

AI SIMPLIFIED

INSIGHTS YOU CAN USE



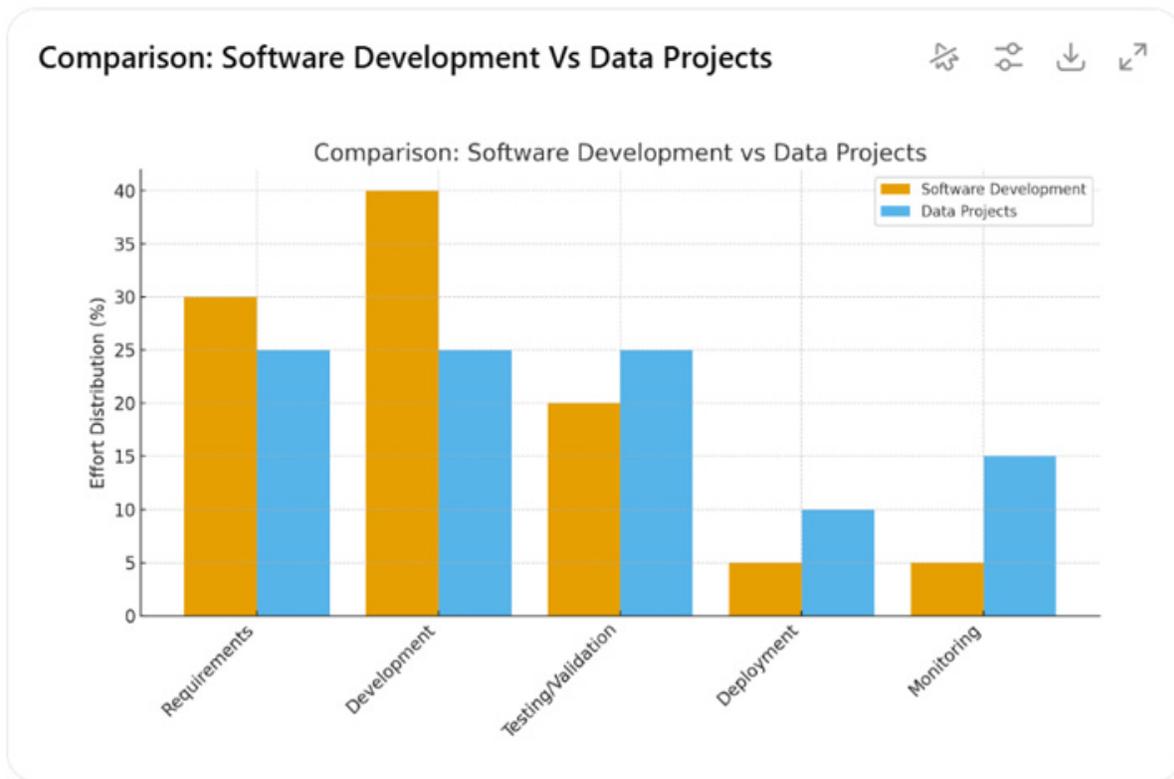
A WOMAN-OWNED
SMALL BUSINESS

DECEMBER AI NEWSLETTER

IMPLEMENTING AI INTO AN ORGANIZATION: A DATA PROJECT, NOT AN IT PROJECT

The world of AI continues to expand, offering new ideas and ways of working with AI in specific situations. Organizations around the world are beginning to implement AI, but many are struggling with failure and have not treated AI projects as data-driven projects, instead focusing on software development. Although many software adjustments may be needed to align with AI tools and processes, it is primarily a data project.

INTRODUCTION: THE SHIFT IN AI THINKING



The above graphic compares software development projects to data projects. Understanding the similarities and especially the differences between the two types will help the project function more effectively and reduce the risk of failure.

One of the foundational areas that all organizations must address is getting employees, executives, and all levels of management to shift their mindset regarding AI. You must view AI as an additional assistant that will help make informed decisions, support their information needs, and reduce research times.

AI has received negative publicity due to deepfake issues and identity theft, which some believe pose an unacceptable risk to introduce into the business world, as they feel they cannot control or protect their data and privacy. Most of this is news media and doomsday prophets' hype who hate the idea of technology taking on another part of our lives. Most of what people are saying about AI now is what was said in 1996 about the Internet: that it would take over all these areas and focus on the bad aspects.

