Effective Business Transformation with AI/ML

Leveraging Artificial Intelligence/Machine Learning

About this Course

Success with Artificial Intelligence (AI) and Machine Learning (ML)

Rapidly changing technology such as the current wave of AI/ML can create chaos in an organization and a tendency to select large projects that fail. The reason is simple, it is not clear where to connect the AI/ML capability to the organization. Identifying points of value in applying these capabilities is essential to successful value achievement.

Companies that have scaled AI across the business and achieved meaningful value from their investments—typically dedicate 10% of their AI investment to algorithms, 20% to technologies, and 70% to embedding'. (©2023 BCG)

It is the 70% that this course focuses on.

What Managers and Business Analysts Need to Know

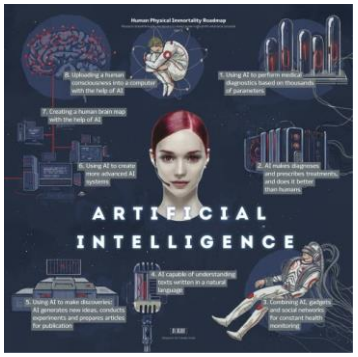
Managers and Analysts need to know how to use AI/ML. Understanding, organizing, integrating, and delivering AI/ML solutions is a key issue for improved operational performance today.

96% of companies surveyed identify AI as critical. Vention Survey, Dec 2023

Selecting the right AI Connections to The Business is the Key

Identifying the value points of opportunity and applying the appropriate solution is the link to successful application of AI/ML solutions. An incremental approach is useful in choosing the best AI/ML capability. AI/ML provides considerable leeway in choosing what capability to use.

What is the size of initiative you should use?



Small projects provide insight regarding how well AI is absorbed into the daily operation. While medium, and large projects may garner large results sooner, they have greater risk, How do you assess and manage that risk?

Who Should Attend?

Managers and professionals should prepare for coming changes driven by AI/ML evolution. This course is important for business managers, strategic planners, marketing analysts, data analysts and architects, planning managers, process analysts, business analysts, business architects, enterprise, and IT architects.

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Day One

AI usage today is a mixed bag. Efforts on process actions are maturing and returning value. More needs to be done. AI should improve and enable organization performance. Additionally, AI contributes to enabling management productivity by improving the daily management journey through better decision making with AI solutions. Setting direction strategically for AI enablement is key.

Theme – Enabling Business Renovation with AI

Section 1: The four levels of AI/ML Value

- External Environment
- Strategic Management and AI
- Tactical Applications of AI
- Operational AI - Beyond the Process

Video Discussion – AI Today

Section2: Key Uses of AI/ML and Related Technology

- Enabling Decisions
- Increasing the value of content?
- Leveraging operational productivity
- Enabling management productivity
- Applying emerging analytics.
- AI creep – moving from robotics into the professional and expert domain.

Exercise – What type of AI do you have and how are you using it today?

Section 3: Capabilities Available Today

- Generative AI - The hot topic today
- Natural language processing
- Text mining
- Cyber security
- Recommendation engines
- Integrating Statistical and AI Analytic capabilities

Video and Discussion – The future of AI in Business

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Day Two

There is a need to understand the direction AI technology is taking today. Planning and executing a successful AI strategy for your organization depends on knowing what capabilities are available. Leveraging capability requires a method to integrate AI technology into the structure of the organization.

Theme – The Return on Your AI/ML Investment

Section 4: Improving Performance

- Financial results
  - Using KPIs and KIIs for Value Tracking
- Linking operational performance with Strategies
- Customer satisfaction and AI success
- Developing the human asset
- Assessing impact of AI using path to point analysis.

Demonstration and Discussion – Organization impact using AI methods

Section 5: The External Environment and Strategy perspective

- AI and the External Environment:
  - Defining your external environment
  - Analyzing with AI
- AI and Strategy
  - Decisions and strategy
  - Strategy formulation and analytics
  - Strategic alignment
  - Gap Analysis
- Linking strategy and external influences

Demonstration and Discussion – Linking Strategies and Influences

Section 6: Tactical and Operational perspective

- AI and Tactical Perspective:
  - Defining the business structure
  - Analyzing structure with AI
- AI and Operations
  - Hyper automation and AI
  - Automated decision making
  - Expert enablement with AI
  - Assessing Tactical changes on operations

Exercise – Where would you apply AI in your organization?

