INCOSE

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

OHIO STATE UNIVERSITY EXTENSION

RELIABILITY FIRST

GAMES DONE LEGIT
Games Done Legit

mitovia

Community Appraisal for Resiliency Effectiveness (CARE) Project

September 15, 2020






Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

Holism of the SE Model

- **Why should people believe that a set of technical processes developed by some engineers to develop products be of any use to society at large?**

Holism of the SE Model

- **The SE Processes evolved out of communities of people performing collaborative work… they reflect a whole…**

Roles on a large Systems Project are like Roles in a town…

ROLES IN MYTOWN (Less Police, Medical, Businesses…	Noun/Verb Purpose	INCOSE Process
Council Visionary Leadership	"Inspire Shared Vision"	QM/PLAN/PROJ
Schools	"Teach Citizens"	HR
City Inspectors	"Test Infrastructure"	V&V
Judges	"Make Just Decisions"	SDM
Journalists/Newscasters	"Inform Citizens"	CM/INFO
Coaches, Counselors, Parents	"Influence Change"	QM
Ambassadors (Rotaries, Clubs, Churches)	"Build Just Relationships"	SUPP/AQ/REQM
Librarians/Historians (Town Records, Land, Art)	"Preserve Heritage"	RISK/CM
Accountants	"Analyze Budgets"	FIN
City Planners/Zoning	"Analyze Services"	ARCH
Service Providers	"Implement Services"	IMPL/INT

SYSML Diagrams reflect Aristotle's 10 Universals…

Causal → State Diagram
Classificational → Use Case Diagram
Nominal → Package Diagram
Property → Block Definition Diagram
Explanatory → Requirements Diagram
Procedure/Method → Sequence Diagram
Event → Activity Diagram (State Diagram)
Uncertainty → Parametric Diagram

1. Substance
2. Quantity
3. Quality
4. Relation
5. Place
6. Time
7. Position
8. State
9. Action
10. Affection

What System Engineers will Learn at Tonight's Meeting

- How to Tailor the INCOSE Practices to New Applications
- How to Quantify maturity in SE processes using Expert Elicitation / Public Deliberation Skills
- How to Create and Validate Large System Networks using N-Squared Diagrams (i.e. Design Structure Matrices – DSMs)
- Improving Systems Thinking through Game Play

Bios

Lindsey Mannion

Technical CIP (Cybersecurity) Auditor

Mrs. Mannion is currently working in the ReliabilityFirst CIP department responsible for CIP auditing.

Mrs. Mannion has experience in computer forensics, incident response, cyber investigation, malware analysis, network forensics, security awareness training, vulnerability and risk management, policy development, cybersecurity and compliance.

Prior to joining ReliabilityFirst, Mrs. Mannion previously worked for Diebold Nixdorf as a Forensic Security Engineer, where she led its Global Forensic Program handling all malware, network and legal forensic incidents, and investigations. In this position, she also led the Global Computer Security Incident Response program ensuring remediation and proper documentation of all global security incidents.

Mrs. Mannion graduated from Kent State University with a Bachelor of Science Degree in Computer Forensics and Security. She also graduated from the University of Maryland University College with a Master's of Science degree in Digital Forensics and Cyber Investigation. Mrs. Mannion holds her CompTIA Security+ certification.

Brian Hallett

Principal Reliability Consultant

Mr. Hallett joined ReliabilityFirst as a Senior Reliability Consultant in 2015, where he focused on reliability of the bulk electric system and continuous improvement of internal controls and management practices.

Previously, Mr. Hallett worked at FirstEnergy Corp in Akron, Ohio, for 12 years.

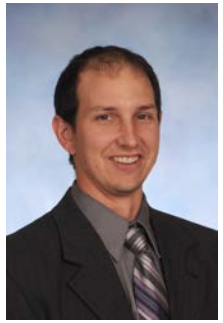
At FirstEnergy, Mr. Hallett spent 10 years as an Electrical Engineer focusing on Transmission Planning for the ATSI system (Ohio Transmission subsidiary of FirstEnergy).

After Planning, Mr. Hallett served as FirstEnergy's Basecase Developer, where Mr. Hallett coordinated system modeling data through both PJM and Multiregional Modeling Working Group (MMWG) efforts.

Mr. Hallett has served as a core-team member of the North American Transmission Forum – Models Working Group and as a working group member of the EPRI Grid Planning Research Program (Program 40).

Mr. Hallett graduated from Kent State University.

Bios



Eric Romich

Extension Field Specialist

Eric Romich is an Ohio State University Extension Field Specialist for Energy Education. As a statewide Extension Field Specialist, he works closely with private, public, and university partners to conduct research, develop extension programs, and teach in communities throughout the state. Romich's energy programs are designed to share best practices for energy management strategies in agriculture, as well as engage 4-H youth audiences in energy literacy programming to enhance the overall environmental and economic conditions in Ohio communities.

Myra Moss

Extension Educator

Myra Moss is Extension Educator, Community Development, with The Ohio State University. Responsibilities include program development and implementation and research throughout Ohio. Moss holds the faculty rank of Professor with The Ohio State University.

Her areas of specialization include sustainable community planning and development, energy and entrepreneurship. Over the past 20 years she has assisted 12 Ohio communities in the development and implementation of community comprehensive plans based on sustainability principles, including the cities of Kent and West Carrollton, Guernsey County and West Chester Township. She has written numerous publications on energy development, community engagement and sustainable planning.