MOST ORGANIZATIONS APPROACH AI LIKE ANOTHER IT RELEASE – AND FAIL.

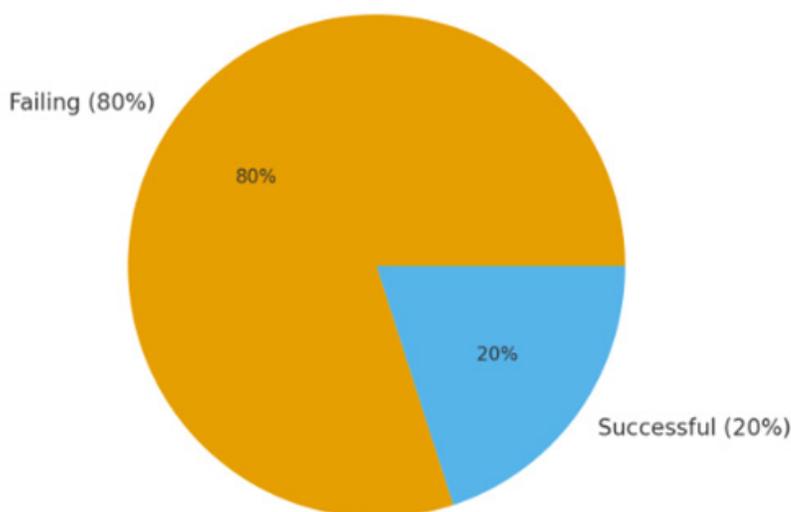
Most organizations treat AI as another IT deployment, such as a software development project. This is one of the reasons AI projects are struggling to launch: people expect them to be IT projects, not data projects. Because it is a data project, its impact and scope are much broader within the organization, and it needs stakeholder input. When people create an IT project, it is typically overseen by the IT department and involves hardware, software, developers, quality assurance, and compliance personnel. AI will consist of many of the same individuals; however, it is not as simple as putting together and installing a software package and or upgrading everyone to a new Windows version. It is much deeper in all aspects of the organization.

The goal of this newsletter is to focus on how AI aligns with data strategy, rather than IT operations. Following an AI strategy means organizations are examining their current AI needs and how to implement them safely, as well as exploring future spinoff applications and accelerating their development. Many individuals who support AI and have applied it in their organizations report that people can complete much of their jobs more efficiently by making decisions, communicating with customers, and identifying problems more quickly.

WHY AI IMPLEMENTATION IS FUNDAMENTALLY A DATA PROJECT

The following graphic illustrates that 80% of AI projects fail because executives often initiate them with the assumption that they are typical software or IT projects. As organizations initiate AI projects, they must be managed as large-scale data projects, rather than software development projects. Understanding that changes how the project begins and how new ideas and solutions are applied as information comes to the team for training and testing the internal data with the system.

AI Data Project Outcomes



Saying that AI is fundamentally a data project is not enough; one must also understand how and why it is classified as such. As you implement AI, several key aspects must be considered, including installing necessary tools and hardware and establishing a secure environment to prevent malicious actors from harming the organization or stealing its data.

DATA AS THE CORE ASSET

In an AI project, the focus is on how the organization will use the data and distribute it to approved individuals. Because AI relies heavily on data for training, production, and decision-making, it is vital to ensure that it is accurately labeled, supervised, and aligned with the organization's needs. If an organization lacks accurate information and data, it cannot make informed decisions. For this reason, data is the core asset on which one relies in an AI data project.

AI LEARNS FROM DATA (NOT CODE); QUALITY AND ACCESSIBILITY DETERMINE PERFORMANCE.

In an IT project, the software is run based on code provided by programmers. In an AI project, AI learns by training on vast amounts of data. The data could be new or old; however, it will serve as the foundation for all AI decisions. For this reason, it is vital to understand when AI emerged and began receiving accolades in the news media. In 2021, people were told that AI would only read a certain amount of the Internet and that its decisions and recommendations might be limited as a result. What they showed is that AI can only provide answers based on the data it's been given. It provides a limited breadth of information, which will yield limited results.

DATA LINEAGE, GOVERNANCE, AND ETHICAL SOURCING ARE FOUNDATIONAL STEPS IN ENSURING DATA INTEGRITY.

