Define Your Strategy
Microsoft Practice Development Playbook
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Define and Design the Solution Offer

With an understanding of the Microsoft AI platform in place, you must next understand the business models of the AI practice because not all revenue streams are equal.

**There are Four Ways to Make Money Selling Cloud:**

- Resale
- Project Services
- Managed Services
- Packaged IP

Partners that focus almost entirely on product revenue have the biggest barrier, and typically see margins in the range of 5–20%. This is because the margins for this revenue line are tied to vendor incentives. These partners are subject to changes in strategy and the desire to fund programs, and have the least control over their own destiny.

Project services typically drive a range of approximately 35% gross margin, but this has been under pressure for some time. This is a result of little differentiation in the channel, which has caused billable price points to hold steady over the past five or more years, while increasing salary and benefit costs of consultants and inflation have eroded profitability.

As a result, aggressive and entrepreneurial members of the channel have adapted and gone after the higher margin opportunities of managed services, which generate on average 45% gross margin and packaged IP, which often exceeds 70%.

It is these partners who are setting themselves up to be rewarded. The mergers and acquisition space is quite active. The partners who have gravitated toward the recurring revenue lines and realizing healthy growth are being presented with much higher valuations. This can have a dramatic increase in the cash event of the company and overall shareholder value — far higher than what a traditional partner focused on product and billable services can realize.

A business plan is a critical asset that can help you envision and think through the details of your practice, identify gaps you will need to address, and explain the fundamentals of your practice to others. Leverage the Cloud Practice — Develop a Business Plan guide for details, profitability scenario overviews, business plan templates, and financial models.

Read on to understand what types of project services, managed services, and intellectual property you should be considering in your AI practice.
Understanding Project Based Services

When building an AI practice, most partners start with selling project-based services.

If you think about the AI practice maturity model introduced earlier, it makes sense that partners establish their AI practice using project-based services. With these early projects, partners augment their domain expertise (in the domain of the customer), assemble their processes and tooling and create a track record of successful deliveries they can leverage in closing future opportunities.

**WHAT TYPES OF PROJECTS ARE PARTNERS SELLING?**

In the Microsoft AI Practice Development Study, 555 partners that identified as having an AI practice were asked what project services they offer within their practice. The results are below. Observe that the top 5 project services sold were: predictive analytics, proof of concepts, data mining, diagnostic analytics, and data integration.

### PROJECT BASED OFFERINGS

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predictive Analytics</td>
<td>47%</td>
</tr>
<tr>
<td>Proof of Concept</td>
<td>41%</td>
</tr>
<tr>
<td>Data Mining</td>
<td>36%</td>
</tr>
<tr>
<td>Diagnostic Analytics</td>
<td>32%</td>
</tr>
<tr>
<td>Data Integration</td>
<td>32%</td>
</tr>
<tr>
<td>Data Solution Implementation – SQL Based (e.g., SQL server, SQL Data Warehouse)</td>
<td>28%</td>
</tr>
<tr>
<td>Strategy</td>
<td>27%</td>
</tr>
<tr>
<td>Chat Bots</td>
<td>25%</td>
</tr>
<tr>
<td>Descriptive Analytics</td>
<td>24%</td>
</tr>
<tr>
<td>Assessment and Planning</td>
<td>23%</td>
</tr>
<tr>
<td>Prescriptive Analytics</td>
<td>23%</td>
</tr>
<tr>
<td>Visualization Development</td>
<td>23%</td>
</tr>
<tr>
<td>Training</td>
<td>22%</td>
</tr>
<tr>
<td>Data Solution Architecture Design</td>
<td>20%</td>
</tr>
<tr>
<td>Text Mining</td>
<td>20%</td>
</tr>
<tr>
<td>Natural Language Processing</td>
<td>20%</td>
</tr>
<tr>
<td>Deep Learning</td>
<td>19%</td>
</tr>
<tr>
<td>Real-Time Scoring</td>
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</tr>
<tr>
<td>Data Quality Evaluation</td>
<td>17%</td>
</tr>
<tr>
<td>Model Creation/Training</td>
<td>17%</td>
</tr>
<tr>
<td>Custom ML Algorithm Development</td>
<td>16%</td>
</tr>
<tr>
<td>Computer Vision</td>
<td>16%</td>
</tr>
<tr>
<td>Model Performance Evaluation</td>
<td>16%</td>
</tr>
<tr>
<td>Model Algorithm Selection</td>
<td>15%</td>
</tr>
<tr>
<td>Model Deployment/Operationalization</td>
<td>15%</td>
</tr>
<tr>
<td>Model Application Integration</td>
<td>15%</td>
</tr>
<tr>
<td>Data Preparation/Wrangling</td>
<td>14%</td>
</tr>
<tr>
<td>Mentoring</td>
<td>13%</td>
</tr>
<tr>
<td>Model Tuning &amp; Re-Training</td>
<td>13%</td>
</tr>
<tr>
<td>Data Solution Implementation – Open Source Big Data Based (e.g., Spark)</td>
<td>12%</td>
</tr>
<tr>
<td>Domain Specific Intelligent Application Development</td>
<td>12%</td>
</tr>
<tr>
<td>Data Integration Pipeline Design</td>
<td>12%</td>
</tr>
<tr>
<td>Data Feature Selection/Creation</td>
<td>12%</td>
</tr>
<tr>
<td>Batch Scoring</td>
<td>12%</td>
</tr>
<tr>
<td>Integrating 3rd Party Pre-Trained Models &amp; APIs</td>
<td>11%</td>
</tr>
<tr>
<td>Data Integration Pipeline Implementation</td>
<td>10%</td>
</tr>
<tr>
<td>Agent Development</td>
<td>10%</td>
</tr>
<tr>
<td>Deployed Model Performance Evaluation</td>
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<tr>
<td>Device Embedded Models</td>
<td>8%</td>
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<td>Device Embedded Models</td>
<td>8%</td>
</tr>
<tr>
<td>Ethics Advisory</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Microsoft AI Practice Development Study, MDC Research, December 2017.