Moss is a past President and Board member of the Ohio Economic Development Association and Board member of the International Community Development Society. She currently serves as a member of the Leadership Board for the eXtension Community Planning and Land Use Community of Practice. Her education includes an MBA in finance and an MA in Sociology from Ohio University, and a BA in Political Science and Sociology from Long Island University.

Bios

Chris Hatala

Event Director / Final Boss

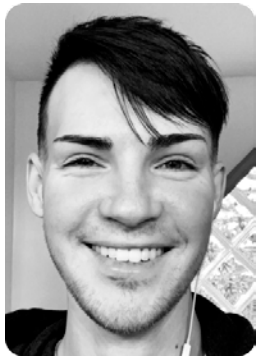
Chris is the founder and owner of Games Done Legit (since 2013), a business dedicated to improving the workplace through gaming.

He saw from an early age how gaming and electronic interaction help us enhance our skills, learn better, and understand others.

He has a fundamental understanding of what makes a digital experience usable, effective, and engaging for both technical and non-technical audiences. This knowledge and practicality is derived from 3+ decades of competing in and analyzing all types of "games" at an international level.

Chris is well networked with corporate trainers through SHRM, and serves on the Learning & Development committee (Cleveland chapter). Additionally, his unique team-building gaming programs are being added to the stable of activities offered by one of Cleveland's largest training organizations.

Chris also can speak "developer" and "layman", partly from his background and degree in journalism from the Ohio State University (2005). So in addition to his development and creative skills, he and Noah will ask the right questions, listen to your needs, and ensure your goals are met.



Noah Bowers

Developer / Graphic Designer

Noah is an Emerging Technologies Developer in Cleveland, OH; he's been active in the Interactive Web and Multimedia design industry for nine years. Specialties: AAA Material Authoring, 3D Modeling, 2D & 3D Animation, Web and Game programming (both front- and back-end), and User Experience Design.

CHECKOUT NOAH'S WORK AT:

https://www.oddfoxinteractive.com/

Bios

Bill Klinger

Principal Consulting Engineer

Bill Klinger (Klinger Engineering Services) offers practical guidance for the design of reliable products and systems.

When he is not advising the Library of Congress on the history, technology, and preservation of sound recordings, Bill enjoys learning about organizational ethics, governance, and operations. He wants to believe that Systems Thinking can serve society, as well as industry.

Carl J. Dister

Systems Engineer

Carl is currently responsible for coaching and mentoring employees at ReliabilityFirst as they accelerate innovation in the regulation of power grid reliability, security, and resiliency.

Mr. Dister is a Principal Systems Engineer at ReliabilityFirst with over 30 years of systems engineering experience. Mr. Dister's experience is in the design and analysis of highly reliable electromechanical devices and complex systems.

Mr. Dister is a graduate of Cleveland State University with a Bachelors of Electrical Engineering and University of Wisconsin-Madison with a Masters of Electrical Engineering and is a Certified Systems Engineering Professional (CSEP) with INCOSE.

Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

The Need

- The nation has steadily improved its ability to respond to major disasters and the power outages that often result. But **increasing threats**—whether severe natural disasters, cyber-physical attacks, electromagnetic events, or some combination—**present new challenges for protecting the national power grid and recovering quickly from a catastrophic power outage**. [From National Infrastructure Advisory Council]

- The RF mission is to preserve and enhance the bulk power system reliability and security in our footprint, which stretches from Lake Michigan to the Eastern Seaboard. However, we have little information regarding the capabilities of the cities/towns/communities that are located in the RF footprint.

Current State

- The President's National Infrastructure Advisory Council (NIAC) was tasked to examine the nation's ability to respond to and recover from a catastrophic power outage of a magnitude beyond modern experience.

- NIAC found that existing national plans, response resources, and coordination strategies would be outmatched by a catastrophic power outage. **This profound risk requires a new national focus**.

- Lack of readiness directly related to communities and their members.
  - 60 percent of American adults have not practices what to do in a disaster.
  - 42 percent of Americans say they're not at all prepared for a disaster.
  - Most preparedness campaign only call for 72 hours of preparedness- new emerging standard is at least 14 days.

Action is Needed

- **Significant public and private action is needed to prepare for and recover from a catastrophic outage** that could leave the large parts of the nation without power for weeks or months, and cause service failures in other sectors
  - Including water and wastewater, communications, transportation, healthcare, and financial services

- **Can you rely on government assistance to support your whole communality for extended amount of time in the event of a catastrophic event?**
  - **A year after** Hurricane Harvey, many people were still in temporary housing.
  - FEMA acknowledged failure and admitted to being understaffed and unprepared to handle Puerto Rico's Emergency.
    - **Nearly a year after** Maria hit Puerto Rico, people say they are still struggling with basic necessities.

What is a Community Appraisal?

- Cross-Functional RF Team preforms an “Appraisal” of local communities current capabilities with a focus on the ability to sustain long-term (7-21 day) power outages and their planned interactions with local power providers to determine the potential impact to “way of life”.

