.g. improving sourcing and ingest, introducing quality checks, and making data sets available for analysis and AI use cases) will likely be required to upgrade the data and information architecture employed by the CSP. This will improve both the flow and availability of data, as well as its quality. Where use cases are emerging, we recommend adopting a tactical approach by identifying key data sources for AI projects. Focusing efforts here will encourage necessary future investments in data.

### **Technology**

It can be hard for a novice CSP to know where to start with AI. But there is a range of technology companies that provide the platforms, tools, and telecom-specific domain expertise on which to build an AI service ecosystem. We recommend adopting a twofold approach of experimenting with "packaged," proven AI capabilities, such as chatbots and campaign management systems (which are well supported by vendors), while engaging with AI expert partners (likely from existing SI relationships).

### **Operations**

The AI Novice CSP is not at a stage where it can identify definitive use cases for AI – it still has essential groundwork to cover. The first step is to identify where AI can bring the most benefits and opportunities to the business. Once this has been worked out, CSPs will have a better understanding of which specific use cases should be a priority and which are the most feasible.

## **Recommendations for CSPs with AI Ready scores**

### **Strategy**

AI Ready CSPs have a basic AI strategy in place that needs developing. In most cases, an AI Ready CSP will have used a series of tactical moves to kick-start its AI journey. This is understandable given that AI Ready CSPs are still at an early stage in the AI journey. But the danger in relying on purely tactical moves is that it becomes a reactive, stop-start process that could eventually stall, meaning that the CSP falls behind. The AI Ready CSP must develop its basic, short-term tactical plan into a fully formed longer-term AI strategy.

## Organization

Senior executives that initially bought into AI must be encouraged to remain engaged and enthused: AI requires long-term commitment from the highest levels. The lack or limited understanding of AI in the wider organization must also be addressed because otherwise employees will remain resistant to the technology. Senior management must ensure that employees understand the opportunities that AI can bring to the business. AI Ready CSPs will, as noted, have a certain level of data expertise, but not much (if any) AI expertise. They will need to move quickly to address this, as a lack of expertise is a serious handicap. But the investment required to gain data science and AI expertise (whether through training or recruitment) will make this a slow process.

## Data

The CSP at this level of readiness should be prepared to make fresh investments in supporting data management technology. This will likely take the form of data warehouse augmentation through the deployment of a data lake which enables the creation of more complete organization-wide views by combining data from across the CSP by bringing the ability to ingest more types of data, at speed and at scale. Taking a considered approach to such an investment will be necessary, focusing on immediate use case requirements for data as opposed to a "big bang" that attempts to enforce a data lake approach on all CSP data. Analytics should be a focus, primarily in the form of delivering a platform approach that standardizes analytics across the organization, enabling wider enterprise views and opening the possibility of integrating more advanced capabilities in future.

## Technology

Taking the next step in assessing and deploying AI technologies requires developing plans for a more centralized and integrated approach to AI. Technology cannot stand alone to achieve this: aligning strategy with organizational efforts will be fundamental to understanding where AI technology investments should be made, and therefore which technologies will be required to support them. In particular, CSPs should look to solutions that have knowledge of industry domains and business-process expertise.

## Operations

The next stage is clear: move from proof of concept to implementation, drawing on partners to help this process. The focus should be on the "low-hanging fruit" use cases, such as AI to enable process efficiency gains and a few B2C use cases where the benefits are easy to identify and implementation is less complex (e.g. automating certain customer support functions). In this scenario, an AI-powered virtual assistant or chatbot on messaging platforms could be used to handle level-one customer support queries or provide Q&A functions. Another use case is the use of AI to guide human agents in real time. AI in this context can be used to support highly complex scenarios, but for the AI Ready CSP we advise using the technology in more straightforward scenarios, such as to alert agents of customers that are likely to churn.

## Recommendations for CSPs with AI Proficient scores

### Strategy

AI Proficient CSPs need to put in place a detailed, long-term strategic road map for AI. Most will have a good foundation of experience and knowledge on which to base this, and if not there are external partners that can help. There is no excuse not to move forward.

### Organization

The decentralized support for AI that is characteristic of AI Proficient CSPs is a weakness that needs to be addressed. CSPs in this position need to adopt a centralized approach. This means a single dedicated AI management team/center of excellence (or similar) with a cross-organizational, interdisciplinary remit. This is of course a tall order and will take time to put in place, which means the sooner CSPs act, the better. AI Proficient CSPs need to address the skills gap and recruit more AI experts and train up existing data scientists. This is extremely important for long-term success.

### Data

Creating even greater data maturity at this stage requires investments in both the culture and technology of the organization to make it more "data driven." A data-driven organization uses data to inform the majority of its decisions; data is infused into nearly all business processes and is not the preserve of executives or data specialists. A CSP that is data driven can confidently rely on the completeness and accuracy of its data. It is likely to have enhancements to the analytic platform already in place along with predictive and other data science tools. It will also place data front and center of decision-making within the business, to justify new investments and fuel new products and services. Data should no longer be the preserve of a handful of experts, but infused into the day-to-day processes of the CSP.