Another reason AI needs to be viewed as a data project is its connection to data lineage governance and ethical sourcing. As a data project, it requires the data to flow in a particular manner, being protected by governance and security. Who can see the data? We can examine the data, but is it secure to make recommendations without disclosing information to an unauthorized person? This must be integrated into an AI project, which may differ from a traditional development project.

Additionally, what type of governance will the organization have in place to regulate AI usage and provide feedback? Organizations are looking at the ethical foundations of AI governance. This includes whether AI can access the Internet and retrieve information so that 100% of its recommendations are within the organization. There are pros and cons to both situations. If AI accesses the Internet, it can draw on best practices from various organizations and apply some of those recommendations to address the organization's current challenges. In some cases, these recommendations can be worthwhile and help the organization resolve its problem more quickly. However, if an organization is only going to use solutions within their database and archives, that information must be readable and sufficient to address a broad range of situations and solutions being requested of that data.

MODEL OUTPUT QUALITY IS DIRECTLY CORRELATED TO DATA INTEGRITY AND BIAS CONTROL.

Building a model that correlates data integrity quality and reduces bias can be challenging. Because AI requires training, and training requires data, some organizations lack the necessary data to train. For this reason, many organizations purchase data from other warehouses to accelerate training for their AI

frameworks. The challenge is reducing the bias associated with models leased or rented from different organizations. Bias is pervasive in data, even when organizations desperately try to reduce and eliminate it from specific practices, such as hiring, promotions, or ranking individuals for performance reviews.

IT BUILDS SYSTEMS – DATA BUILDS INTELLIGENCE

Data-built intelligence is a high-quality raw material in the AI-built system, which is a factory that turns that material into a finished product. You cannot have one without the other, but they can have very different jobs and functionality.

Data-built intelligence refers not to the final AI model itself, but its foundational practice of understanding, managing, and trusting data. It is the answer to the questions, “Is the data good, and where did it come from? Can we use this data?” Data intelligence encompasses many aspects, including data quality (cleaning, correcting errors, and removing duplicates), data lineage (tracking data from its origin to its destination), and data governance (the rules governing who can access and use the data).

Your AI model is only as good as the data you train on, and data intelligence ensures that the data going into the AI factory is clean, reliable, and trustworthy. It is the knowledge you have about your data before you build intelligence with it.

CONTRAST BETWEEN IT SYSTEMS (STRUCTURED LOGIC) AND AI SYSTEMS (PROBABILISTIC REASONING).

The IT building system is programmed with specific rules that it follows. An AI system is trained on many examples of data and learns patterns from them.

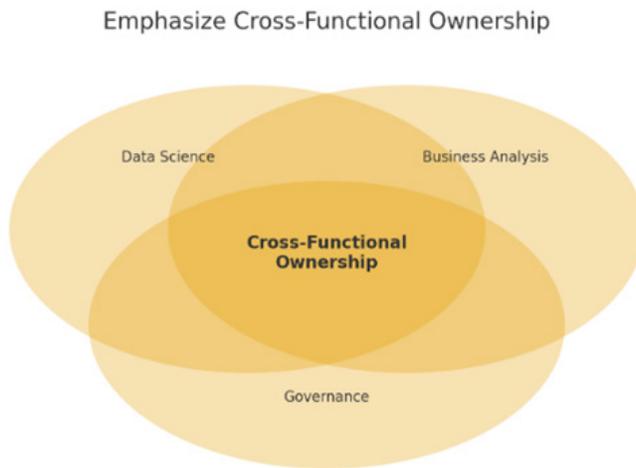
An IT system follows rules and logic every time, based on code, and if there is a problem, it is typically due to the software package’s code or functionality. To fix IT systems, it is necessary to bring in developers and programmers to address any software-related issues.

An AI system is built on data and patterns it learns during training, analyzing enormous amounts of data rather than writing rules. The developers have thousands of examples. It recognizes that certain events occur and tend to result from other events. It is not programmed this way; it learns based on the pattern’s behavior, which is treated probabilistically. It is anticipated that if A happens to B, it is the probable output. Example: An IT system automates invoices; an AI system interprets patterns in supplier behavior. Suppose an IT system automates invoices 100% of the time and delivers them as output, consistently following the same process and delivery mode that is preprogrammed into the software. The AI system interprets patterns in supplier behavior. It identifies which suppliers are generating the most revenue, which are generating the least, and what steps suppliers are likely to take in the future. Because the AI system operates based on information rather than being programmed, it can make probabilistic predictions and recommendations.