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WHAT DO THE TOP 5 PROJECT SERVICES TELL US?

Let’s unpack why the top 5 project services make sense and why you should be considering these for project services as well.

**Predictive Analytics & Diagnostic Analytics**: Analytic solutions built using machine learning tend to fall in one of four categories. They can be descriptive (describing what happens), diagnostic (explaining how/why it happened), predictive (predicting what will happen), and prescriptive (explaining what to do in response to a prediction). Industry-wide, most effort (and buzz) centers around developing predictive solutions, and partners are focused on the opportunity as well. Prescriptive solutions are less common because they depend on the prediction capabilities to exist, require significant domain expertise, and tend towards very high levels of complexity owing to all the forms of machine learning and deep learning they need in combination to produce their guidance. Partners seem to be cautiously approaching prescriptive analytics because this complexity makes it hard to deliver successful outcomes, and there is tremendous risk in overpromising the capabilities of AI (as the failure of IBM’s Watson in healthcare famously demonstrated).

It is interesting to observe that diagnostic analytics appears in the top five type of project services that partners are delivering. Diagnostic analytics typically have less complexity than predictive analytics. Given the market buzz and excitement around predictive analytics, that diagnostic analytics is being commonly sold by partners is a testament to the value that is produced even in simpler forms of analytics—automating understanding by being able to explain why things occurred without requiring a human to perform the interpretation.

**Data Mining & Integration**: Good AI has good data as a pre-requisite. Without being able to collect and aggregate the data (data integration) or process and explore the data to understand the insights it contains (data mining) it is not possible to train the learning algorithms that are powering AI. That partners are selling data mining and integration is also indicative of how they started their AI practice—as an evolution of their data practice.

**Proof of Concept**: As we will discuss in an upcoming section, a Proof of Concept (PoC) is a critical tool in selling AI. The benefit of the PoC for the partner is that it allows them to focus on delivering the core AI value in smaller/shorter engagements, and for the customer it makes AI “real”—it enables them to gain confidence that they can realize the promise of AI in the context of their business.

WHAT OTHER PROJECT SERVICES SHOULD YOU CONSIDER IN YOUR AI PRACTICE?

In our partner interviews, partners emphasized three very specific services for AI that have a lot to do with the evolution of the sale. In chronological order they are:

- **Envisioning**: Envisioning sessions help the customer understand the opportunities for AI in their business requirements, while relying on the partner to keep the conversation grounded in what is possible versus what is hyperbole.

- **Proof of Concept**: Some partners indicated a preference to only provide Proof of Concepts as the first engagement, to help the customer get comfortable with the capabilities of both AI and the implementing partner and to enable the partner to understand the real situation with respect to the availability of quality data and the actual feasibility of solving the problems they are attempting to solve.

- **Pilot**: Other partners indicated a preference to sell pilot projects and effectively start all projects with the notion that the solution implemented would ultimately land in production.

We will explore each of these project services in the sections that follow.
Deliver an Envisioning Session

An envisioning session is a common agile methodology practice that is particularly important for AI engagements as it is up to the partner to help the customer realize the opportunities for AI in the customer’s problem statement.

The challenge is few customers will know if their problem represents a good opportunity to apply AI, or even if AI is the correct approach in their situation. As a partner, you need to have a discussion with your customer about their problem and be on the lookout for opportunities to build the solution using AI. You need to recommend the application of AI when it is appropriate, as well as discourage its application when AI would not be successfully applied in the near term. For example, the customer may want to build a predictive solution, but the labeled training data does not exist and would take years to collect. This type of high level requirements conversation is called an envisioning session.

The outcome of an envisioning session is a common vision with your customer on capturing what may be achieved, the very high-level mechanism by which it will be achieved and the potential value of achieving this vision.

The envisioning session is not intended to be an in-depth, big requirements up-front requirements gathering event that takes weeks or months to complete. Instead, an envisioning session is something that can be conducted in 1-3 days depending on the complexity of the business scenario, and how much explanation the partner team needs from the customer about their scenario.

During the envisioning session you will begin by identifying the customers desired future state. On your way to defining how the vision is achieved and the value it would bring to the business, you will discuss the problem statement, the business and technical capabilities desired as well those that are available and the existence of supporting assets (such as data sets).

The benefits of conducting an envisioning session are:

- You can answer fundamental business questions of what you will build, and a general sense of how.
- You will have improved productivity on the project having identified and thought through the critical business issues facing the project.
- You will have identified the overall business direction required by your architecture.
AT THE END OF THE ENVISIONING SESSION:

- The customer will have a vision of how your AI practice can help their organization realize their goals and drive business impact. They are excited by the value unlocked in the application of AI.
- You will have sufficient knowledge to write a proposal for an engagement.
- You will have likely identified additional opportunities to apply AI to the customer’s scenarios, and have thus already started identifying additional scope for future engagements.

HOW TO DELIVER AN ENVISIONING SESSION

To deliver an envisioning session correctly means to have a loosely structured conversation (ideally in front of a white board) where you brainstorm with the customer about each of the following core questions. It is entirely possible to iterate multiple times through these core questions, each time refining details. Remember this is a high-level conversation.

