Transformational Change with Artificial Intelligence

Developing a Strategy for AI Impementation Starts with an AI Assessment

By Brad Mascho
Chief Artificial Intelligence Officer
NCI Information Systems, Inc.

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Navigate. Collaborate. Innovate.

Rightsizing Change for Organizational Gains

NCI has the right people, process, and tools to realize transformational change and opportunistic gains in how enterprises do business today using Artificial Intelligence (AI). NCI has a proven AI implementation process, which starts with an AI Assessment, helps develop strategy for transformation, moves into a pilot, and finishes up with a production AI use case. At the end of the AI Assessment, each enterprise will have its own personal AI analysis document containing all relevant AI use cases. Each use case is documented in detail, to include the human to machine process, interfaces, level of effort, potential impact and break-even analysis with a focus on the enterprise's main pain points of either time, people, or money. By taking the AI assessment and leveraging NCI's AI toolkit of Robotic Process Automation (RPA), Machine Learning, and Prescriptive Analytics; NCI can help your enterprise tackle today's reality while simultaneously positioning for tomorrow's opportunities.

NCI starts every journey by assessing where the enterprise is regarding its AI maturity and readiness. By taking stock of your organization's current AI strategy, organization, data, technology, and operations, NCI uniquely tailors every recommendation for your top AI solutions. This customized understanding, which leverages your unique organizational strengths while accounting for new focus areas, ensures maximum agility and implementation speed. Regardless of which components of your AI journey you are developing, clarifying, or supervising, NCI will uniquely position itself to help your enterprise achieve the best transformational change and opportunistic gains.

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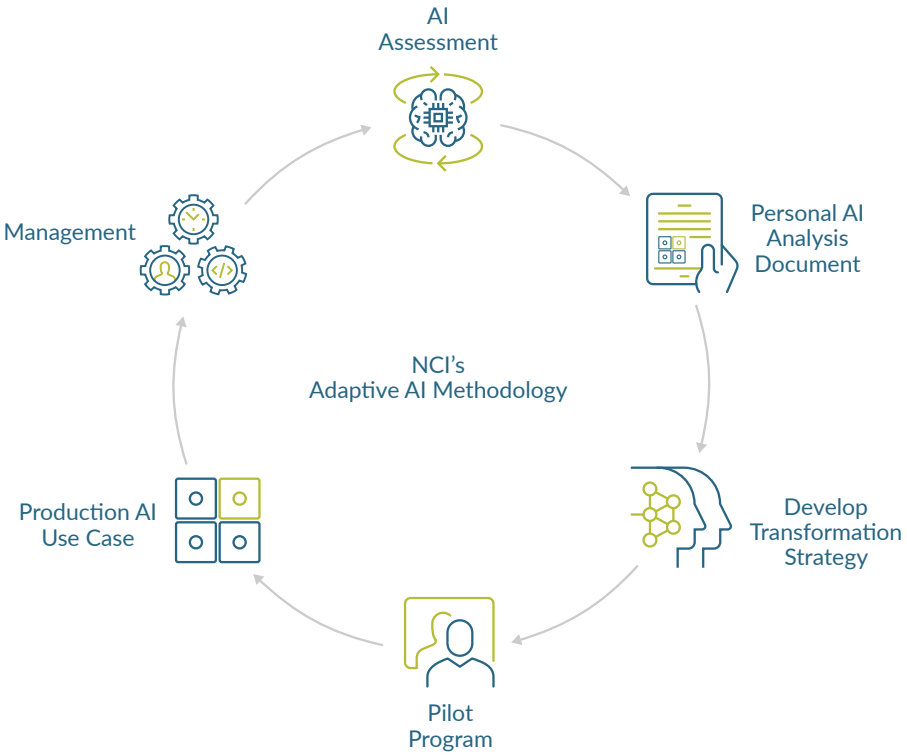
83 percent of early AI adopters have already achieved substantial (30%) or moderate (53%) economic benefits[1]



Putting the Best Customized Solution in Place

As each step towards digital transformation or modernization is assessed, the following questions will be asked to ensure best customized solution is put in place.

Strategy

The AI strategy assessment is the long-term vision for AI in the enterprise.

- Are budgets being allocated specifically in the AI space?
- Are short-term decisions being made with a longer-term AI digital transformation in mind?
- Are actions being taken to understand how AI will be implemented within existing businesses?
- Are the correct incentives being put in place to motivate your managers to adopt AI?