Emphasize cross-functional ownership between data science, business analysis, and governance.

Cross-functional ownership presents a distinct perspective in AI data projects compared to IT software projects. Typically, in an IT project, programmers in the IT department are responsible for the software and all its aspects. Even if the IT department is working with a vendor, they are usually responsible for ensuring the vendor delivers what has been specified in the contract to meet the definition of done or the outputs and agreements.

Emphasize Cross-Functional Ownership



In an AI system, cross-functional ownership is common because different people within the organization control various aspects of the data. Because the AI system requires substantial information, financial data may come from the finance department, sales information from sales, and operational data from operations. Each of these data sources is part of the company but is not typically centralized, making it difficult for any one person or group to control all aspects of it. The accumulation of data to inform AI and enable it to make proper decisions will require bringing together a cross-functional team.

ORGANIZATIONAL MINDSET SHIFT

The ability to use AI within the organization requires a mindset shift. This means individuals are not fearful of AI but embrace its usage and the support it provides for each worker. When trying to implement an AI project, it is easy for individuals to let fear overtake their mindset, particularly about losing their job or struggling to learn AI, and to resist working on the team or in any aspect of its implementation. The organization's mindset must be to support the advancement of AI within the organization and its deployment behind secure firewalls, while following compliance guidelines.

MOVING FROM AN INFRASTRUCTURE-FIRST TO AN INSIGHT-FIRST STRATEGY.

One area that has changed is the mindset toward infrastructure versus insight. Infrastructure typically supports most organizations in terms of technology and data. Organizations have implemented processes and infrastructure to protect data and ensure it currently follows a specific pattern and process. The future involves analyzing how that data can be used to provide insights and predictions on the next steps for the organization, the customer, or future projects. For example, allowing data to predict the following five projects based on the organization's current status. These predictions are based on a variety of data and identify the following areas for product development, which might differ from what management has typically examined.

Why Chief Information Officers (CIOs) and Chief Data Officers (CDOs) must jointly sponsor AI initiatives.

As you transition from an infrastructure-based to an insight-first strategy, thus shifting the organization's mindset, the CIO and CDO need to collaborate on all AI initiatives. These individuals currently control the organization's technology and data. Both understand the processes and compliance issues, as well as the security that must be in place to protect the data; however, sometimes they may get out of balance and decide to protect the data from evolving or being used in different ways. AI will use data to make predictions, which might be for uses distinct from its current ones. The CIO and the CDO must ensure that guardrails are in place to prevent unlawful use, while allowing it to be used realistically and ethically.

The rise of the Chief Data Officer's strategic influence in modern enterprises.

The CDO's strategic influence is decisive in modern organizations. It is possible that your organization does not have this position, and someone is filling it temporarily. In some cases, the CIO also serves as the Chief Data Officer. As AI continues to expand and more data is used, organizations will likely hire more CDOs, data scientists, and data engineers to support new initiatives.

The ability to shift the mindset and reposition the organization to support AI systems is a strong foundation for success in AI projects. The more individuals can reposition their organization's mindset, the greater camaraderie and teamwork there will be to support these new initiatives.

THE POSITIVES: STRATEGIC PAYOFFS OF GETTING IT RIGHT

There are three key payoffs when organizations build AI systems correctly: positioning their organization for a strong competitive advantage through learning systems, scalable decision intelligence, and more efficient, innovative operations.

COMPETITIVE ADVANTAGE THROUGH LEARNING SYSTEMS

Learning systems establish the structure for individuals or classes to learn a topic and enable instructors or teachers to deliver the content effectively. AI creates other open systems for delivery that are sometimes overlooked, such as personalized models that allow individuals to engage with a topic and learn it without being in a traditional classroom setting.

AI as a continuous learner improving operational, customer, and risk decisions.

Because artificial intelligence is always learning, it is indexing and learning new tools, methods, and theories that support best practices or new ideas. Due to evolving knowledge, the recommendations made six months ago may no longer be applicable today. In operational settings, AI can develop new processes based on newly acquired information. The customer focus could be more expansive today than just a few days ago. The ideas of risk strategies and risk-reduction options can be expanded by allowing

AI to learn from and incorporate more solutions that others in other industries use to reduce and mitigate risk. Because AI is continually learning, projects aim to use it for predictive analysis. Allowing AI to function in a predictive manner keeps live material and data to inform new decisions with fresh information.