- **Key Area Plans and Procedures being Evaluated Include:**
  - Transportation
  - Communication
  - Critical Interdependencies
  - Cybersecurity
  - Water/Wastewater
  - Fuel
  - Natural Resources
  - Community Readiness
  - Community Diversity and Inclusion

Why Perform a Community Appraisal?

- **Gain a better understanding** of your communities current level of resiliency and preparedness.
- **Learn ways** your community can improve their preparedness and resiliency.
- Create a roadmap to improve economic and environmental resilience.
- Recover rapidly and **suffer less from economic downturns** if an event should occur.
- Promote **self reliance and community readiness**.
- **Provide metrics** to bring to the community leaders and members to grow awareness.
- **Protect human health and the environment.**

What's the Process

- Initial Scoping and Opening Presentation
- Appraisal Performed by Community Leadership and RF staff
- Final report on their current level of preparedness and resiliency.
  - Provides Metrics and Areas of Focus
- Action Plan created with community leadership based on how they can reach their resiliency and readiness goals.
- After engagement, continued follow up with the community regarding improvements being made.

Starting Source: INCOSE ISO/IEC 15288 Processes

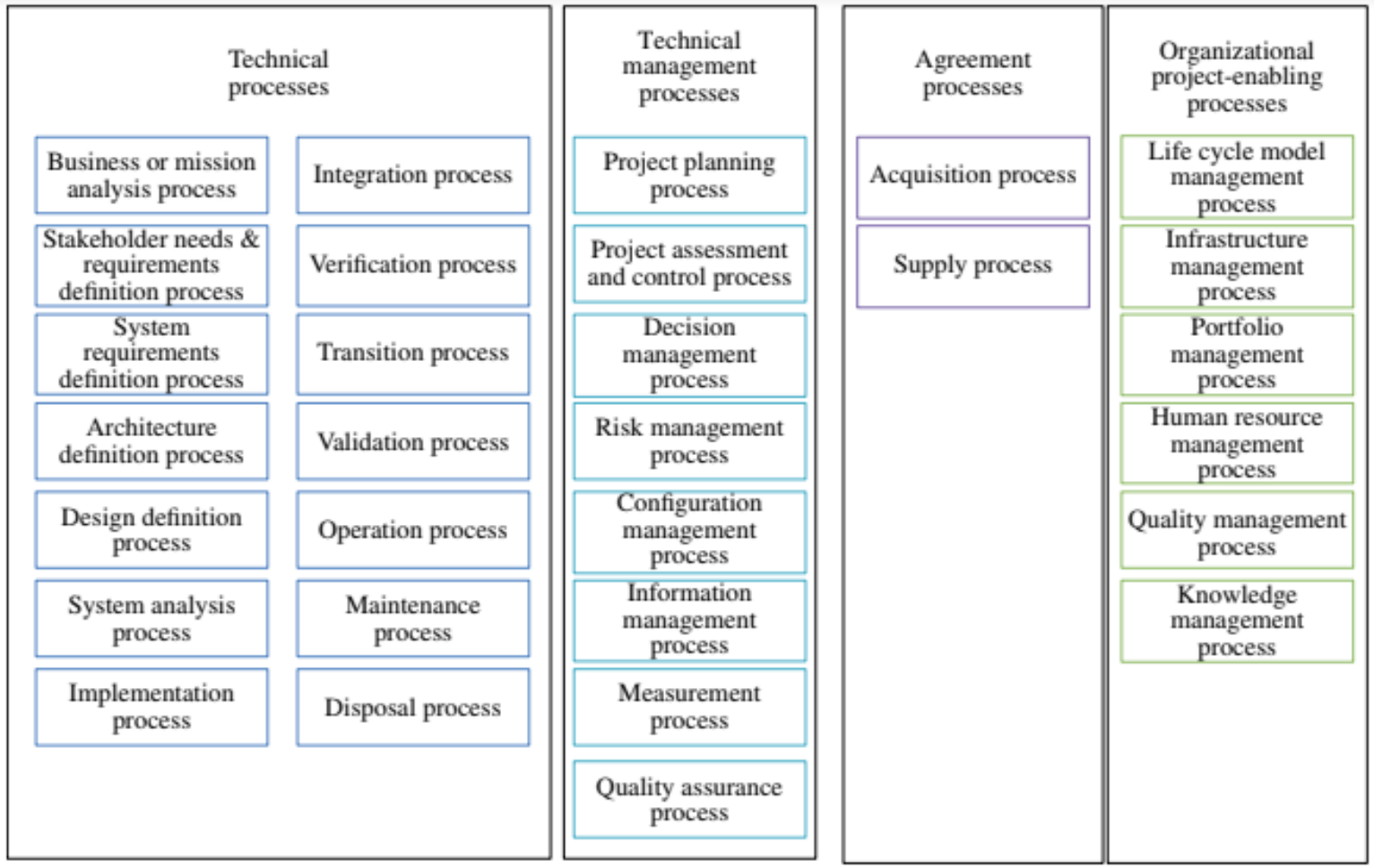


FIGURE 1.1 System life cycle processes per ISO/IEC/IEEE 15288. This figure is excerpted from ISO/IEC/IEEE 15288:2015, Figure 4 on page 17, with permission from the ANSI on behalf of the ISO. © ISO 2015. All rights reserved.

What is Tailoring?

