THE IIA 3 LINES MODEL APPLIED TO AGILE PRODUCT DELIVERY

A PROPOSAL FOR HIGH RISK DOMAINS

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OVERVIEW PART 1: SYSTEM OF RISK MANAGEMENT BEST PRACTICES IN AGILE PRODUCT DELIVERY

WHAT RISKS AND DEPENDENCIES ARE

DEPENDENCIES AND THE SCRUM DEFINITION OF READY

THE ELABORATION VALUE STREAM AS A WORKFLOW

THE WORKFLOW AS A GIANT KANBAN BOARD WITH NUMBERED STATUSES

RISK AND DEPENDENCY RESOLUTION IN THE VALUE ELABORATION STREAM

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- THE BACKLOG AS A STREAMING CONVERSATION
- THE RISK AND DEPENDENCY MANAGEMENT SYSTEM

PART 1: HOW AGILE PRODUCT DELIVERY MANAGES RISKS AND DEPENDENCIES

WHAT RISKS AND DEPENDENCIES ARE

- Risks are defined as some exposure to danger. Risks in the value stream maintain a status of Resolved, Owned, Accepted, or Mitigated.
- Dependencies are a type of risk that interrupts workflow, as in predecessor work that must take place, before succeeding work can be executed.
- An example of a dependency would be completion of an enabler work-item required for feature to deliver intended business value.
- Note: “External” dependencies are often used to describe dependencies that must be mitigated or cleared by external work that is not in the scope of those executing the dependent work.

DEPENDENCIES AND THE SCRUM DEFINITION OF READY

- Scrum is a process designed to deliver work in a stable and certain way via short iterations.
- To deliver this certainty and stability, the rules of scrum include that work-items with external dependencies cannot be pulled into a sprint iteration before those external dependencies are cleared.
- This rule is described in the “I” in the INVEST criteria acronym:
  - I: Work-items must be *independent* or *immediately* actionable before they can be executed by the owning scrum team.

So how can these dependencies be cleared or mitigated so they can be executed by a scrum team?

THE ELABORATION VALUE STREAM AS A WORKFLOW

Let's look at the elaboration value stream as a giant workflow.

