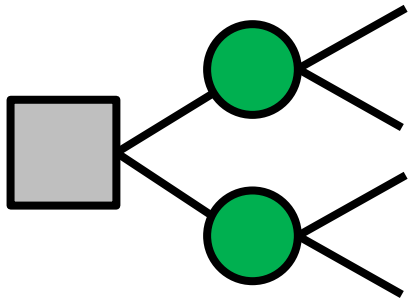
Continuous Improvement Toolkit

Decision Tree




Managing Risk
PDPC
FMEA
RAID Logs
Fault Tree Analysis
Risk Assessment*
Traffic Light Assessment
Deciding & Selecting
Pros and Cons
Importance-Urgency Mapping
Break-even Analysis
Cost -Benefit Analysis
Force Field Analysis
Voting
Pugh Matrix
Decision Tree
TPN Analysis
QFD
Matrix Diagram
Kano Analysis
Prioritization Matrix
Critical-to Tree
Paired Comparison
Planning & Project Management*
RACI Matrix
Stakeholders Analysis
PEST
PERT/CPM
Activity Diagram
SWOT
Roadmaps
Project Charter
Gantt Chart
PDCA
Control Planning
Gap Analysis
Hoshin Kanri
Kaizen
How-How Diagram
Tree Diagram**
Standard work
Lean Measures
KPIs
OEE
Capability Indices
MSA
RTY
Descriptive Statistics
Cost of Quality
Reliability Analysis
Cause & Effect Matrix
Pareto Analysis
Confidence Intervals
Understanding Cause & Effect
Probability Distributions
ANOVA
Hypothesis Testing
Design of Experiments
Graphical Analysis
Scatter Plot
Correlation
Regression
Understanding Performance
Run Charts
5 Whys
Chi-Square Test
Multi-Vari Charts
Control Charts
Relations Mapping*
Benchmarking
Sampling
Fishbone Diagram
TRIZ***
Focus groups
Interviews
Brainstorming
Analogy
SCAMPER***
Photography
Check Sheets
Nominal Group Technique
Mind Mapping*
Measles Charts
Surveys
Affinity Diagram
Attribute Analysis
Data Collection
Critical Incident Technique
Lateral Thinking
Visioning
Observations
Creating Ideas**
Identifying & Implementing Solutions***
Simulation
TPM
Mistake Proofing
Pull Systems
JIT
Ergonomics
Work Balancing
Automation
Bottleneck Analysis
Visual Management
Flow
Value Analysis
5S
Wastes Analysis
SMED
Time Value Map
Process Redesign
IDEF0
Value Stream Mapping
SIPOC
Flow Process Chart
Process Mapping
Flowcharting
Service Blueprints
Designing & Analyzing Processes

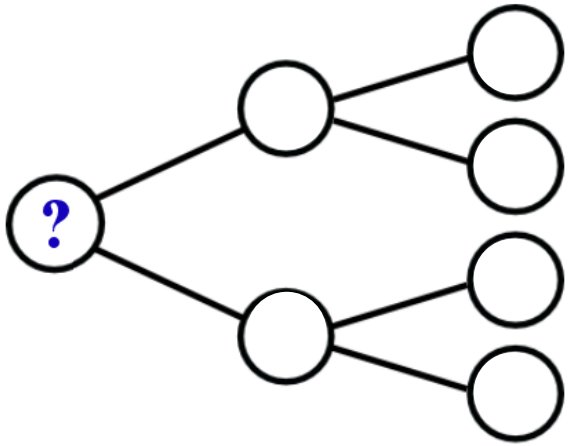
- Decision Tree

- The aim is to identify those actions which will give the best results.
- It enables a thorough mapping of all decisions and their possible outcomes .
- Originated in financial and marketing, although it can be used for many other situations.
- Valuable for evaluation different capacity expansion alternatives when demand is uncertain and sequential decisions are involved.