1. What is the customer’s desired future state?
2. What is the problem the customer is trying to solve?
3. What are the customer’s business capabilities with respect to the problem? For example, do they have experience in the domain for which they are trying to enter?
4. What are the customer’s technical capabilities with respect to the problem? For example, do they have technical resources who have worked with the data in the domain? If they had a solution in hand, could they operate it?
5. What are the supporting assets? For example, do they have the requisite historical data upon which to train predictive capabilities?
6. How will they know when the vision is achieved?
7. What is the value of achieving the vision?

WHAT AN ENVISIONING SESSION IS NOT

An envisioning session is not:

- An architecture design session (discussed later).
- A project planning effort.
- A technology selection effort.

If you find that your envisioning conversation with your customer is headed in either of these directions, pause. Evaluate if you have suitably addressed the core questions. If the core questions have been addressed, then you should formally conclude the envisioning session and allow time for your team to process the input and return with recommendations on next steps (which could be a proposal for a design, a PoC, or a pilot).

If not, then you should guide the conversation away from getting too much into the architecture, technology selection or other implementation details.
Deliver a Proof of Concept AI project

AI projects include significant risks – for example, the data required may not be available or the problem may not lend itself to accurate prediction. Reduce the risk of overpromising on AI capabilities by conducting a focused proof of concept that enables you to de-risk the riskiest elements of the larger AI solution, build trust with the customer and deliver working AI solutions in a shorter timeline.

PROOF OF CONCEPT HIGH LEVEL FLOW
Why Perform a Proof of Concept for AI?

Proof of concepts (PoC) serve several purposes. When it comes to the AI practice, a primary aim of the PoC is to substantiate that an AI solution can actually deliver on the vision capture during the envisioning session. The intent is to avoid skepticism on the part of client about the capabilities that can be realized and to detect situations over-promising on the capabilities of AI before any significant investment occurs.

The PoC also can serve as evidence that your practice can use for future engagements with the same customer or with new customers. Many times, the output of a PoC can be added to your practice’s intellectual property list for demonstrations or used to accelerate future solutions. PoCs are one of the key tools when trying to displace the competition by rapidly showing value and hopefully a quick return on investment.

PoC Execution

Identify the technical resources needed for the PoC. This will include the technical implementation team (including developers and data scientists), as well as project management for tracking the progress of the engagement.

Beyond identification of resources, ensure all members of your team and your customer’s technical team (if they are participating) are clear on responsibilities. Communication is critical, so ensure that the progress of the PoC is communicated to all stakeholders on a regular basis.

During the PoC execution, keep a watchful eye towards scope creep. The PoC should be hyper focused on proving that an AI solution can be delivered as envisioned by addressing only the core concerns originally identified during the scope definition. For example, most AI PoCs will want to attempt the solution first with pre-built AI, before going down the path of building out the custom AI. Avoiding the temptation to start with the more complex solution (such as building a custom AI) is a good strategy for keeping the minimal scope required of a PoC.

Define Scope

A proper PoC is defined with a clear and concrete scope. Conduct an envisioning session or an architecture design session (ADS) to align business and technical requirements and set clear goals. This should include:

- Identify the AI workloads and features to demonstrate. Specifically identify and prioritize the aspects that are high risk.
- Identify the data that will be used to train any underlying AI models.
- Determine what you want to prove and which objections need to be overcome.
- Clearly demarcate responsibilities and set up organization.
- Set up subscriptions, define payment, and perform cost estimates of the PoC.
- Agree on the next step if success criteria are met.

Next Step

At the end of the PoC, create a report that explains the overall status of the PoC and any issues identified during the PoC. The report should elaborate on the pros and cons of the delivery and clearly explain the value prop of moving forward with a real implementation to the stakeholders along with expected production costs over time. Assuming the stakeholders agree to move forward, put a plan into place to deploy the PoC into production while ensuring that the PoC is designed for production usage.

For example, upon completing your AI PoC you might report on the success or failure of utilizing a pre-built AI, the quality and predictive strength of the customer supplied data used for training a custom AI, or the feasibility of realizing the customer’s vision.
## Examples of an AI PoC

<table>
<thead>
<tr>
<th>EXAMPLE VISION</th>
<th>EXAMPLE POC</th>
</tr>
</thead>
<tbody>
<tr>
<td>We want to increase sales by getting shoppers to commit to a purchase they have been mulling over. If we can detect this behavior we’d like to provide just enough of a discount to encourage the purchase</td>
<td>Focus on the core aspect of the scenario (predicting a discount that leads to a purchase) and demonstrate the PoC in a notebook or other approach that minimizes efforts in building UI. The PoC scope would include analyzing the client’s purchase history and building a custom AI identifying the right predictive algorithm to suggest a discount within a bounded range that has a high probability of sale. By conducting this PoC you will have verified if the customer has the necessary data to make such predictions.</td>
</tr>
<tr>
<td>We would like to add chat bot capabilities to our solution that could address commonly asked questions before needing to speak to a live operator.</td>
<td>Utilize a bare-bones chat bot UI and provide the customer an initial understanding of the experience by applying pre-built AI to help in turning assets like frequently asked questions into conversational AI. Avoid getting into custom AI in this PoC. This will help the customer get a sense for the type of interaction that is possible and how the computer to human handoff might work, without significant investment in developing a custom AI.</td>
</tr>
<tr>
<td>We want to monitor how happy people are during their chat-based interaction with our agents in real time. We are concerned that we can only do this after the fact, at which point it is too late.</td>
<td>Utilize pre-built AI to apply sentiment analysis to historical chat message flowing through a minimalist chat environment, which demonstrates various alerts appearing around the chat messages when sentiment thresholds are crossed. Focus on the speed of processing and the accuracy of the sentiment established. By utilizing pre-built AI first in the PoC you can identify if the vocabulary and patterns of speech are suitably understood by generic sentiment analysis before investing effort in building custom chat histories manually tagged with sentiment and used to train a custom AI.</td>
</tr>
</tbody>
</table>
Deliver a Pilot for an AI project

A PoC might secure the project, but a pilot is what you will deliberately take to production.