"The principle behind tailoring is to ensure that the process meets the needs of the project while being scaled to the level of rigor that allows the system life cycle activities to be performed with an acceptable level of risk" **– INCOSE Handbook 4E 2015 Pages 162-163**

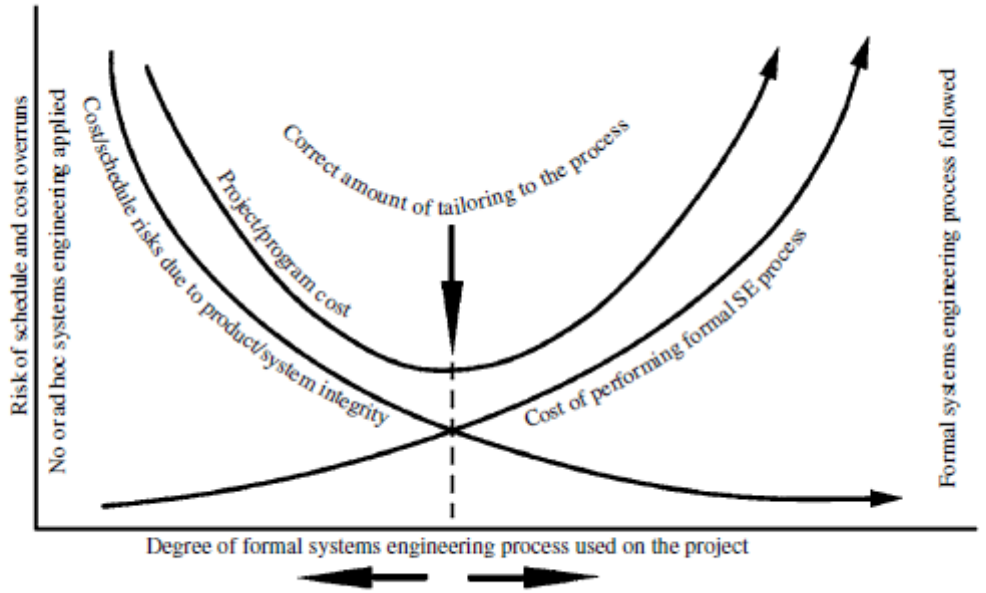
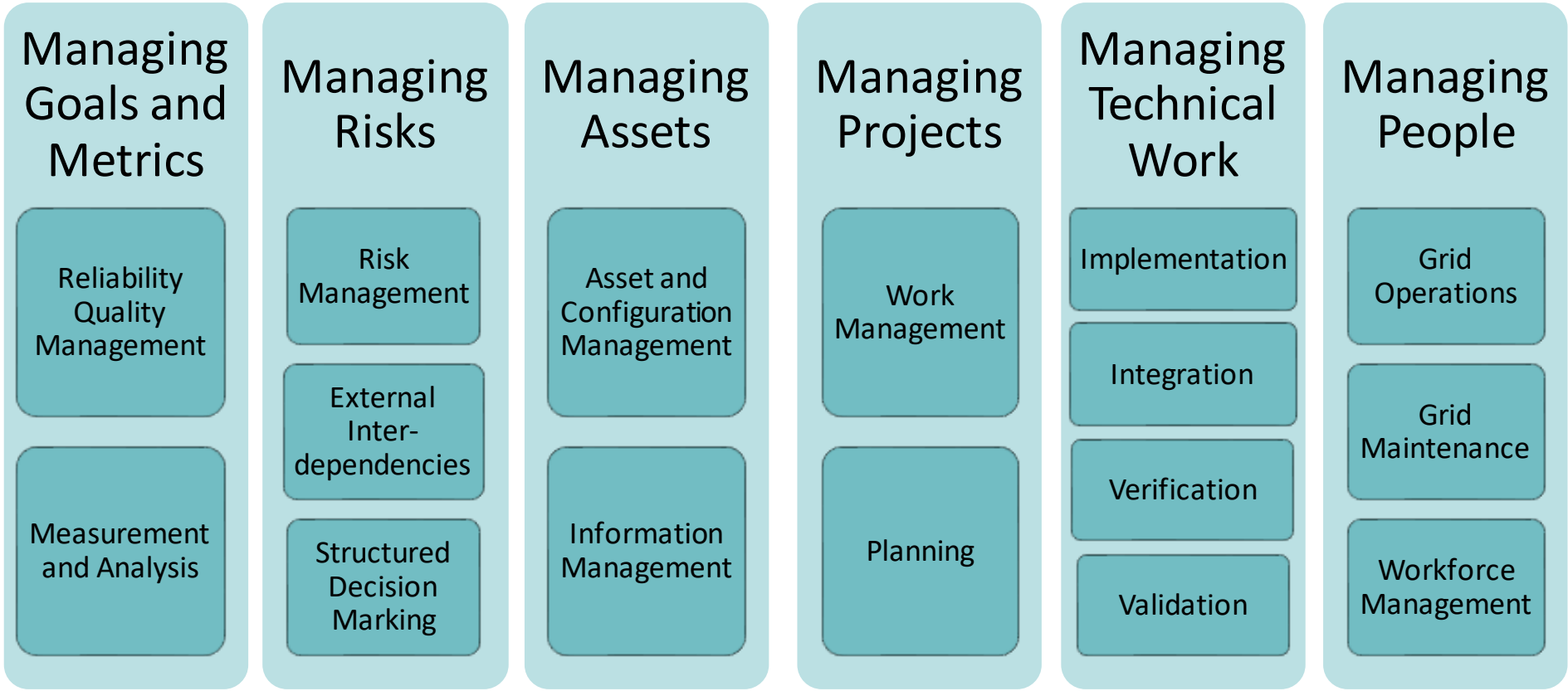


FIGURE 8.1 Tailoring requires balance between risk and process. INCOSE SEH original figure created by Michael Krueger, adapted from Ken Salter. Usage per the INCOSE Notices page. All other rights reserved.