SCALABLE DECISION INTELLIGENCE

Scalable Decision Intelligence (DI) is best understood as the art of combining data, artificial intelligence, and machine learning to help organizations make smarter, faster, and more context-aware decisions. Instead of seeing AI as a mysterious black box, think of DI as a living system that keeps learning – studying what has worked, what hasn't, and what's likely to happen next.

In the project management world, this means our traditional dashboards and reports no longer describe what's going on; they start advising. DI tools analyze the information that already flows through our teams (budgets, communication logs, timelines) and highlight where patterns repeat, where delays begin to form, or where a team's performance dips before it's evident to the eye.

AI-Augmented Executive Decision-Making: Seeing What's Hidden

Artificial intelligence is reshaping how executives interpret uncertainty and make informed strategic decisions. Executives and project leaders have always relied on experience and instinct. Rather than replacing intuition, AI serves as an amplifier of human judgment by uncovering patterns the human mind might miss when managing dozens of projects at once. By detecting subtle correlations, such as emerging shifts in recurring cost overruns in a specific department, tone shifts in stakeholder emails, or early warning signs buried in weekly reports, AI helps leaders identify early signals that inform timely decisions.

But the key is not just the math; it is the interpretation. These systems don't replace judgment; they sharpen it. Leaders can test "what-if" scenarios before committing resources or visualize how a small policy change might ripple across timelines and budgets. The goal is not automation for its own sake, but augmentation: helping decision-makers spend less time on reports and more time on strategic thinking. The ultimate decision still rests with the executive – deciding which model aligns with corporate values, stakeholder priorities, and risk tolerance.

In essence, AI extends the executive's perceptual reach. It offers a disciplined way to test intuition against evidence, to see beyond the immediate horizon, and to plan not only for what is likely to happen but for what could happen. The art lies in balancing algorithmic foresight with human context, an interplay that defines effective leadership in the digital era.

Integration with enterprise analytics and performance dashboards.

Integrating data systems with enterprise-wide analytics and performance dashboards isn't just a technical step; it's a strategic bridge that helps leaders see how their decisions ripple through operations. When done well, this integration turns scattered data into a single view of performance, allowing project managers and executives to spot trends, forecast outcomes, and make quicker, evidence-based adjustments. In short, it connects daily activity with the bigger organizational picture.

OPERATIONAL EFFICIENCY AND INNOVATION

Operational efficiencies and innovation can mean many things to an organization, from saving money to improving quality to reducing staff turnover. AI can drive cost reductions and operational efficiencies. Some of these savings reduce costs by transforming the organization and its processes, enabling AI to make decisions and recommendations beyond standard operations.

Two specific areas for operational efficiency and innovation are process automation and supply chain optimization, which include adaptive pricing and workforce planning.

Process Automation

Through process automation such as automated data collection, scenario modeling, and rapid reallocation of resources, AI enables organizations to respond quickly to change, maintain alignment, and operate with greater resilience and agility. An example of this is when a project experiences longer execution times than initially expected. The automated process signals a slowdown to the project manager, team, and sponsor before the project gets too far behind.

Supply Chain Optimization

ADAPTIVE PLANNING

In adaptive planning, AI uses intelligent systems to analyze real-time data, detect patterns, and generate suggestions for decision-makers to help adjust the project and its strategies or priorities. Adaptive planning enables the system to track risks and create mitigation actions more quickly than a human counterpart, allowing the team to focus on other areas of the project.

WORKFORCE PLANNING

Workforce planning is the application of data-driven algorithms to forecast staffing needs and skill levels, and to optimize team alignment. By analyzing trends in performance, turnover, capacity, and future project demands, AI enables leaders to make informed decisions about hiring, training, resourcing, and succession planning, thereby strengthening the organization.

THE NEGATIVES: COMMON PITFALLS AND MISCONCEPTIONS

Researchers are exploring why AI projects experience so many challenges. The biggest challenge begins with a misconception among the team, customers, and project stakeholders about what it will take to implement AI into the organization. Some stakeholders view this project as a software application rollout rather than a significant data project that requires engagement with many more systems. Additionally, there are challenges related to data structure and location, as well as the need for policies governing the ethical use of data in various circumstances.