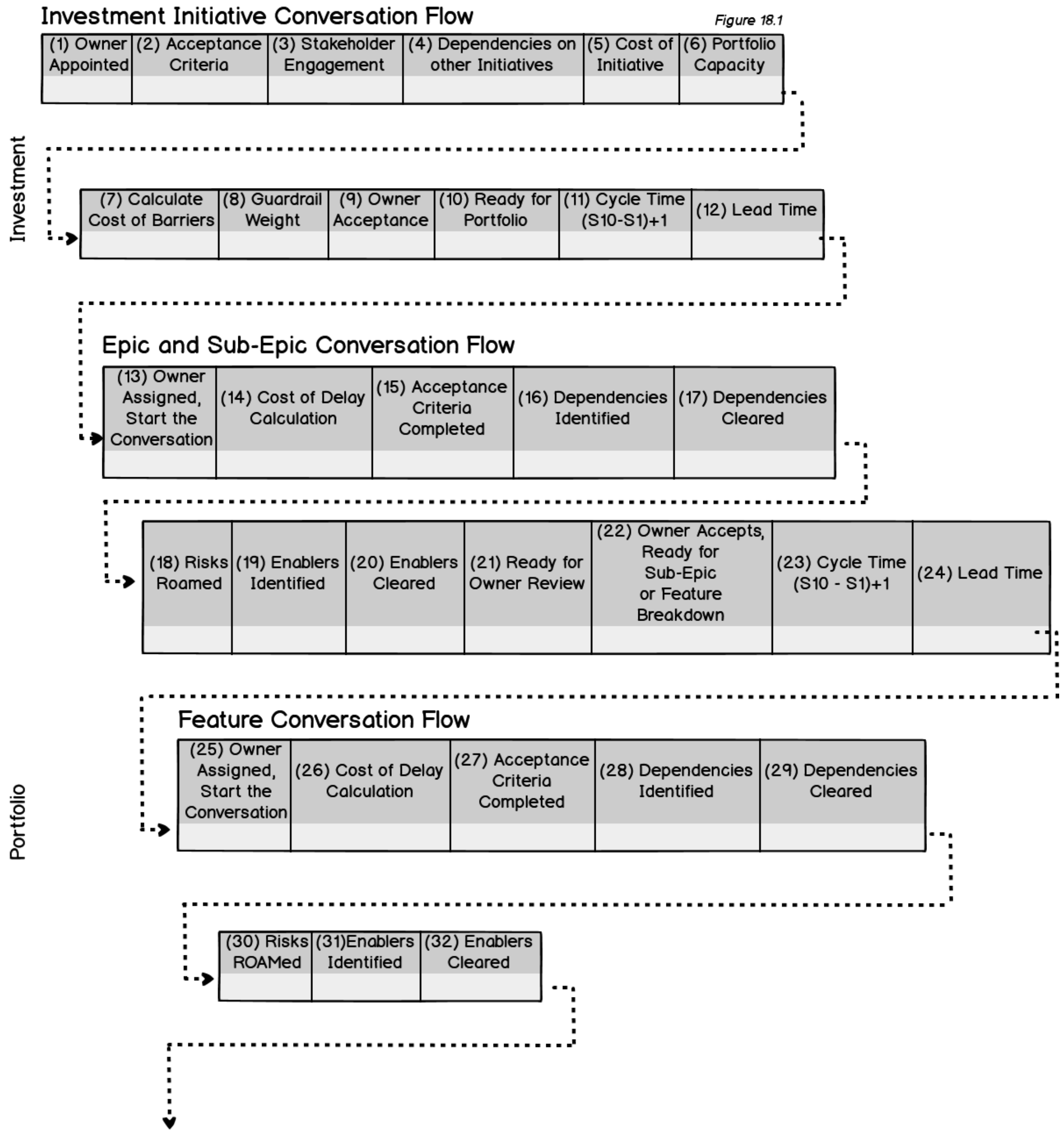
The value stream is executed by a value stream team, comprised of multiple sub-teams that are autonomous and can execute in parallel.

- Some teams may be responsible for refining value at an Investment level.
- Other teams may be refining the resulting value from the Investment level as it flows through the program/portfolio level.
- Following portfolio teams in the workflow, scrum teams are refining resulting work so that it can be executed in an iteration with certainty.

THE WORKFLOW AS A GIANT KANBAN BOARD WITH NUMBERED STATUSES

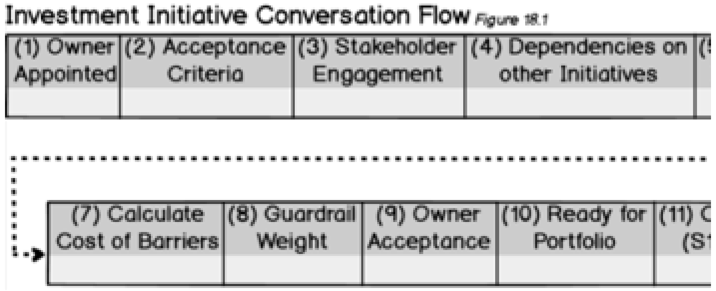
If you combine the boards for each of your work-items in the backlog taxonomy, the resulting workflow might start out like this...

Note that this workflow elaborates across multiple parent->child work-items. Each status along the way is numbered. So, for example, if the first status for elaborating initiatives is numbered (1), the last status shown in this example workflow is numbered (32), and is specifically part of the feature elaboration workflow.