Consider offering your services as a pilot project to your prospects. With a pilot project, the customer receives two important values. First, they get to better understand how the project goals will be successful, and second, they have a production-grade starting point for their larger efforts.

The AI partners interviewed for this playbook highlight another value of the pilot for the AI practice – it serves as a way for your implementation team (developers and data scientists) to stretch into new areas (learning the customer’s domain, learning to apply different predictive algorithms, working with unfamiliar data), while minimizing risk if something doesn’t work out quite right on the first attempt. This is because while the intent of a pilot is to ultimately take the solution into production, the initial pilot delivery is never rolled out directly into production, at best it usually affects a subset of the production environment which helps to minimize the impact of unexpected issues.

CHOOSING BETWEEN A PILOT OR POC

It is important to keep the distinction between Proof of Concept and Pilot clear – a PoC should never be considered for direct deployment into production, whereas a pilot should be constructed with a production release in mind.

For example, in an AI PoC you may not even touch the customers actual data set and instead use similar data from open data sets to show what the value of the predictive capabilities and to tangibly illustrate how they would be applied in the context of a running solution. In a pilot, however, you would want to start with the customer’s actual datasets because the goal is to end up with a model, that if successful, would flow into the production solution.

A pilot solution is a production-ready product whose influence is limited in scope (targeted rollout), customer base, or capacity. A well-executed pilot will give the customer a better understanding of how the project goals will be successful, while providing them with a production-grade starting point. Since a successful pilot will be scaled up to the final production solution, it is important to create the pilot following best practices.
Start the pilot design process with a clear plan on its initial scale, and develop a strategy to increase its scale as milestones are met.

For instance, if the intent of the pilot is to onboard a small portion of the customer base at first, identify the participants early and add your communication strategy to the project plan. Consider targeting users who are representative of the whole of your customer base. This should provide you with an accurate test of geographic, technological, and demographic factors.

A TYPICAL PILOT UNDERGOES THE FOLLOWING PHASES:

- Define scope – typically occurs during an architecture design session (ADS)
- Execute implementation – create, test, refine, repeat
- Conclude – post-mortem, validation, path to production plan

DURING THE PILOT CHECKLIST

The following checklist provides the core tasks you should complete when conducting a pilot.

- Go over established business and technical requirements from the detailed requirements gathering session (e.g., architecture design session)
- Determine which features will be included in the pilot that provide a minimum viable product
- Conduct a full-fledged design, mapping requirements to workloads and features of the pilot
- Establish team responsibilities and organization
- Perform cost estimates (e.g., for Azure services used like Cognitive Services, Machine Learning, etc.)
- Outline next steps after the success criteria is met

AFTER THE PILOT CHECKLIST

Throughout the pilot, you have collected valuable data from metrics and telemetry, and have compiled user feedback and taken this information to refine the pilot and prioritize features for general release. The next step is to propose the move to production and provide a cost estimate and delivery schedule to the customer. You should perform the following in concluding a pilot:

- Learn to identify the end of the pilot; when the proposed features are functional and validated, and when the business transformation begins
- Conduct a post-mortem of the pilot, talking to users, business managers, developers, and development managers. Evaluate lessons learned and refine feature list to include any features excluded from the pilot
- Upon agreeing to move to production phase, establish cost and delivery schedule based on established plan to transform to v1 product
A key element to a successful AI delivery is blurring the lines between customer and partner...in an open space have the customer come in and work directly with your team. When you become so integrated that it is hard to tell who is the customer and who is the partner, you know your AI will have the right balance of domain and technical expertise.

VINCENT THAVONEKHAM
Cloud Azure Strategy Manager
VISEO Group
Understanding Managed Services

With managed services, you can help your customers on a regular basis by offering white-glove services wrapped around your AI solution. Your offerings can span from planning, to enablement, and to day-to-day operations and support.

Managed services is not a new business model. For more than 20 years, large enterprises have relied on service providers to manage their IT assets on their behalf. Whether you call them an outsourcer or a managed IT provider, service providers have been managing their customers’ workloads — either in their own data centers or those operated by their customers. Managed services create opportunities for partners building new lines of business to provide a white glove experience for the entire AI solution running on-premises, in the cloud or as a hybrid solution.

Managed services give you an alternative option to selling the time of your AI practice team for money (as you might in project services). Becoming a managed services provider (MSP) enables you to take the IP that is almost always created in the process of delivering an AI solution (such as insights into a domain, the data providing the greatest predictive capability, the algorithms which have performed best, techniques you invented to keep a model performant in production, etc.) and package the IP with services that the customer will pay for on a subscriptions basis. You can then sell that same set of IP plus services to other customers needing a similar solution without repeating all of the IP creation effort, at a profit.

**PLANNING**
- Help the customer envision scenarios where AI could amplify human ingenuity to achieve positive outcomes. Consider the opportunities that surface with reasoning, understanding and interacting.
- Identify the "low-hanging fruit" opportunities that can be used to build confidence in your services and in the solution, such as those that utilize pre-built AI.
- Build a roadmap that shows the path to the larger opportunities, building on the success of the smaller or more near-term opportunities.