TREATING AI LIKE A SOFTWARE ROLLOUT

AI projects are experimental and iterative, with solutions evolving over time. Because a software project typically has deliverables that are anchored to predictable process steps, it is easy to plan a stable sequence when installing an upgrade or new software. The outcomes are stable, and once deployed, the changes are minimal with limited maintenance requirements.

AI systems learn from each step in the process and use that learning to help forecast next steps. Each AI project is unique based on the types of data the system uses, its age, and its ability to be reformatted for AI training. All these aspects are customized, meaning that no single AI project will be identical to others. Each project presents a new learning experience, and stakeholders, whether AI or project management experts, still encounter a learning curve with this AI tool and its application to specific data and processes.

In addition, most AI projects are run by IT vendors that specialize in software development but have not adapted their processes or strategies for handling big data. These individuals are using the same approaches and tools without aligning with the data strategy. Unless IT vendors make this shift, as stakeholders learn more about the environment and data, the creative side of AI projects will continue to have a higher potential failure rate than necessary.

DATA SILOS AND POOR QUALITY

Data silos might be a new topic for many, even in the IT world, because it is part of the current culture to use data within a silo and not expect that data to be used organizationally. However, in the AI world, data silos would be reduced or eliminated so AI can learn from the organization's entire data backlog and analyze it to support better decision-making. There are two distinct challenges associated with data silos and poor quality, which can hinder both training and model development, as well as training the enterprise on data that is only partially accurate.

Lack of data interoperability and sharing between departments

Data flow within an organization is analyzed based on the flow. Some organizations are siloed, with data flowing within a single silo, preventing others from seeing or accessing it. When departments maintain their own databases and do not grant access to the outside, it prevents AI from gaining a macro view of the organization. It hinders the ability to evaluate how the overall strategy is working within the organization. Examples of this could include finance data that is accessible only to the finance department, or human resources data approved only within HR. Segmenting this data can prevent a holistic view of the organization and may lead AI to make improper recommendations or solutions.

Formatting Data

Data formatting is the process of converting raw information into a consistent, structured, and usable format that is compatible with the AI model. Data interpretability is essential for AI to understand, analyze, provide suggestions, and solve various types of problems within an organization.

Formatting data to make it clean and readable is a prerequisite for AI functionality. No one can believe that data formatting does not matter, and there is no need to spend money and time aligning the data for readability. AI requires data and will not function correctly unless it has vast amounts to evaluate.

ETHICAL, LEGAL, AND CULTURAL BARRIERS

AI introduces unique risks, which could violate ethical and legal principles, including privacy violations, bias, mistrust, and a lack of transparency. Because of these challenges, organizations are establishing proper governance for what data is usable, when, and how. These guidelines are used to build trust and prevent ethical violations, both now and in the future.

These ethical guidelines must be in place before creating or customizing the organization's AI model. It can include not only the policies themselves but also establishing an ethics committee to oversee AI violations, along with auditing capabilities, bias detection protocols, and stakeholder engagement. The goal of these ethical guidelines is to mitigate or eliminate regulatory and reputational risk.

Organizations may spend time developing guidelines and focusing on ethical or legal barriers, with little or no consideration of cultural aspects. Cultural barriers can erode internal trust when introducing AI and hinder the support, training, and education required for staff to utilize AI effectively.

There are two primary reasons cultural barriers hinder the adoption and support of AI systems: fear of job loss and distrust of automated decision-making. Exploring these two specific barriers can help mitigate the perceived negatives that some individuals have about installing and using an AI system.

Fear of Job Loss

News media have consistently reported and exploited the fear of job loss, increasing resistance and causing emotional worry about being replaced, thereby reducing job potential and career opportunities. AI will potentially eliminate some jobs and reduce the need for certain repetitive workers by replacing them with robotics or automated services. However, it is unclear how many new jobs will be created, such as data researchers or data scientists, who will help guide the translation of data through labeling and clearing it for use.

Distrusting automated decision-making

Allowing AI to make decisions automatically can raise concerns because it eliminates the need for human involvement in the interaction and decision-making process. The ability of AI to operate in settings where it makes decisions and adjusts autonomously, without human intervention, is a powerful way to save money. However, many fear that AI will begin making decisions that do not align with or support human choices.