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Day Three

Theme: Sample Applications of AI and Machine Learning

Note: Caution must be used when applying analytics. For example, you need a smooth linear regression line for a trend. Machine learning is most useful when the data is changing over time and the organization needs to understand the direction of change by rerunning the algorithms. Common uses of machine learning and AI analytics have been around for several years. Here are 3 of them.

Section 7 – Example 1 - Operations: Process Improvement

- Process models
- Process measures
- Goals of performance
- The measures driver diagram
- The analytic work flow
- Running a neural net

Demo and Discussion – A process analysis using linear neural nets

Section 8 – Example 2 - Marketing: The Recommendation Engine

- Recommendation engines
- Three types of recommendation approaches
  - Correlation matrix, Affinity analysis, Clustering Membership
- Suggesting what customers, users, citizens should do or buy
- ML techniques for marketing – recommendation engines
  - *Affinity analysis and Correlation Matrices*
- Example - Buyer behavior: 'People who bought this also bought that.'

Demo and Discussion: Affinity Analysis and Book Buying Habits

Section 9 – Example 3 - Portfolio Management – Alternative Ranking

- The project portfolio
- Ensemble analytics for analysis
  - Property rank, neural net influence, correlation matrix
- Workflow for ranking AI projects in a portfolio
- Example – A ranking assessment of a set of AI projects

Interactive Discussion – What would you use AI/ML for?

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Day Four

What do you need to support the variety of decisions an organization makes daily? Can you trust automated decisions? There are many types of decisions an organization makes daily. What issues should you concern yourself with in each of these types? Emerging easy to use analytics exist to support the decision needs of most organizations.

Theme – Enabling Business Decision Making

Section 10: Decision Making and AI Analytics

- The structure and complexity of decisions
- Levels pof process decisions
- Ranking selection of decision alternatives
- Quantitative decisions
- AI enablement of decisions

Video Discussion – AI and Decisions

Section 11: Automating Process Decisions with AI

- Decision drivers
- The driver diagram
- Listing alternatives
- Ranking alternatives
- Orchestrated AI analytics

Exercise – Automating an operational Decision

Section 12: Augmenting Process Decisions with AI

- Strategic decision support.
- Employee decision support
- Management decision support
- Alternative evaluation with AI

Exercise – Defining Management Decisions

Course Wrap – Summary and Q&A

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Day Five

AI/ML technology is not familiar. An update of project management skills is needed. Criteria for selecting projects is not clear, skills are not always available, and the technology is rapidly advancing. Managing a portfolio of AI/ML projects and capabilities requires changes in project management capability. Ranking criteria for capabilities as well as projects are needed. Added to that you have programs of portfolios depending on organization size and diversity.

Theme – Managing the Business Side of AI/ML

Section 13: The AI Project Methodology

- AI Enablers – Skill, Tools, and other resources
- AI Technology/Capability planning
- The incremental approach – most successful
    - AI Portfolios - *Project, Capabilities, Program etc.*

Video and Discussion – Creating an AI Application

Section 14: The AI Capability Portfolio

- Portfolio method
- The capability register - Listing the AI capabilities
- Developing criteria for capabilities
- Ranking criteria and capabilities?
- AI Technology/Capability planning

Exercise – Creating a Capability Portfolio

Section 15: The AI Project Portfolio

- The AI project register
- Project Criteria
- Ranking project criteria
    - Project Enabler Criteria – Skill, Tools, and other resources
- Project Ranking of Alternatives

Exercise – Creating a Project Portfolio

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Learning Objectives

Expected Learning Outcomes (what they will learn):

- Explain the diverse types of AI/ML today and how they fit with your organization
- Understand the techniques used for the diverse types of AI/ML capability
- Explain the key technologies available for AI/ML
- Define a roadmap to reach effective use of AI/ML
- Interpret how AI can help the organization
- Select appropriate AI/ML techniques for the organization
- Understand the limits of AI/ML
- Suggest operational opportunities for AI/ML

Typical course Timings for each of the daily sessions (8:30 to 4:00 Format):

Start 8:30 PM Introduction

Course material 8:45 – 10:30

Break 1 about 10:30 (15 minutes)

Course material 10:45 – 12:30

Break 2 About 12:30 (30 Minutes)

Course material 1:00 – 2:30+

Lunch 2:30+ – 4:00 Discussion plus Q&A

Note: *This isa business use oriented. It requires some knowledge of the AI/ML technologies available today. Delegates taking this course should have some awareness of the AI/ML space. That can be through university courses, reading, firsthand experience, or attending the precursor course to this one 'Emerging AI/ML Capabilities and Technology' offered by KCI in various worldwide locations .*