**ENABLEMENT**
- Design and implement the AI solution with the customer.
- Engage the domain expertise of the customer throughout the process to capture their insights and to validate the AI.

**SUPPORT OPERATIONS**
- Offer further support while delivering on SLAs and uptime guarantees.
- Operate and monitor the solution.
- Monitor the performance of any machine learning models.
- Re-train machine learning models.

So what managed services can your AI practice offer? We’ll examine that in the next section.
Managed Services for an AI Practice

The AI partners interviewed for this playbook suggested that when ideating about what to offer of your practice as managed services, you might first consider the project services you are offering. With some creativity, the project services discussed earlier are all potential offerings for managed services.

According to the partners interviewed for this playbook, there is a significant and unique opportunity for partners looking to offer AI as a managed service. Moving from project services to managed services will help your AI practice create annuity income streams with higher professional services margins, increased customer loyalty and the increased revenue that naturally follows.

Why move from project services to managed services for AI services?

The low hanging fruit for most practices to offer managed services is to provide support for the solution delivered via project services. If you have an AI practice, you might think you do not want to be in the business of technical support. However, consider what happens when your customer takes your incredible predictive solution into production. Perhaps for an initial period, everything is working as intended and you do not hear from the customer at all. Then one day you get a frantic call from the customer because the underlying model is “not working” and neither the developers nor the IT professionals at the customer site know where to begin in troubleshooting the issue. This is the opportunity to provide AI support as a managed service.

Why? Given the shortage of data science capabilities, it is likely that AI solutions will be delivered to customers who do not themselves have internal data science capabilities. This means that for the customer’s long-term success, your practice is likely to be involved in perpetuity in supporting the solution in production. Would you rather scramble to assemble the team to support the customer’s panicked call once the team capable of resolving it has moved on to other projects, or would you prefer a controlled and organized response where you have already transitioned the solution knowledge to a managed services support team who is on standby and is ready to support the customer?

HOW TO BUILD AN AI MANAGED SERVICE

For even the most sophisticated software house, effectively measuring performance, handling re-training and patching, and staying ahead of the rapidly evolving AI landscape can be too difficult to manage without help. Partners can offer their services on a subscription basis to ensure the production AI solution continues to deliver the value and performance that got the customer excited at using AI in the first place.

KEY CUSTOMER CHALLENGES

1. They lack the tools and expertise to effectively monitor the performance of an AI solution.
2. They are unable to identify, assess, and troubleshoot issues in production deployments.
3. They may not have the internal teams that are able to tune the model or retrain when the data semantics have shifted.
EXAMPLE OF AN AI MANAGED SERVICES OFFERING

Given these challenges, there is a clear opportunity for partners to package the hosting of the delivered AI solution along with support of the solution. For example, if your deployed solution uses Azure Machine Learning, the costs for Experimentation, Model Management and the Azure Container Service Cluster used collectively in delivering the predictive REST API are baked into a graduated monthly fee the customer pays, which may also include a limited set of data science services needed to maintain the model in production. In the following example, the quantitative value the customer gets is measured in units of millions of API calls, but qualitatively the customer is also securing access to partner data science resources to ensure the model’s performance remains at the desired levels. By offering the customer their model as managed API, the customer is completely able to avoid dealing with both infrastructural and data science challenges – instead, they can focus on harnessing the value created by integrating the API in their solution.

What are some concrete example of managed service offerings your AI practice could sell? In the Microsoft AI Practice Development Study, 555 partners that identified as having an AI practice were asked which managed services they offered within their practices. The results are below. Observe that the top 5 project services sold were: visualizations, dashboarding, report creation and maintenance, support, assessment and planning, analytics as a service, and troubleshooting.

MANAGED SERVICES SOLD BY AI PARTNERS

<table>
<thead>
<tr>
<th>MANAGED SERVICES</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visualizations, Dashboards and Reports</td>
<td>43%</td>
</tr>
<tr>
<td>Creation/Maintenance</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>43%</td>
</tr>
<tr>
<td>Assessment and Planning</td>
<td>38%</td>
</tr>
<tr>
<td>Analytics as a Service (e.g., packaged APIs for ML models and agent interactions)</td>
<td>27%</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>26%</td>
</tr>
<tr>
<td>Data Science as a Service</td>
<td>23%</td>
</tr>
<tr>
<td>Domain Specific Services</td>
<td>22%</td>
</tr>
<tr>
<td>Model Performance Monitoring</td>
<td>20%</td>
</tr>
<tr>
<td>Model Tuning &amp; Re-Training</td>
<td>19%</td>
</tr>
<tr>
<td>Model Hosting (e.g., as Predictive Web Service)</td>
<td>18%</td>
</tr>
<tr>
<td>Online Training and Self-Paced Learning</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Microsoft AI Practice Development Study, MDC Research, December 2017

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WHAT DO THE TOP 5 MANAGED SERVICES TELL US?

Let’s unpack why the top 5 managed services make sense and why you should be considering these for managed services as well.

**Visualizations, dashboarding, report creation and maintenance:** Without being able to demonstrate concretely the value that your AI solution is delivering on an on-going basis, it can be difficult for a customer to justify keeping up a subscription. Even when the AI solution is delivering the value they are paying for, customers get “accustomed” to their new environment enabled by your AI solution, unless you consistently remind them of the value it is delivering in the form of visualizations, dashboards and reports. Additionally, once your AI solution is embedded your customer’s routine, customers will be quick to identify new visualizations, dashboards and reports because your solution will have enabled them to ask new questions. For many customers, this is a never-ending desire and you should meet this need by offering it in an on-going manner, as a managed service.