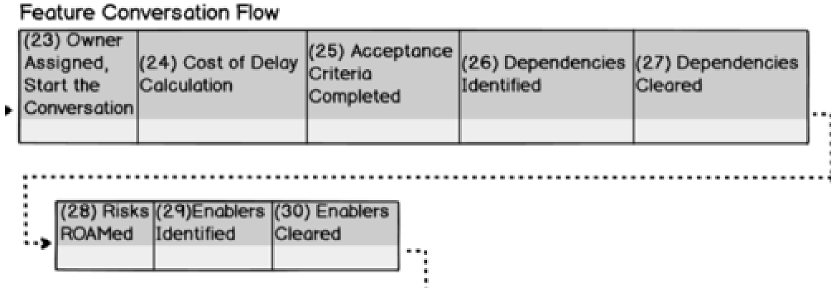


RISK AND DEPENDENCY RESOLUTION IN THE VALUE ELABORATION STREAM

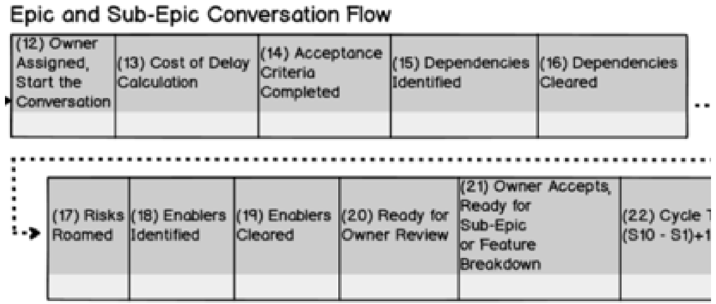
Dependencies at the Initiative Level of the taxonomy



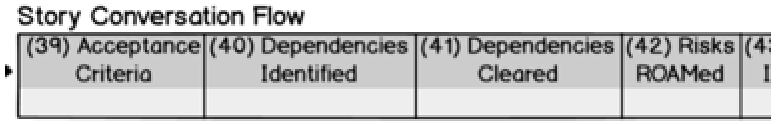
Dependencies and Risks at the Feature Level of the taxonomy