Example 1: Tailoring INCOSE to Grid Reliability

- **RF Tailored the INCOSE Process to produce a Maturity Model Approach to Its Evaluations**
  - Common Groupings of commonly recognized Management Practices
    - RF Model tailoring pulled in extras from ES-C2M2, INPO, CERT-RMM for Power Industry specifics



Example 2: Tailoring to Community

- **The Project team needed to "tailor" our existing model and evaluation process to meet the needs of communities.**
  - For ISO/IEC/IEEE 15288, process tailoring is the deleting or adapting the process to satisfy particular circumstances or factors of the organization or project using the process. While ISO/IEC/IEEE 15288 tailoring focuses on the deletion of unnecessary or unwarranted process elements, it does allow for additions and modifications as well.

- **Several team members attended a Community Development Society (CDS) annual meeting to learn more about community resilience an development**
  - Led to the review of over 50 models and methods

- **The goal was to create a Maturity Model that would holistically encompass the interconnectedness of people and resources that make up a community.**
  - Model will then be tailored to specific communities

Model Development

Models:

- CMMI / CERT-RMM
- INCOSE Handbook
- RF Maturity Model

- Malcolm Baldridge (1996)
- Communities of Excellence 2026
- The Deming Prize

- Collaborative Landscape Conservation

- Social Network Analysis – 7 Methods
- Increasing Organizational Resilience
- NIST Community Resilience Planning Guide
- ISO22316: Security and Resilience
- Community Capitals
- FEMA

Methods

- Appraisal
- Self-Evaluation
- Adaptive Planning
- Strategic Doing – Agile
- Hometown Collaborative Initiative (HCI) [Purdue]
- Asset Based Community Development (ASCD)