**Support and troubleshooting:** As will be discussed further in an upcoming section, support represents a very compelling managed service for an AI practice. While it may sound strange for an AI practice to offer support, the value of support is quickly understood when you include in your consideration the shortage of talent present in the market. If your customer does not currently have staff with AI experience, such as data scientists, then who will be there to help them monitor the performance of their predictive models, help them detect when models have become invalidated and need retraining, help them diagnose why the AI is no longer responding as expected or demonstrating an unexpected bias in its responses? Just as when customers looked to managed services partners to relieve them of the need to be experts in hosting and running data centers, so too will they be looking to AI partners to help them operate their AI in production.

**Assessment and planning:** Previously we introduced the notion of performing an envisioning session with customers to help them create a vision for a problem that could feasibly be addressed with AI. These are not exercises in “blue sky” thinking, they require partners skilled in AI to help temper brainstorming with the art of the possible. The need for you to help with the effort from vision to current state assessment to an actionable roadmap requires a similar expertise, and the customer is not likely to have this skill in house. As customers take on more initiatives the include AI in the solution, they will need a trusted advisor on an on-going basis to help them with tasks like assessing if the organization has the pre-requisite assets to address the vision (domain expertise, historical data, etc.), ensuring the plans can feasibly realize the vision or that plan once realized is in-line with ethics of the organization.

**Analytics as a service:** That analytics as a service appears as a top 5 offering for AI partners should remind you of the shortage of talent available in the marketplace. If you have the talent in-house to deliver advanced analytics solutions (e.g., using AI to reason about or understand the insights in data) and your customer does not have these resources, a good long term partnership could be in the making, either in providing access to your experts or the packaged solutions they have produced.

WHAT MANAGED SERVICES SHOULD YOU CONSIDER IN YOUR AI PRACTICE?

In our partner interviews, partners emphasized support and monitoring specifically as managed services to consider in an AI practice. We will explore each of these managed services in the sections that follow.
Support as a Managed Service in an AI practice

Support represents a unique managed services opportunity for AI partners.

Unlike the support you might expect to provide for a SaaS-based web application or web service in production, the support provided for an AI solution in production is different, as is the reason customers will want AI practices to include support as a managed service along with the delivered solution. At its core, the difference lies in the skillset required to support the uniquely AI and machine learning or deep learning heavy aspects of the solution, coupled with the reality that AI expertise is in short supply. This means that it is highly likely that your customers will be looking to you for help when something goes wrong with their solution in production, because they are not likely to have the resources to support the solution in house.

This is not to say that the support for an AI practice would support only the AI components, since no matter how well a cloud or hybrid solution is planned, provisioned, operated or monitored, problems will arise, and those problems will need to be remediated. It’s your job as an MSP to offer support to your customers to deal with outages, breaches, inefficiencies, and disaster scenarios. AI simply adds additional items your customer will need support with, such as monitoring and maintaining model performance of the underlying machine learning or deep learning models, identifying when trends in the current data diverge from those in historical data and necessitate re-training of the model or diagnosing why an AI solution is seemingly displaying an undesirable bias.

MSPs need to consider the level of support that makes sense for their practice — in terms of resources and revenue — as well as what makes sense to the customers they serve.

KEY CUSTOMER CHALLENGES

- They lack the expertise and resources to troubleshoot problems.
- They are unable to determine the root cause of performance issues and glitches.
- They have no knowledge of how to remediate problems when they correctly identify them.
- They do not want to spend time and resources fixing problems.

KEY SERVICES FOR THIS OFFERING

- **Model Performance Support**: Provide support around monitoring and maintaining the performance of an AI solution and its underlying models in terms of the accuracy, currency or reasonableness of its output. Assist the customer specifically in diagnosing what has changed with respect to the data environment, the model or other factors and providing support in resolving the issue.
- **User Support**: Provide support for frequently asked questions, setup and usage, best practices, questions around billing and invoicing, break-fix support for developers, architecture design, and solution design support for architects.
- **System Support**: Provide customers with information on any service interruption, and relay expectations on when the system will be back online.
- **Product Support**: Provide support when the Microsoft product is not working as expected or the service stops working. Escalate to Microsoft when the issue cannot be resolved with existing documentation and/or training.
- **Extended Support Hours**: Many customers need the ability for 24/7 support, but cannot justify the overhead internally.
- **Account Management**: Offering an account manager that is responsible for reporting on service consumption and ultimately minimizing time to resolution is a service that can be offered at a premium.
- **Dedicated Support**: The value add of a dedicated support team cannot be overstated. Engineering resources that already know your customers’ environment, including the business and technical reasons for how a solution was implemented can add a tremendous value over the lifetime of an agreement.
Monitoring AI Services

In the AI world, the tools and requirements have evolved, but the problem statement has not fundamentally changed. How do I monitor the health and performance of my infrastructure, inclusive of the models? There is no easy answer to this and customers expect their service providers to solve it for them. Most mid-market and enterprise organizations simply do not have the time, resources, or dedicated staff required to monitor every aspect of the solution, and this is where MSPs add the most value. While Azure offers many monitoring capabilities built within the platform to monitor the application related services, there is still a place for partners who (a) provide additional, deeper monitoring tooling that takes into account the health and performance of the AI, (b) triage the false positives from the real alerts, and (c) proactively acts upon the alerts before any measurable loss in performance.

KEY CUSTOMER CHALLENGES

- I don’t have the time or resources to monitor all the components in my AI solution.
- I need a single pane of glass view that tells me how all my apps and AI models are performing, at any point in time.
- I find it challenging to diagnose the root cause of breakdowns, outages, or unexpected bias.
- How do I respond to so many alerts? How do I differentiate the false positives from the concerning ones?