Dependencies and Risks at the Epic Level of the taxonomy



Dependencies and Risks at the Story Level of the taxonomy

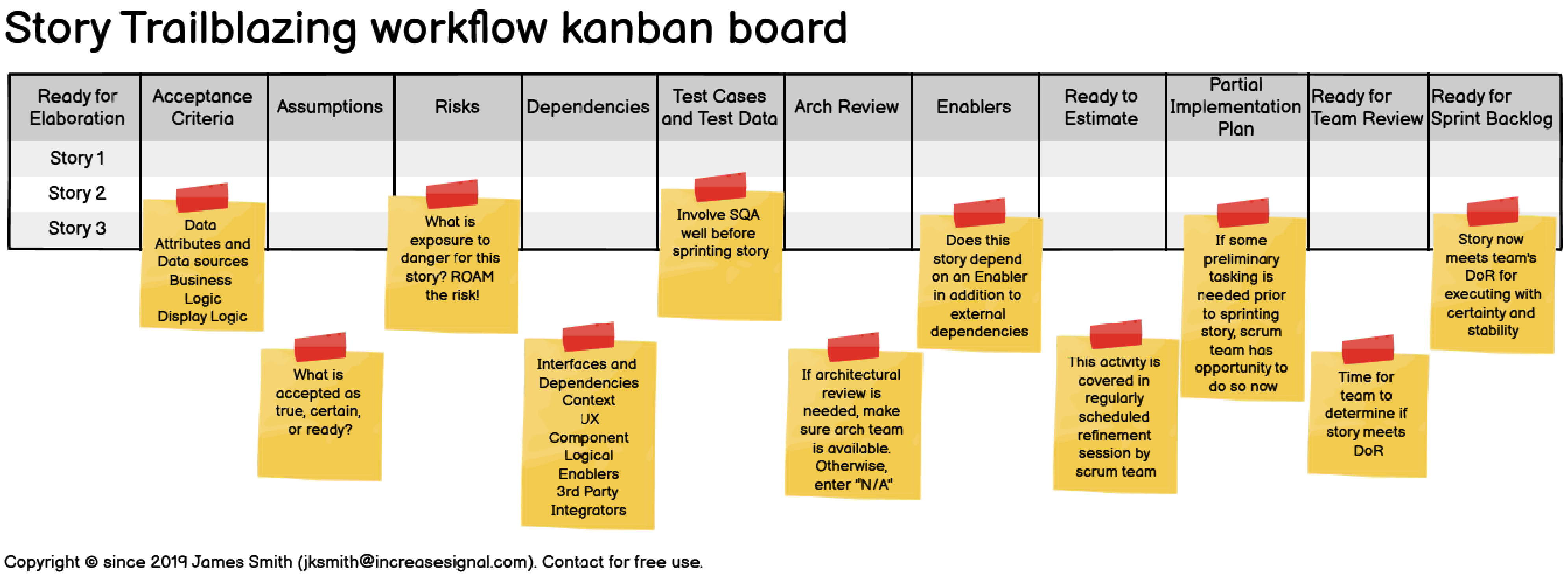


- In your whole value elaboration workflow, provide statuses for addressing Risks and Dependencies separately.
- These statuses must be cleared before a parent work-item can be broken down into child work-items.
- Design your work-item elaboration boards at every level to include these statuses.
- For each work-item type, the workflow now forces you to have a conversation about risks and dependencies for that type.

GETTING TO SCRUM DEFINITION OF READY

The Scrum process is the validation that you are about to turn an organizational opinion into an executable fact, so delivery teams using scrum will require an elaboration workflow that produces stories meeting a stringent Definition of Ready (DoR).

Use the "Trailblazing" technique to get stories to this DoR with excellence. Notice Risks and Dependencies have dedicated statuses in the workflow.



MEASURING DELAYS CAUSED BY DEPENDENCIES (OR ANY STATUS IN WORKFLOW)

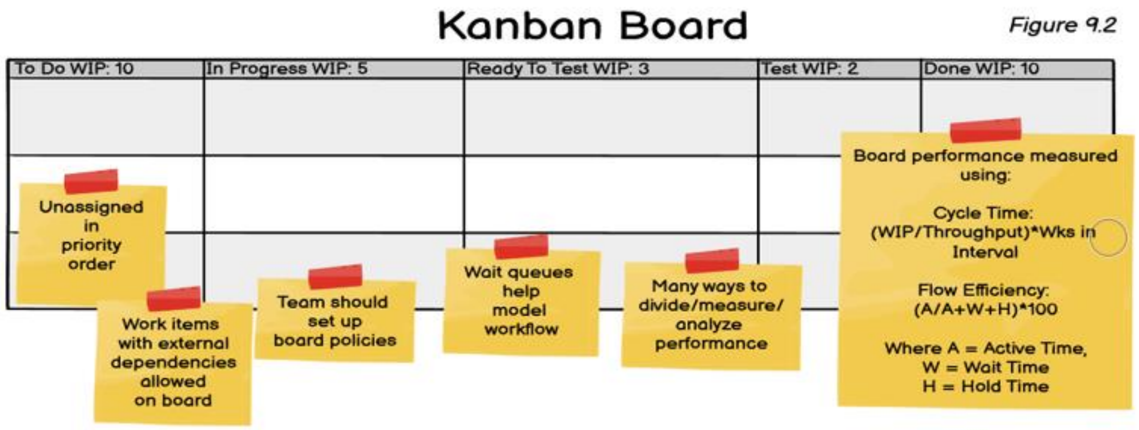
External dependencies are not allowed on the scrum task board, so this consideration will not be included in the calculation.