Organization

Assessing the organization is an important step in integrating AI into your enterprise, starting at the top.

- Do the executives understand the transformative capabilities of AI?
- Are job requisitions being tuned to recruit talent required to understand, develop, and maintain AI-enabled business units?
- Do your employees understand and accept AI, and are there internal training programs or webinars set up for the cultural acceptance of AI in the workplace?
- How well is AI understood at a practical level, specifically its implementation potential?
- Are there champions within the organization that can drive communication and adoption?

Data

There are many facets of assessing an enterprise's data pillar, starting with the enterprise's overall attitude towards data.

- Is data viewed as an important resource?
- Are data models and standards being implemented around the enterprise's data?
- Are visualization and analytics platforms available and in-use currently?
- Are steps being made to consolidate, link, and label disparate data sources?
- Can synthesized data be generated and utilized?

Technology

The assessment will start with diving into the technologies that have already been implemented into the enterprise.

- Have there been any AI technologies or products use in any of your existing projects that can be shared across the enterprise?

30 percent of companies worldwide will be using AI in at least one of their salesprocesses by 2020

- Is time being dedicated to exploring and experimenting with new technologies for potential use?
- Are in-house AI capabilities being developed?
- Is your enterprise tracking of all of the open source libraries and frameworks available that can be used for in-house AI developments?
- Is the technology being distributed through cloud-based hosting solution, subject-matter-expert utilization, training, blog posting, or a combination of all the above?

Operations

With the operations assessment, a dive into the enterprise's business practices will be held.

- How is AI currently integrated into IT security, support desk, software development, customer service, and network operations?
- If it's not, how can AI fit specifically into your company's processes for these?
- Can AI enhance customer engagement or knowledge management in your business by opening up new interfaces or helping disseminate knowledge?

NCI will uniquely position itself to help your enterprise achieve the best transformational change and opportunistic gains.

Finding the Best Use Cases Requires a Mixture of Analytical Approaches

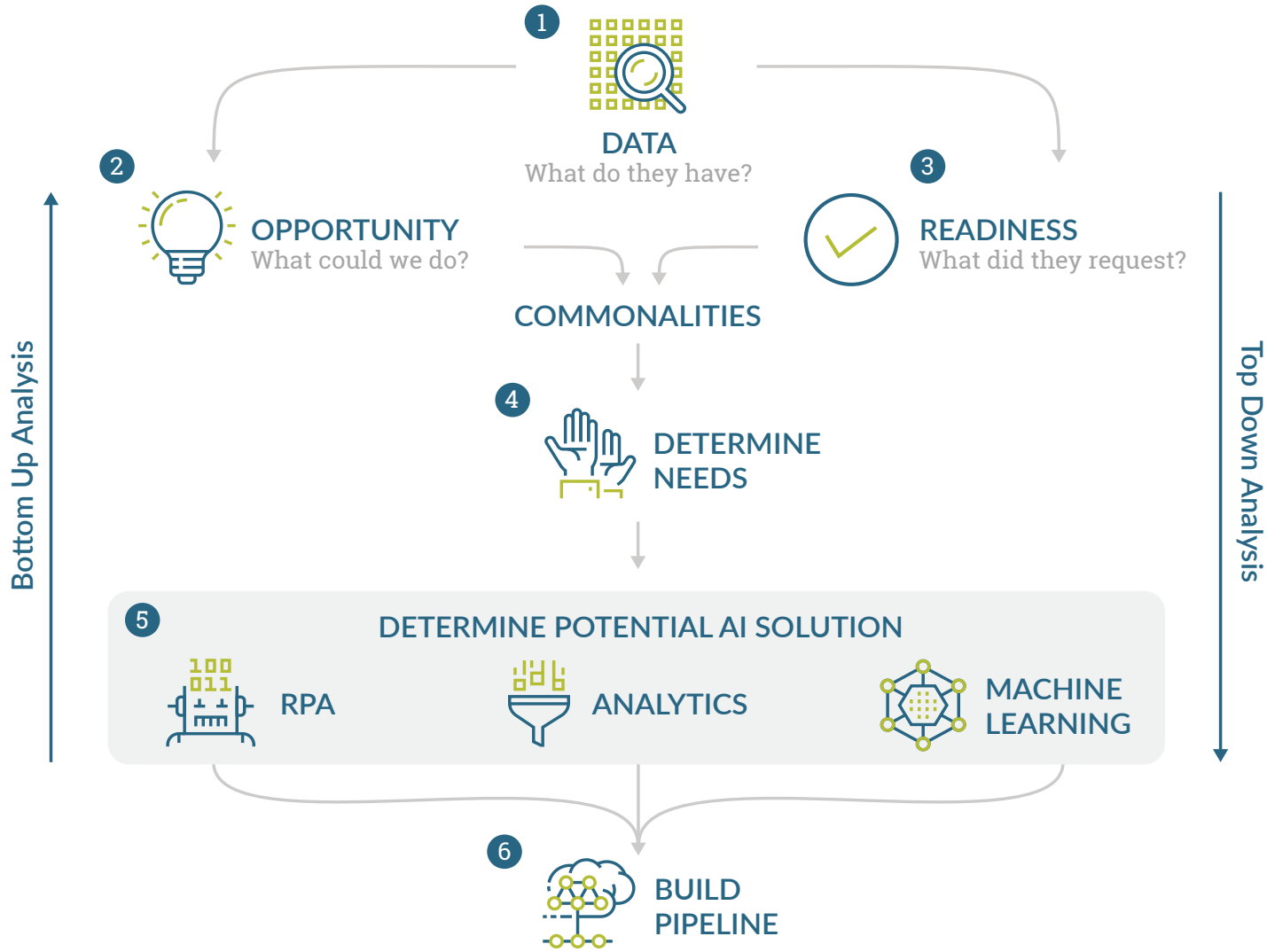
With a firm understanding of where your enterprise is in its AI journey, NCI will then apply a mixture of analysis approaches to find the best use cases. This analysis includes either or both a top down approach and/or a bottom up approach.