KEY SERVICES FOR THIS OFFERING

The following table illustrates how a partner might construct a comprehensive AI solution monitoring offering, which includes AI performance monitoring.

<table>
<thead>
<tr>
<th>SYSTEM HEALTH MONITORING</th>
<th>LOG ANALYTICS AND ALERTING</th>
<th>DATABASE MONITORING</th>
<th>APPLICATION PERFORMANCE MONITORING</th>
<th>AI PERFORMANCE MONITORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete monitoring of VMs, CPU utilization, memory usage, storage IOPs, and OS performance. Includes monitoring of application performance and operation health, and dashboards and reports on system health.</td>
<td>Every client, device, and user accessing a network produces data that is logged. Analyzing those logs can offer deep insight into performance, security, resource consumption, and other meaningful metrics.</td>
<td>A view into your customer’s database that helps MSPs ensure high availability of database servers. The process involves keeping logs of size, connection time and users of databases, analyzing use trends, and leveraging data to proactively remediate issues.</td>
<td>End-to-end tracking of all aspects of an application (or webpage). App monitoring involves watching every part – from shopping carts to registration pages – of a customer’s app(s) for performance issues in an effort to provide the best user experience possible.</td>
<td>Perpetual monitoring and evaluation of model performance in terms like accuracy, reasonableness and desired bias. Monitor to identify unexpected AI behaviors or situations where the AI was unable to provide a solution or is consistently responding with low confidence.</td>
</tr>
</tbody>
</table>
DEFINE YOUR STRATEGY

Accelerate your Managed Service Model

The Microsoft Cloud Solution Provider (CSP) program enables partners to directly manage their entire Microsoft cloud customer lifecycle.

Partners in the CSP program utilize in-product tools to directly provision, manage, and support their customer subscriptions. Partners can easily package their own tools, products, and services, and combine them into one monthly or annual customer bill.

CSP DIRECT

The CSP Direct model is great for partners who have the infrastructure in place to do it all. If your business meets these requirements and you are ready to go, enroll today.

CSP DIRECT REQUIREMENT CHECKLIST

- Services business model
- Customer support infrastructure
- Customer billing and invoicing capabilities
- Ability to scale

KEY SERVICES FOR THIS OFFERING

- You are the first point of contact for your customers’ needs.
- You own and control the billing cycle.
- You sell integrated offers and services — one sales motion to drive services, attach, and upsell.
- You receive in-product tools to directly provision, manage, and support your customers.

CSP INDIRECT

Spend more time with your customers and provide specialized service offerings. If you’re not interested in building an infrastructure to provide customer support and billing, get connected with an Indirect Provider.

For additional details, review the Azure Managed Services Playbook for CSP Partners.

aka.ms/practiceplaybooks
Understanding Intellectual Property

The idea of developing “productized” intellectual property (IP) may sound daunting. But many partners find that they already had IP, it just wasn’t packaged that way. If you did something custom that was successful for one client, there may be more customers that would benefit from solving the same problem.

Review your most successful projects to see if there are repeatable elements that you can productize. Repeatable elements can be about your own industry or process best practices, or even focus on common customer pain points. Start small. Your IP can be a simple template or just a few lines of code that automates a function in a way your market typically needs. Productizing IP and creating repeatable processes has been a very successful strategy for many partners.

Some partners are achieving gross margins in excess of 70% by productizing IP and selling it to their customers on a recurring revenue basis.

Productizing IP helps you create stickiness with customers and opens up opportunities to sell your solutions through the partner channel. If you don’t want to create your own IP, you can also look to the partner ecosystem for incremental solutions that can be bundled with Microsoft’s offerings to round out your total solution. There are multiple opportunities for building intellectual property that can be used to expedite engagements, or even as an entire engagement. With the ability to create fully automated solutions, partners can challenge their creative side to offer up solutions that can save their customers money, as well as add a striking differentiator amongst peers.

Making money in the cloud usually partially requires you to retain IP to drive annuity. Annuity is a key strategic component to a cloud practice, and it is not different for practices focused on AI.

CREATING INTELLECTUAL PROPERTY IN YOUR AI PRACTICE

Broadly speaking, there are two forms of IP that partners create that can yield annuities:

- Provide the data and the platform to access, query and interact with the data
- Provide analytics apps and APIs atop a data platform

If, in the course of operating your AI practice, you have collected data assets, consider treating these as an important part of your intellectual property portfolio and think about how enabling controlled third-party access to your data sets might yield new annuities. If you do not own the data, consider the opportunity to build analytic applications and APIs that sit atop the data platform of another—be it the customer’s own data platform or that provided by a third party. This approach can be described as the app-ification of data with AI and the most common approach is to provide SaaS APIs integrated by others in delivering their solution.

CREATE SaaS APIs FOR YOUR GENERALIZED MODELS

For the predictive scenarios for which it applies, consider exposing your predictive services via REST APIs in the SaaS approach. In this approach, customers typically have access to a free tier to experiment with your predictive service, but then have to pay for use as their consumption crosses thresholds you specify. Consider placing your predictive web services built with Azure Machine Learning and hosted in Azure Container Service behind Azure API Management to monitor and meter third-party access to your intellectual property.
PACKAGE YOUR PROCESS
Another way partners are creating IP in AI practices is by packaging their assessments, documents, and processes into proprietary, reusable components that only they own and can deliver. For example, package a service around delivering envisioning sessions with customers that enable you to quickly get to the best possibilities quickly. Offer this service on an annualized basis as your customer’s and their data evolve, and never leave them without thinking about new opportunities to innovate with your help.