Any elaboration or refinement board used for work-items outside of a sprint can make use of the following calculation. One or more people who work on a refinement board could be considered a "team." For instance, it's reasonable to have a separate Epic, Feature, and Story team, if needed to maintain flow and enable parallel work. All these teams would be considered part of the "Value Stream Team" in Team of Teams fashion. Consider the following example:

To measure a cycle time for one or more statuses on the board, count all the work-items on the board for that status and following workflow statuses, including the "Done" status. Divide this sum by only what's in your "Done" status. Then, for context to an interval time, multiply by weeks in measurement interval to calculate in # weeks. Perform this calculation on last day of each interval, then clear items in "Done" status so they aren't counted next interval measurement.

Example:
16 work-items in a "Dependencies" column and all following columns including "Done" column. Divide 16 by work-items in "Done" column (4).
16/4 work-items in "Done" column = 4
Multiply by #weeks in interval (ex 2) = 8

This means it currently takes 8 weeks to clear board from "Dependencies" column forward.



BRINGING IT ALL TOGETHER: THE BACKLOG AS A STREAMING CONVERSATION

- Remember, a backlog taxonomy is like a design thinking cone.
- Elaboration is nothing more than a recorded conversation about what can deliver value, starting with just opinions, and ending with executable facts as the conversation becomes more refined.
- Use a custom elaboration workflow meeting your needs for each work-item type in your backlog taxonomy. This facilitates “filling in the gaps” in the conversation.
- Using the default as provided by your backlog tool will not be enough to cover these elaboration gaps.
- Measuring one or more statuses in your workflow can be effective at identifying areas of inefficiency and the teams responsible for those areas.

BRINGING IT ALL TOGETHER: THE RISK AND DEPENDENCY MANAGEMENT SYSTEM

- Make sure you have statuses for Dependencies and Risks for each work-item type in the backlog taxonomy. This will:
    - Ensure you have a sub-conversation about these statuses in the overall conversation about each work-item in the backlog.
    - If the team determines no conversation is needed, mark it as “N/A,” but never skip the conversation status.
- Endeavor to start these conversations about Risks and Dependencies (via workflow statuses) as early as possible in the value stream prior to scrum team execution for related work. This will greatly simplify events like PI planning. This effort will also protect scrum teams from workflow interruptions and backlog starvation which impedes continuous ready state.
- Don’t force scrum teams to accept stories with external dependencies into a sprint. Doing so will greatly affect their ability and desire for successful scrum execution on behalf of the organization.
- Reinforcing this rule, in combination with use of an effective, measurable workflow preceding scrum team execution will ultimately make your value stream more robust and efficient at managing risks and dependencies.

OVERVIEW PART 2: THE IIA 3 LINES MODEL INTEGRATED WITH AGILE PRODUCT DELIVERY

PRINCIPLE 1: GOVERNANCE

PRINCIPLE 2: GOVERNING BODY ROLES

PRINCIPLE 3: MANAGEMENT AND FIRST AND SECOND LINE ROLES

PRINCIPLE 4: THIRD LINE ROLES

PRINCIPLE 5: THIRD LINE INDEPENDENCE

PRINCIPLE 6: CREATING AND PROTECTING VALUE

KEY ROLES IN THE IIA 3 LINES MODEL AS APPLIED THROUGH THE AGILE DELIVERY SYSTEM

- THE GOVERNING BODY
- MANAGEMENT
- INTERNAL AUDIT
- EXTERNAL ASSURANCE PROVIDERS

EXECUTION OF KEY ROLES IN THE VALUE STREAM

REFERENCE

PRINCIPLE 1: GOVERNANCE

Accountability via action:

- Accountability is achieved via radically transparent execution of the development value stream.
- Governance, policies, and behaviors are codified as part of process.
- Execution of the process provides evidence that governance requirements, constraints, and guardrails have been met.

Assurance and advice via continuous improvement:

- Continuous improvement is intended to be a key result of the agile philosophy of learning and discovery.
- Continuous improvement is a first-class citizen in agile product delivery.
- Evidence of continuous improvement is captured in the development value stream via waste identification and strategic refactoring backlogs using kaizen and A3 work-items.
- Activities that identify continuous improvement work-item candidates are built into the execution process.