The top down approach starts with the big picture and breaks it down into smaller segments, making approximations and leaving some pieces as black boxes to better understand the problem space, holistically. We can then focus on integrating AI as the cornerstone of your business, the steps to get there, and how to take that transformational journey from a "big-picture" perspective.

Analysis

In the bottom up approach, the data elements and processes that form up the business practices are examined in detail. These elements are then linked together to form larger and larger views, until a complete top-level understanding of your enterprise is formed. By starting small, this view and process is uniquely capable of growing in complexity and completeness from a ground-floor viewpoint.

NCI typically employs a top-down and bottom-up approach to ensure the most complete view of all opportunities is found. NCI recognizes six steps in a bottom-up analysis approach focused on data, opportunity, readiness, need, solution and pipeline.



Data

Data is not always numbers or reports. Data can also be processes, pain points or organizational elements. Data comes in many formats and may need to be normalized or standardized to be useful or relevant. A data inventory is created to determine what information an organization has that could point areas of issue or streamlining and refinement opportunities.

In the data gathering step, NCI works to gather relevant historical data such as ticket volume and incident occurrence as well as process specifics such as the number of resources performing a process, the length of time each process takes or the systems in use within a process. Accurate and relevant data tied to potential use cases are crucial to ensure a process is fully mapped out or pain points are quantitatively identified.

Opportunity

The opportunity assessment takes the corporate culture into effect. In this step we work to determine if the organization has the culture necessary to support change through transformation or refinement. We also determine if there are executive champions in place to drive this change and communicate to all relevant stakeholders. Multiple interviews are scheduled to determine the historical transformation patterns and roadblocks that have prevented true evolution of process change. Change management controls are analyzed and documented to determine and alleviate potential roadblocks during AI deployment. The goal of the Opportunity step is to determine what could be done within the organization if an AI solution is the answer.

Readiness

A million dollar idea with a hundred dollar budget will fail – can the cost be justified through return on investment? And, is the organization ready to adopt digital workforce components? The readiness of an organization factors the maturity of the environment to adopt advanced technologies and ensures there are mechanisms in place or scheduled to be deployed to gauge the performance of AI through workforce augmentation. All AI solution requires subject matter experts, executive stakeholders as well as management and personnel to scope use cases fully and manage the overall AI program after initial technology development and production use. If the resources and budgets are not in place to support an ongoing evolution or business transformation, an AI solution may fail.