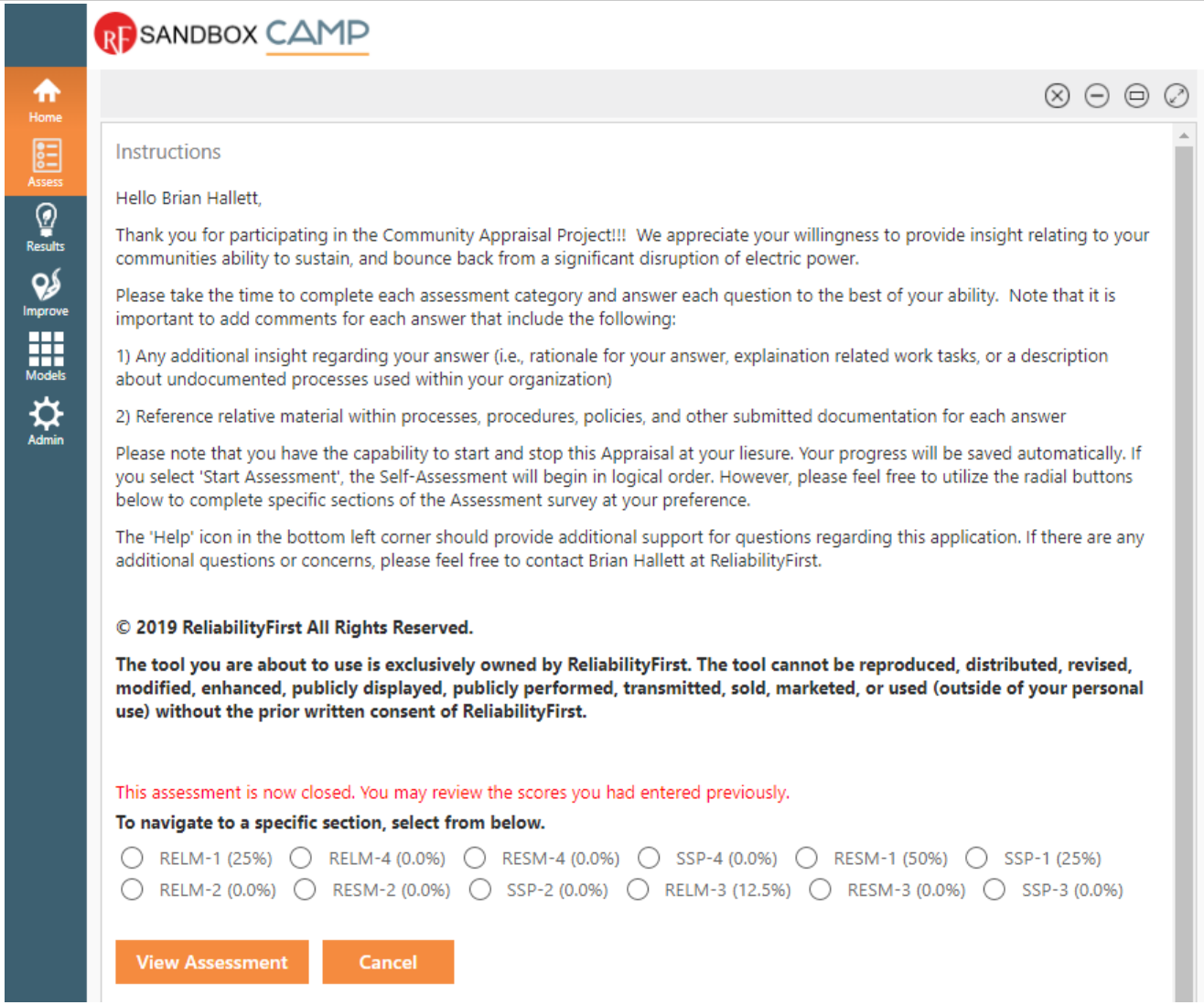
9 Practices

1. Relationship Management (RELM)
2. Information and Knowledge Sharing (IKS)
3. Implementation (IMPL)
4. Preparedness and Risk Management (PRM)
5. Resource Management (RESM)
6. Leadership and Decision Making (LDM)
7. Strategic and Service Planning (SSP)
8. Community Inclusion (CI)
9. Social Impact & Change (SIC)

Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

Evaluation Tool

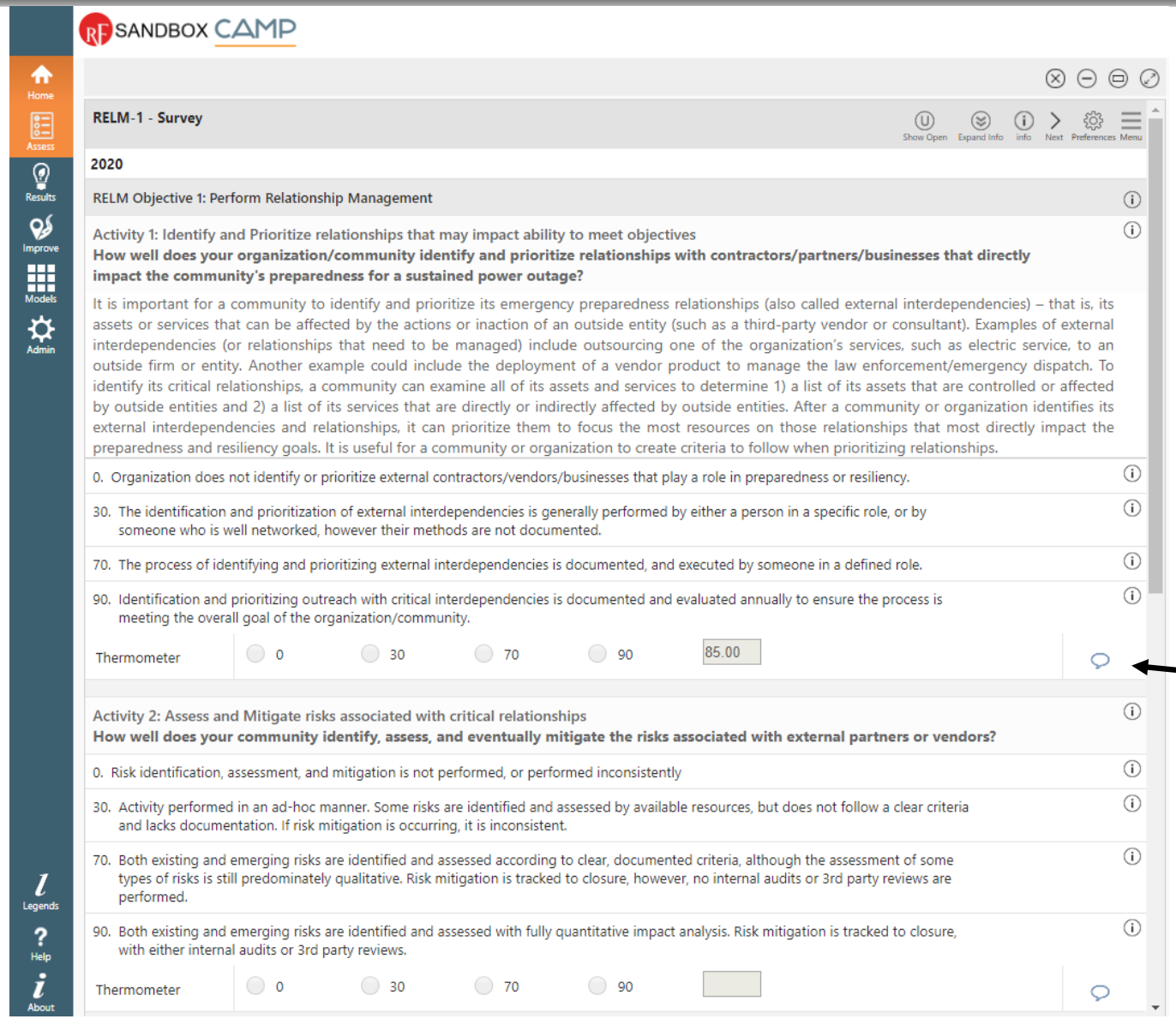


Intro + Instructions

Room to describe sampling:
"who should fill out what tabs"