PRINCIPLE 2: GOVERNING BODY ROLES

The governing body ensures:

- The organization’s system of risk and dependency management is part of any program/portfolio development value stream.
- This system is described in Part 1.
- Development value stream design is an outcome of governing body execution and is intended to cover all levels of the stream, from investment to portfolio to delivery.

The governing body:

- Executes delegation via autonomous roles that own definition of ready and definition of done to achieve organizational objectives. Through these mechanisms, legal, regulatory and ethical expectations are met.
- Establishes and oversees an independent, objective, and competent internal audit function to provide clarity and confidence on progress toward the achievement of objectives. Assessments are one tool in the audit function.
- Works with portfolio management to determine how to track progress toward reaching objectives.

PRINCIPLE 3: MANAGEMENT AND FIRST AND SECOND LINE ROLES

In agile product delivery, management's role is as the steward of that part of value stream operation in the manager's scope.

- First line roles are most directly aligned with the delivery of products and/or services to clients of the organization and include the roles of support functions.

- Second line roles facilitate flow of value by managing risk and dependencies specifically. In customary agile parlance, the scope of these roles can include any facilitating enabler, or predecessor work.

- First and second line roles may be blended or separated. The primary second line role in agile product delivery is a product owner whose scope is specific to stewarding risks and dependencies. This role is designated the Risk and Dependency Owner (RDO). The RDO provides complementary expertise, support, monitoring, and clearing of predecessors prior to first line delivery team roles. The RDO can also be involved directly with first line delivery team efforts, with the intent of clearing predecessors that are forcing hold states late in value stream execution.

Second line roles, facilitated by one or more RDOs can focus on specific objectives of risk management, such as:
- Compliance with laws, regulations, and acceptable ethical behavior; internal control; information and technology security; sustainability; and quality assurance.
- RDOs may also be involved in release management, since some compliance efforts can only be checked after development and integration.

PRINCIPLE 4: THIRD LINE ROLES

Overview: Internal audit provides independent and objective assurance and advice on the efficiency and effectiveness of governance and risk management.

Acts as an assessment reference for best practices for risk and dependency management.

- Formalizes a testbed for experimentation and continuous improvement initiatives.

The third line role governs measurements and seeks out improvements in the design and execution of the system of risk and dependency management, as it applies to value streams.

PRINCIPLE 5: THIRD LINE INDEPENDENCE

Internal audit's independence from the responsibilities of management is critical to its objectivity, authority, and credibility.

The third line is established through:

- Accountability to the governing body.
- Unfettered access to people, resources, and data needed to complete its work.
- Freedom from bias or interference in the planning and delivery of audit services.
- Self-validation of the agile system of risk management by using it to raise risks in an unfettered way to the Risk Management Officer (RMO).

PRINCIPLE 6: CREATING AND PROTECTING VALUE

All roles working together collectively contribute to the creation and protection of value when they are aligned with each other and with the prioritized interests of stakeholders. Alignment of activities is achieved through communication, cooperation, and collaboration as provided via an efficient, continuously improving, and radically transparent value stream (see Part 1). This ensures the reliability, coherence, and transparency of information needed for risk-based decision making.

KEY ROLES IN THE IIA 3 LINES MODEL AS APPLIED THROUGH THE AGILE DELIVERY SYSTEM

Organizations modeling their delivery systems using best practices from agile product delivery are capable of codifying key roles directly into the value stream.

The governing body (from IIA)

- Accepts accountability to stakeholders for oversight of the organization.
- Engages with stakeholders to monitor their interests and communicate transparently on the achievement of objectives.
- Nurtures a culture promoting ethical behavior and accountability.
- Establishes structures and processes for governance, including auxiliary committees as required.
- Delegates responsibility and provides resources to management for achieving the objectives of the organization.
- Determines organizational appetite for risk and exercises oversight of risk management (including internal control).
- Maintains oversight of compliance with legal, regulatory, and ethical expectations.
- Establishes and oversees an independent, objective, and competent internal audit function.