- Decision Tree

Used to:

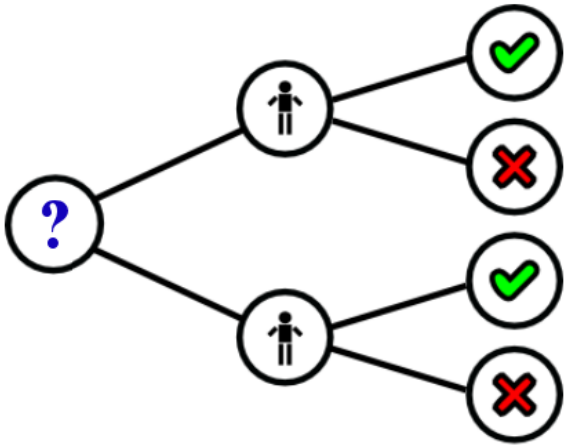
- Help you make choices between different paths and outcomes.
- Select from a number of possible actions.
- Make important or complex decisions.
- Identify the effects of actions or risks.
- Help you make all kinds of business decisions, such as:
  - New product development.
  - New marketing strategies.
  - Workforce changes.



- Decision Tree

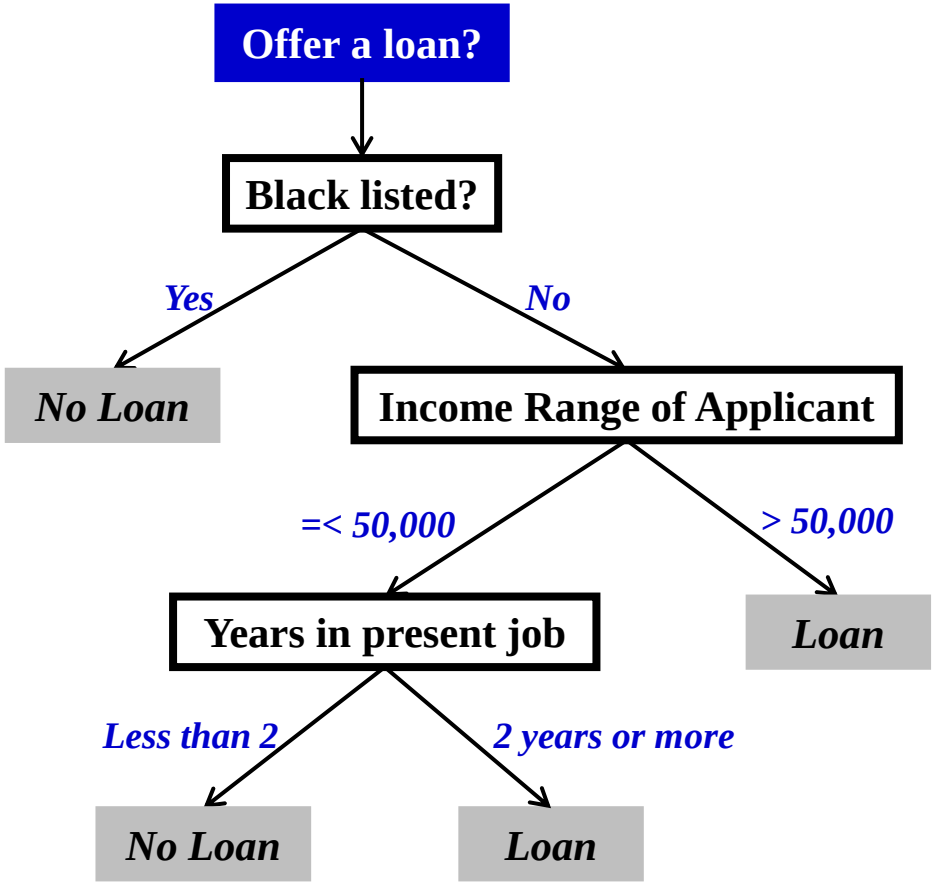
Approach:

- Start with the decision that you need to make.
- Then draw out lines for each possible action/decision.
- At the end of each line consider:
  - A condition (uncertain).
  - A result / a decision (certain).
- Keep doing this until you are confident you have identified as many of the possible outcomes leading from the original decisions.