"Focus Area" selection

Evaluation Tool



Activity Question

Detailed description of activity

Thermometers for self-scoring guidance

Comment field to add context and supporting Information to score

Specific Application Example #1

- Scenario: Utility Manager [Appraisal Area of Focus: Relationship Management]
- As Utility Manager, you have been asked to perform the self-assessment below. The questions relate to how the city's municipal power system will respond for a loss of the interconnection to the power grid for an outage lasting approximately 7-21 days, covering a 60 mile radius. For this specific tab, the focus is Relationship Management, or how the municipal power system identifies and manages interdependencies.
- *Support for Activity 1:*
- The municipal power system plays a key role in the Disaster and Emergency Response Plan. After it has been determined that the loss of the grid connection is down, the manager on duty starts to execute the Muni System Islanding Procedure. The procedure document includes appendices listing critical contacts, both internal and external to the City. The appendices are broken down into tiers that align with each step of the "islanding process". Examples of Level 1 contacts include: PJM System Operations, FirstEnergy System Operations, Plant Manager at the Combustion Turbine, Operations Center for the Solar Array, etc. Level 2 contacts include primary contacts at the identified critical loads on the Municipal Power System.

Specific Application Example #1

Activity 1: Identify and Prioritize Relationships that May Impact your Ability to Meet Objectives			
	Description :	It is important for a community to identify and prioritize its emergency preparedness relationships. Also called external interdependencies, this refers to assets or services that can be affected by the actions or inaction of an outside entity, such as a third-party vendor or consultant. Examples of external interdependencies (or relationships that need to be managed) include outsourcing one of the organization's services, such as electric service, to an outside firm or entity. Another example could include the deployment of a vendor product to manage the law enforcement/emergency dispatch. To identify its critical relationships, your community can examine all of its assets and services to determine 1) a list of its assets that are controlled or affected by outside entities and 2) a list of its services that are directly or indirectly affected by outside entities. After your community or organization identifies its external interdependencies and relationships, you can prioritize them to focus the most resources on those relationships that most directly impact the preparedness and resiliency goals. It is useful to create criteria to follow when prioritizing relationships.	
	Reference:	RF Management Practice EXID Activity 1.1, Activity 1.2	
	Question:	*How well does your community/organization identify and prioritize relationships with contractors/partners/businesses that directly impact the community's preparedness for a long-term power outage (7-21 days)?*	
	Thermometer	90	Identification and prioritizing outreach with critical interdependencies is documented and evaluated annually to ensure the process is meeting the overall goal of your community.
		70	The process of identifying and prioritizing external interdependencies is documented and executed by someone in a defined role.
		30	The identification and prioritization of external interdependencies is generally performed by either a person in a specific role, or by someone who is well-networked, however their methods are not documented.
		0	Your community does not identify or prioritize external contractors, vendors, businesses, etc. that play a role in preparedness or resiliency.

Specific Application Example #2

- Scenario: City Manager [Appraisal Area of Focus: Strategic and Service Planning]
- The following observations were made during a review of the community's processes and programs relating to strategic and service planning. The goal of this evaluation is to determine how those processes feed into and enhance the city's ability to sustain a 7-21 day loss of power that impacts a 60 mile radius.
- *Support for Activity 2:*
- The evaluation performed by the Small Business Alliance was an open forum meeting with an assigned person taking notes. There was not a specific process being followed or any feedback sought from community members, but representatives from all of the city departments that are identified in the Disaster and Emergency Response Plan were present. There were no plans at this meeting to perform follow-up reviews of essential services.

Specific Application Example #2

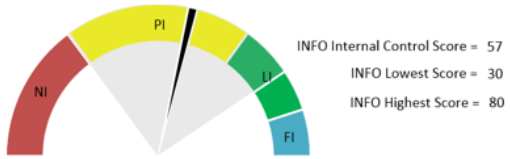
Activity 2: Identification of Public and Private Engagement Strategy			
	Description :	Involving stakeholders and partners early in the planning process is important to ensure inclusiveness. Stakeholders and partners involved will likely change over time. As risks, impacts, consequences, capability gaps and capacity are determined, additional partners will need to be identified. It is critical that stakeholders and partners be continually evaluated, and that new partners be identified and included as needed throughout the planning process. While there are many strategies for identifying and engaging new partners, one useful approach is to build upon existing partnerships with organizations that have already been identified and included in the planning team. These established partner organizations likely have their own network of contacts and organizations that provide support, in some fashion, to the recovery organization. This concept is known as using a "network of networks."	
	References:	FEMA Pre-Disaster Recovery Planning Guide for Local Governments Act 1.3	
	Question:	*How well does your community/organization plan communication (both outgoing messaging and incoming feedback) with private and public stakeholders?*	
	Thermometer:	90	In addition to items listed at 70-level, the process is improved year-over-year, and there are signs of expansion to cover more severe and far-reaching emergencies. The scope of this engagement is a 7-21 day power outage extending 60 miles. Your community's strategy incorporates external partnerships, as well as defining how external agency roles align with local plans. Your community has established agreements with external partners and agencies to fulfill rolls in the emergency recovery plan.
		70	Your community's communication strategy is inclusive of the FEMA Recovery Core Capabilities (i.e., Planning, Public Information and Warning, Operational Coordination, Health and Social Services, Economic Recovery, Housing, Infrastructure Systems, Natural and Cultural Resources) or similar framework. Your community's strategy includes defining stakeholder engagement.
		30	Your community's process to communicate out to public and private stakeholders is ad-hoc. There is no assigned resource to coordinate outbound messaging out or collect feedback.
		0	No formal engagement strategy exists.