KEY ROLES IN THE IIA 3 LINES MODEL (CONTINUED)

Management (from IIA)

First line roles

- Leads and directs actions (including managing risk) and application of resources to achieve the objectives of the organization.
- Maintains a continuous dialogue with the governing body, and reports on:
    - planned, actual, and expected outcomes linked to the objectives of the organization
    - and risk
- Establishes and maintains appropriate structures and processes for the management of operations and risk (including internal control).
- Ensures compliance with legal, regulatory, and ethical expectations.

Second line roles

- Provides complementary expertise, support, monitoring, and challenge related to the management of risk, including:
    - The development, implementation, and continuous improvement of risk management practices (including internal control) at a process, systems, and entity level.
    - The achievement of risk management objectives, such as: compliance with laws, regulations, and acceptable ethical behavior; internal control; information and technology security; sustainability; and quality assurance.
- Provides analysis and reports on the adequacy and effectiveness of risk management (including internal control).

KEY ROLES IN THE IIA 3 LINES MODEL (CONTINUED)

Internal audit (from IIA)

- Maintains primary accountability to the governing body and independence from the responsibilities of management.
- Communicates independent and objective assurance and advice to management and the governing body on the adequacy and effectiveness of governance and risk management (including internal control) to support the achievement of organizational objectives and to promote and facilitate continuous improvement.
- Reports impairments to independence and objectivity to the governing body and implements safeguards as required.

KEY ROLES IN THE IIA 3 LINES MODEL (CONTINUED)

External assurance providers (from IIA)

- Provide additional assurance to:
    - Satisfy legislative and regulatory expectations that serve to protect the interests of stakeholders.
    - Satisfy requests by management and the governing body to complement internal sources of assurance.

EXECUTION OF KEY ROLES IN THE VALUE STREAM

Objectives: These are statements that communicate what is to be accomplished.
Evidence: Transparent test cases proving the objectives have been met.
Reciprocation: Occurs when the evidence proves the objectives.

The objectives/evidence relationship is a key component of the product backlog. The product backlog represents an organizational conversation that starts with strategic opinions and ends in executable facts. Key aspects of the healthy backlog include radical transparency and codification of governance, policy, principles, roles, practices, and behaviors into multiple processes tied together as the delivery system.

For example, to ensure appropriate policy is followed, roles are fulfilled, and desired behaviors are met, codify these aspects into the value elaboration stream delivering the backlog as if they were first-class process steps.

In short, value delivery is game-ified, with rules that must be followed. If traditional value delivery was executed by managing people, agile value delivery is executed with focus on managing the flow of value. By simply following the rules of the delivery system, trust objectives are met. Audit efforts are shifted from monitoring how people deliver value, to how effectively the system delivers value. The mission of audit becomes one of determining if the rules were followed (why a radically transparent backlog is essential), and if the rules need to be changed to satisfy changing requirements for delivery of value by the organization.

The value of this approach over traditional risk and dependency management is that it mitigates the dependency on implicit trust and reporting that trust has been met. The backlog as source of truth (or book of record) codifies all actions taken as part of operation of the value stream.

KEY TAKEAWAYS (THE TLDR)

- Robust risk management leads to new opportunities for the organization. The key to risk exploitation is the readiness of the organization's backlog.
- Continuously ready backlogs are much more resilient to threats, but also value exploitation. Risks captured and identified through continuously ready backlogs allow for smaller, incremental risk exploitation.
- Backlogs that depend on planning events with longer time horizons have a higher risk profile, are more fragile, and are less capable of risk exploitation. Examples are backlogs dependent on Waterfall planning and quarterly PI Planning. That dependency creates unnecessary, negative value risks for the organization.
- As with investing strategies, the more successful an organization becomes, the smaller the risks become, leading to even more success through exploitable risk.

REFERENCE

Part 2 of this presentation is taken from: The 3 Lines Model from the Institute of Internal Auditors