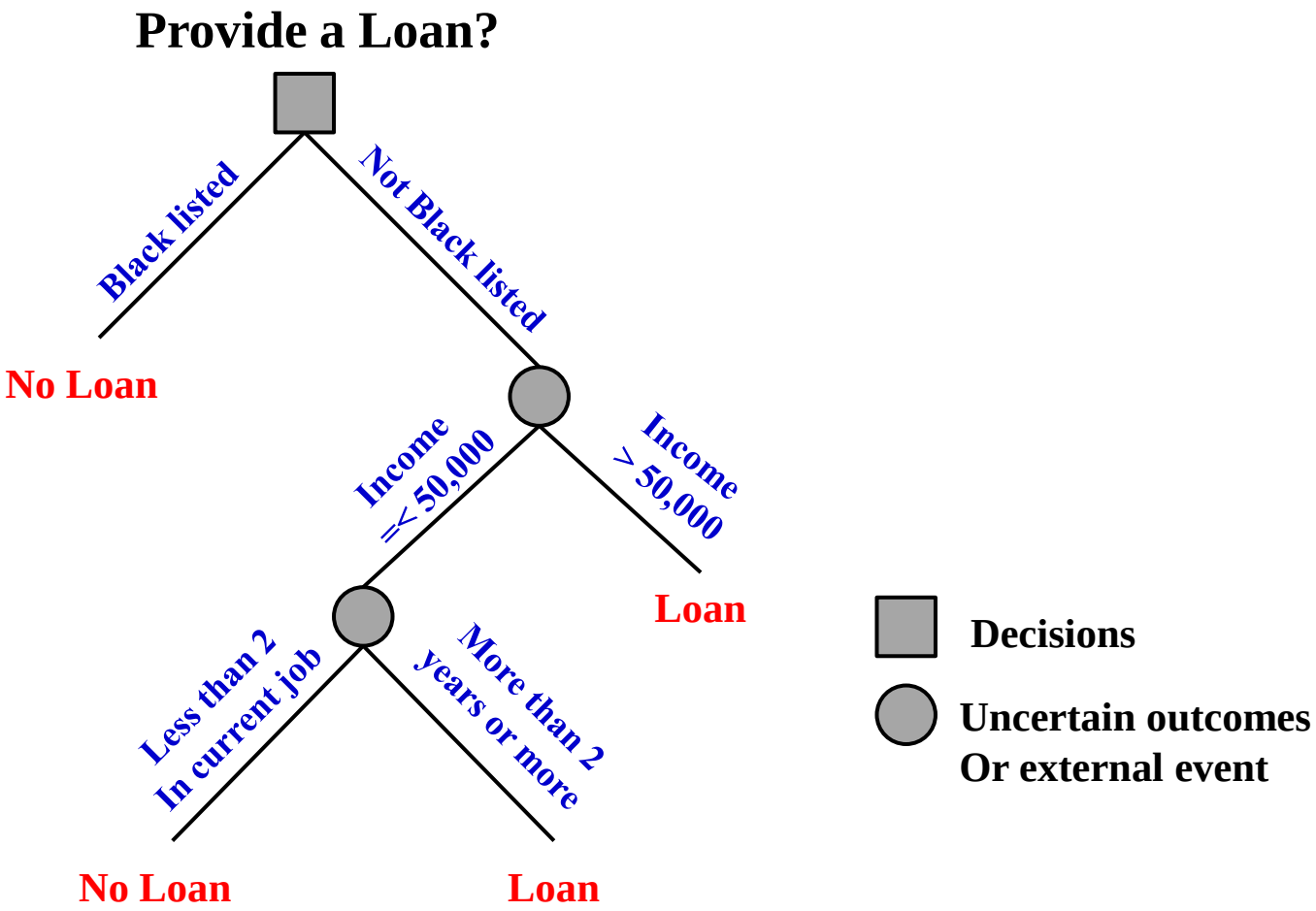


- Decision Tree

Example: Decide whether a person should be offered a loan



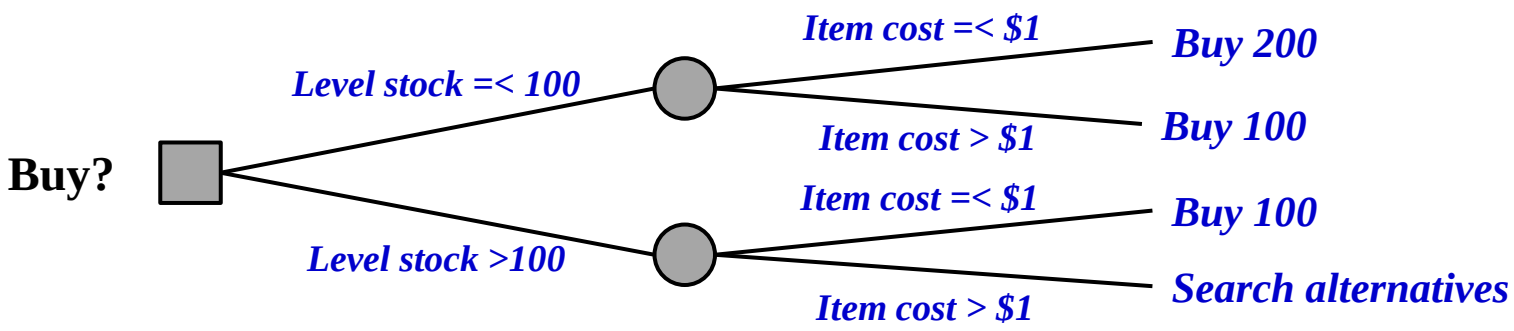
- Decision Tree



- Decision Tree

Example: When to buy?

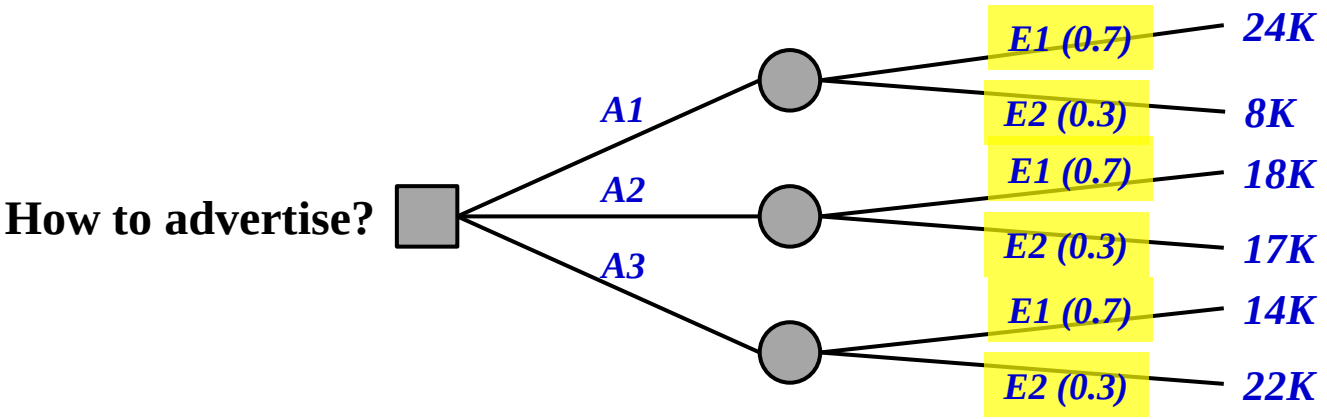
Event / Event (Cost)	Cost 1: Item cost =< $1	Cost 2: Item cost > $1
1: Level stock =< 100	Buy 200	Buy 100
2: Level stock >100	Buy 100	Search alternatives



- Decision Tree

Example: Return on advertisement campaign

Action / Event	E1 (0.7): Rising market	E2 (0.3): Falling market
A1: Prime-time spread	24K	8K
A2: Targeted sectors	18K	17K
A3: Low-level	14K	22K



- Decision Tree

Example - What Product to Produce?