SOLUTION AND BEST PRACTICES

The following solutions are to highlight some of the most critical and trustworthy ideas. These solutions are intended to help achieve success. Keep in mind that every solution must be customizable to the specific organization's goals, objectives, and the AI system.

BEGIN WITH DATA PRODUCT MINDSET – NO ALGORITHMS

What type of framework, quality, governance, security, and accessibility will be needed for the data? This point can be surprising because organizations often want to initiate discussions based on algorithms and then discuss data products later.

Adopting a data product mindset increases the discussions on how and the types of data the organization currently has archived and ready for AI. Consider the gaps in the data, and where the gap data can be purchased from a third party.

ESTABLISH AN AI GOVERNANCE FRAMEWORK

Creating AI guidelines and establishing a governance framework should be at the forefront of AI development, rather than being a deliverable later. Establishing AI governance early creates additional goals and objectives for the AI system, which can be built into the system and its plans from the beginning.

OUTLOOK: FROM PROJECTS TO PLATFORMS

No one knows for sure the direction and evolution of the AI system. Experts who forecast the future of business believe AI will change the business world as significantly as the establishment of the internet. If this is the case, one must consider not only establishing an AI system to meet current needs and capabilities, but also how to upgrade it with new features.

Implementing AI is more than a simple technical upgrade; it's a fundamental shift in how organizations do business, manage customer interactions, and handle data from all parties. When AI is treated like a typical software development project rather than a large creative data project, the holes of failure are already impacting the potential plan.

Reframing AI as a data project that requires consistent monitoring and retraining helps everyone understand the changing environment that transforms culture. This perspective increases the likelihood of AI's successful implementation and future alignment, fostering a stronger connection to business objectives. At its core, AI relies on data readiness, reliable models, and ethical decision-making.

REFERENCES

- Agrawal, A., Singh, V., & Fischer, M. (2023). *LeanAI: A method for AEC practitioners to effectively plan AI implementations*. arXiv.
- Blohm, I. (2024). Data products, data mesh, and data fabric. *Business & Information Systems Engineering*.
- Georgiev, S. (2024). The role of artificial intelligence in project management. *International Journal of Project Management*.
- IBM. (2024). AI governance in practice: processes, standards and guardrails. IBM Corporation.
- Marr, B. (2021). *Artificial intelligence in practice: How 50 successful companies used AI and machine learning to solve problems*. Wiley.
- Precisely. (2024). Unraveling the threads: Data fabric vs data mesh for modern enterprises. Precisely Inc.
- Booz Allen Hamilton. (2023). Data mesh or data fabric? Do better with both. Booz Allen Hamilton.



A WOMAN-OWNED SMALL BUSINESS (WOSB)



Providing quality, customized training and consulting services that inspire, educate, and equip organizations to be better tomorrow than they are today.

DR. KEITH MATHIS, PMP, PMI-ACP, CSP-SM, CSP-PO
WANDA MATHIS, M.ED. PMI-ACP

PROJECT MANAGEMENT TRAINING

OVER 60 PROJECT MANAGEMENT COURSES REGISTERED WITH PMI

PRESENTATIONS THAT EDUCATE, MOTIVATE, AND INSPIRE

Since 1993, The Mathis Group has been helping organizations change worker productivity and behavior.

- PROJECT MANAGEMENT
MARKETING
MOTIVATION
ORGANIZATIONAL BEHAVIOR
LEADERSHIP
CUSTOMER SERVICE

COMPANY MANDATE

The Mathis Group provides training and consulting that will impact the organization and individual while maintaining an outstanding reputation for success and integrity.

VALUES STATEMENT

Every person has worth and should be treated with respect.

AREAS OF EXPERTISE

- Curriculum Design
Project Management
Organizational Behavior and Development
Management
Agile Project Management
Strategic Planning
Executive Coaching
Performance
Team Building
Emotional Intelligence
Leadership
Customer Service
Supervisory Leadership
Hybrid Project Management

9515 N Spring Valley Dr
Pleasant Hope, MO 65725
800-224-3731
417-759-9110
(voice/fax)

www.themathisgroup.com

keith@themathisgroup.com
wanda@themathisgroup.com

DUNS Number:
007722098
CAGE: 3C1N9
GSA Contractor Number:
GS-02F-0010V