### Technology

Advancing technological capabilities at this stage requires an even stronger commitment to a standards-based approach to AI technologies, bringing together multiple components to build solutions that are open, easily integrated, and flexible enough to accommodate future change. AI standards will need to be governed centrally, but done so within a framework flexible enough to allow rapid new use case development in lines of business.

### Operations

AI Proficient CSPs have already implemented a range of AI-powered scenarios, to varying degrees. They are in a strong position to build on what they know – both in terms of what has worked and what has not. Most will have already harnessed AI for a range of internal use cases, so they should look into further B2C opportunities and investigate B2B scenarios. If they have not already done so, CSPs should look at how AI can optimize a product offering. For example, AI solutions can leverage customer behavior and engagement data to automatically fine-tune product catalog offerings, proposing the price, content, and other parameters that are the best fit for a customer. Another area to explore is how AI can enhance customer journey management – for example, by managing the customer experience in an automated, adaptive way across multiple channels.

## Recommendations for CSPs with AI Advanced scores

### Strategy

CSPs that achieve AI Advanced scores have done extremely well, but they cannot be complacent or assume that their work is done. They must keep ahead of new developments in AI, demonstrating agility and the flexibility to adjust their strategy to make the most of new opportunities. The AI leadership team/center should have a dedicated resource that monitors new and emerging technologies, moves by competitors, regulatory changes, and so on. But a watching brief is only the start: AI Advanced CSPs will also need to be ready with proactive response plans to seize opportunities or meet challenges head on.

### Organization

AI Advanced CSPs should have regular and ongoing task-force/committee reviews to monitor AI impacts on the business and workforce. Meanwhile, they must continually assess internal skillsets and check that existing teams can keep up with developments in AI; if not, they must recruit new expertise or train up existing staff.

### Data

Continually investing in data and the technologies used to manage it and actively managing data processes will pay substantial dividends. AI Advanced CSPs must continuously monitor and improve data generation, sourcing, and management to ensure effective use. AI Advanced CSPs should continually seek new data sources and types that could enhance existing AI-powered use cases or digital services, generating new opportunities. Data architecture must evolve in parallel, ensuring that new data types can be acquired, stored, and managed. CSPs that understand this cycle of protection and innovative use will stand out from their competitors. The benefits of this advanced-level approach extend to those of being data driven by bringing real-time data updates to AI and other use cases, such as customer profiles, using not just the CSP's own data, but sourcing and blending relevant third-party data to enrich analysis and AI. Real-time capabilities power dynamic and continuously relevant customer-serving processes alongside "in the moment" business monitoring and management.

### Technology

AI Advanced CSPs will be AI savvy and should have a mandate to keep ahead of new technology developments, so that they can move early and quickly to seize opportunities as they arise. By this stage, IT/product innovation teams should be able to experiment with emerging capabilities that are not widely deployed, such as deep learning or the orchestration and automation of machine learning across the enterprise. They will approach these new solutions cautiously, seeking advice and support from AI capability expert partners to augment their own resources. They should also look out for potential AI partners and acquisitions that will strengthen their hand.

### Operations

An AI Advanced CSP will have implemented AI to power a good range of internal processes, external B2C use cases, and certain B2B scenarios. CSPs in this position will have the aptitude and experience to respond rapidly to new developments from an operational level, moving promptly to implement additional AI technologies and/or capabilities that will further enhance use cases. However,

they can still benefit from external advice and insights from industry experts and partners. AI Advanced CSPs should also be able to learn from, and respond quickly to, what competitors are doing with AI in terms of technology breakthroughs or new use cases.

## Conclusion

CSPs are undergoing profound change, embracing digital transformation as a chance to become more operationally efficient and customer centric and to provide new, personalized services at speed. These imperatives are driven by intense competition from OTT and consumer tech players along with increasing demands and higher expectations from customers – both consumer and enterprise. There is no doubt that leveraging AI solutions can accelerate and enhance digital transformation, placing CSPs in a stronger competitive position. The ultimate goal for a CSP is to become AI Advanced. This will not be easy and will not necessarily happen in a perfectly synchronized way across strategy, organization, data, technology, and operations. But with understanding, guidance, and the right solutions, CSPs will get there. AI Advanced CSPs are the ones to watch and learn from, mainly due to the following reasons:

- They use AI to improve any customer journey by adapting in real time to the specific profile, needs, and real-time state of each individual customer.
- They use AI to provide personalized, contextual offers to each customer at precisely the right time.
- They use AI to proactively resolve customer issues, by analyzing the common patterns that lead to calls and the root causes of common issues. They then provide proactive resolutions and automatic self-healing processes.
- They use AI to empower customers with self-service capabilities across digital channels, by providing them with relevant insights and personalized recommendations.
- They use AI to guide contact center agents in providing more personalized and timely resolutions to each and every customer.
- They use AI to better plan the products they sell through advanced machine learning algorithms.
- They use AI capabilities to create new digital offerings.
- They use AI to offer adaptive networking optimization, optimize capacity allocation, and predict congestion to deliver the best possible service to customers.



## Appendix

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### Ovum Consulting

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