ENGAGE LEGAL COUNSEL
Key to partner success with IP is taking care with licenses, contracts and terms of use. To this end, partners should make sure to protect their IP by involving legal counsel early before any customer uses the new IP.

WHAT INTELLECTUAL PROPERTY SHOULD YOU CONSIDER DEVELOPING IN YOUR AI PRACTICE?
In the Microsoft AI Practice Development Study, 555 partners that identified as having an AI practice were asked which intellectual property offerings they provide within their practice. Observe that the top 5 project services sold were: pre-configured visualizations, dashboards and reports, proprietary algorithms, automated alerting and logging, analytics as a service and automated data migration and integration.

INTTELLECTUAL PROPERTY OFFERINGS

<table>
<thead>
<tr>
<th>Offerings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-configured Visualizations, Dashboards and Reports</td>
<td>32%</td>
</tr>
<tr>
<td>Proprietary Algorithms</td>
<td>29%</td>
</tr>
<tr>
<td>Automated Monitoring, Alerting and Logging</td>
<td>27%</td>
</tr>
<tr>
<td>Analytics as a Service (e.g., packaged APIs for ML models and agent interactions)</td>
<td>26%</td>
</tr>
<tr>
<td>Automated Data Migration &amp; Integration</td>
<td>24%</td>
</tr>
<tr>
<td>Domain Specific Functionality</td>
<td>24%</td>
</tr>
<tr>
<td>Analytics Platform</td>
<td>24%</td>
</tr>
<tr>
<td>Custom Chat Bots</td>
<td>22%</td>
</tr>
<tr>
<td>Assessment Tooling</td>
<td>15%</td>
</tr>
<tr>
<td>Custom Agents</td>
<td>15%</td>
</tr>
<tr>
<td>Online Training and Self-Paced Learning</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Microsoft Cloud Practice Development Study, MDC Research, June 2017.
Let’s unpack why the top 5 IP offerings make sense and why you should be considering developing and selling these as well.

**Pre-configured visualizations, dashboards and reports:** With each project, partners add new visualizations, dashboards and reports to their portfolio. By taking the extra steps of productizing and generalizing what would otherwise be specific to a customer, you are unlocking the ability to capture recurring and repeatable value from what was largely a one-time effort. As the portfolio grows, so does the menu from which customers can choose to purchase and in turn realize more benefit from their relationship with you.

**Proprietary algorithms:** Developing custom algorithms for custom AI is typically a very time and resource-intensive process. As partners supported in the study, these proprietary algorithms aren’t just used once in a project for a single customer, which would leave a significant revenue opportunity on the table. Instead, the custom algorithms are packaged up and offered for sale to other customers for use in their scenarios.

**Automated monitoring, alerting and logging:** according to the partners we interviewed, a comprehensive solution for monitoring the deployed AI solution in production that includes capabilities for monitoring the performance of the AI and underlying models is often something they build as a custom solution. It should come as no surprise, therefore, that some partners have taken the extra step to productive their suite of monitoring tools, processes and know-how into something they can sell, repeatedly.

**Analytics as a service:** we covered this option in the earlier discussion as a managed service. Once partners have created their custom AI (e.g., they have fine-tuned their models, or perfected their agent interactions), taking the extra step towards enabling third parties to use the AI capabilities these provide as a form of pre-built AI creates another revenue stream and adds value to the partner organization’s IP portfolio.

**Automated data migration and integration:** Since data is such an important pre-requisite to any custom AI effort, for each project partners are likely often re-building similar sets of tools and processes for extracting the data, moving the data to the location where it can be analyzed, understanding the data and preparing the data. As the survey suggests, many partners have recognized the opportunity this creates - package this internal tooling and make it available for 3rd parties to leverage in dealing with their data, and create a new revenue opportunity that also financially support the innovation of the internal tooling.
Protect your AI IP with the Microsoft Azure IP Advantage

Microsoft’s Azure IP Advantage program represents the industry’s most comprehensive protection against intellectual property (IP) risks, particularly revolving around IP infringement. The Microsoft Azure IP Advantage program includes the following benefits:

- Best-in-industry intellectual property protection with uncapped indemnification coverage will now also cover any open source technology that powers Microsoft Azure services, such as Apache Spark used for machine learning in Azure HD Insight.
- Patent Pick: Makes 10,000 Microsoft patents available to customers that use Azure services for the sole purpose of enabling them to better defend themselves against patent lawsuits against their services that run on top of Azure. These patents are broadly representative of Microsoft’s overall patent portfolio and are the result of years of cutting-edge innovation by our best engineers around the world.
- Springing License: Microsoft is pledging to Azure customers that if Microsoft transfers patents in the future to non-practicing entities, they can never be asserted against them.

With these changes, Microsoft now offers our customers industry-leading protection against intellectual property risk in the cloud.

CONSIDERATIONS FOR YOUR AI IP

Fundamentally, in order to benefit from the Microsoft Azure IP Advantage program, some parts of your solution need to run in Azure, such that you meet minimal spend requirements. For example, if building your AI solution in a hybrid fashion you might perform some data wrangling and model building on-premises, but deploy the trained models to Azure using Azure Machine Learning services. As long as you meet the following requirements, you would be eligible for Microsoft Azure IP:

- For patent pick eligibility: you must (i) have an Azure usage of $1,000 USD per month over the past three months; (ii) have not filed a patent infringement lawsuit against another Azure customer for their Azure workloads in the last 2 years; and (iii) show evidence of a current patent litigation that occurred after February 8, 2017. Legal transactional costs apply.
- For springing license eligibility: you must have an Azure usage of $1,000 USD per month over the past three months.