At this point in the AI assessment a baseline understanding of the workforce processes and data supporting the organization is sketched out. Pros and cons within the culture and maturity of the organization are documented and validated. Commonalities are identified across the organization to help steer the AI assessment in the right direction to understand the most painful areas that technology could improve within the organization.

Determine Needs

Determining the needs of the organization comes from a careful analysis of the data, processes, culture, readiness, opportunities and potential impact as well as the historical and current issues identified. A process refinement map is created for a perfect world scenario to list out where refinement, advancement or streamlining within process could occur. Potential roadblocks and dependencies are documented. We first determine what software and hardware, people resources, organizational change and budget is needed to solve each problem (top-down) and identify unknown impactful areas (bottom up). We also need to determine the timeline to fully scope,

design, develop, test and deploy potential solutions based on internal mechanisms and methods of solutioning. Lastly, we determine the organizational impact before, during and after solutioning and use this information later when we're monitoring the performance of the solution in a pilot or production environment.

Determine AI Solution

Matching the documented opportunities and use cases backed up by the data, culture and readiness will now allow us to map a potential technical solution to the use case. All AI solutions are built from the ground up and fully customized to meet the needs of the use case. We use the following general guidelines to point us in the right direction regarding which solution we may be able to deploy.

- If process related – RPA is ideal
- If additional scalable data understanding is required – Analytics is ideal
- If the problem goes beyond human scale capabilities with data at the core – Machine Learning is ideal
- There may be a need to couple multiple technologies together to provide a machine based end to end solution
- Ensure that technical subject matter experts and stakeholders are identified and leveraged to design the technical solution appropriately
- Start with RPA as a simple framework to augment human workload – move upwards and stack advanced technologies on top of the RPA baseline to evolve the solution over time
- Identify the timeline based on client culture, maturity and readiness, and technology capability to deploy a full solution

By taking and understanding the best academic, industry, and open source practices and components, NCI maximizes solutions effectiveness, not hype.

Build Pipeline

Determining that AI is right for you and deploying an example of AI technology is a start. However, the goal of an AI assessment is to determine the best solutions to deploy, the potential impact AI can make and ensure a listing of successive solutions are able to be deployed through a systematic program within the organization. Doing so will transform an organization and ensure all processes are streamlined and scalable for the future. The following are deliverables for the initial pipeline.

- List the bottom up findings tied directly to the initial perceived top down issues
- Document every step in the human process, data point, system in use and issues encountered along the way
- Map improvements to each process or issue to be gained through machine solution adoption
- Stack rank potential AI solutions with quantifiable impact and expectations
- Ensure the timeline for full scope, development and deployment for each solution is communicated

Conclusion

NCI's Navigate, Collaborate, and Innovate framework has delivered value to federal customers and the DoD for over 28 years. By combining NCI's experience, business analysts, and data scientist together, NCI is ready to bring the right experience to help scale your current workforce. By using strict data governance and change management practices in place, NCI can guide partners through a space full of new moral, workforce, and unique application opportunities. By focusing on Robotic Process Automation, Machine Learning, and Prescriptive Analytics, NCI's focused approach guarantees mission success. Let us help you understand your today and grow your tomorrow by starting an AI Assessment today!

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About the Author

Brad Mascho leads NCI's transformational AI initiatives and strategy, helping federal agencies accelerate, automate and augment repeatable processes, and quickly turn data into actionable intelligence. Before joining NCI, Brad was the co-founder and past president of CrossChx, Inc., the industry leader in building meaningful AI that empowers and scales humans.

Navigate, Collaborate, Innovate

NCI is a leading provider of enterprise solutions and services to U.S. defense, intelligence, health and civilian government agencies. The company has the expertise and proven track record to solve its customers' most important and complex mission challenges through technology and innovation — delivering cost-effective solutions and services in areas such as:

- Advanced analytics
- Agile DevSecOps
- Artificial intelligence
- Cybersecurity and information assurance
- Engineering and logistics
- Health IT
- Hyperconverged infrastructure

Coupled with a refined focus on strategic partnerships, NCI is committed to bringing commercial innovation to missions of national importance.

NCI is a mid-tier systems integrator headquartered in Reston, Virginia, and operates at locations across the globe.

For More Information, Contact:

NCI Information Systems, Inc.
contactnci@nciinc.com
www.nciinc.com