Example of a Final Report

1. Information Management

Management practice area to protect and ensure the confidentiality, integrity, and availability of information assets to reduce risks to Bulk Electric System reliability and resilience and increase operational resilience.

Implementation Level:



INFO Internal Control Score = 57
INFO Lowest Score = 30
INFO Highest Score = 80

Strengths:

a) Protection system information items have baselines and are tracked and reviewed on a regular basis. Regular automated checks are performed. **[INFO SP 5.2, BU2]**
b) Controls are in-place for check-out/check-in of official documents, as well as "Final Status" designation that eliminates the ability to make changes without changing the revision number on the document. **[INFO SP 5.1, BU3]**
c) Prioritizing P&C drawings and providing appropriate rigor to the reviews based on complexity is a best practice. **[INFO SP 5.3, BU3]**
d) [redacted] are backed up daily. [redacted] maintains BCP (Business Continuity Plans) and/or disaster recovery plans for departments and/or applications. IPS and ProjectWise are maintained in the [redacted] Data Center. In the event of a disaster, [redacted] recovered from the [redacted]ent DR (Disaster Recovery) servers in [redacted]. **[INFO SP 5.1, BU3]**

Manage[redacted] Maturation:

Information management is particularly relevant [redacted] considering the volume of information involved in managing the risk of misoperations. The in-flight software enhancement solution related to document classification will be key to maturing performance in this domain.

In implementing this software solution, it will be important to develop an information sensitivity classification procedure to prevent personnel from classifying information based on personal judgement, which introduces risk due to human error and inconsistency in classification.

Areas for Improvement:

a) Existing documentation relating to data retention and access to critical data does not directly include the frequency that information is to be reviewed. There is also no identified reference to criticality for appropriate prioritization. Consider updating existing process documentation to include periodic reviews of critical asset information, as well as prioritization based on criticality. **[INFO SP 1.1, BU1]**
b) Perform organizational impact analysis on software tools on a frequent basis. Track the results of the analysis and perform gap analysis on implemented mitigation plans. **[INFO SP 1.2, BU1]**
c) [redacted] has already identified in-flight enhancement to improve on this activity…In early 2019 a new software system will be implemented corporate-wide to provide a classification on most documents. The system will also provide the ability to re-classify documents and that task will generate a notification to I.T. Security. I.T. Security also will have the ability to detect sensitive files that have been distributed inappropriately. **[INFO SP 1.2, BU2]**
d) Consider the identification of information criticality. The security and confidentiality should align with the information criticality. Consider periodic review of audit logs in addition to creating the audit logs. **[INFO SP 2.1, BU2]**
e) For the security access control review performed on the [redacted] application (and possibly other software applications), consider better documenting the criteria for the review, as well as documentation and communication of results for lessons learned. **[INFO SP 3.1, BU2]**

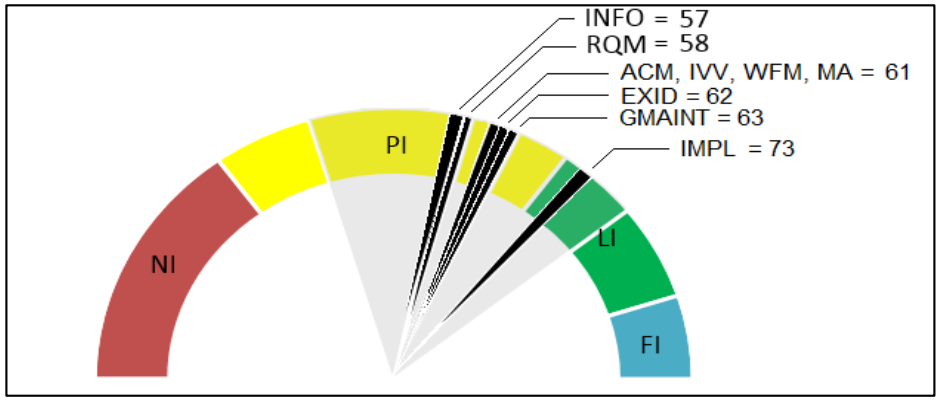


Table 6: . Risk Table

MP	RF Critical Risk Area	View Inherent Risk (H/M/L)	Rank	Implement-ation (Specific Practices)	Institutional-ization (Generic Practices)	Overall Rank
INFO	Managing critical records and information	M	4	55	32	301
ACM	Configuration and change control	M	5	61	55	273
WFM	Managing workforce and human factors of field workers and office staff	H	1	58	39	390
IMPL	Protection system changes and modifications	H	2	73	60	270
IVV	Integrating new/modified protection systems	M	6	61	50	273
GMAINT	Systematic maintenance practices	H	3	63	66	370
EXID	External resource dependencies	M	7	60	51	266
MA	Metrics for meeting reliability objectives	M	8	61	55	273
RQM	Setting and tracking organizational objectives	L	9	58	51	210

Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

SE Handbook N-Squared

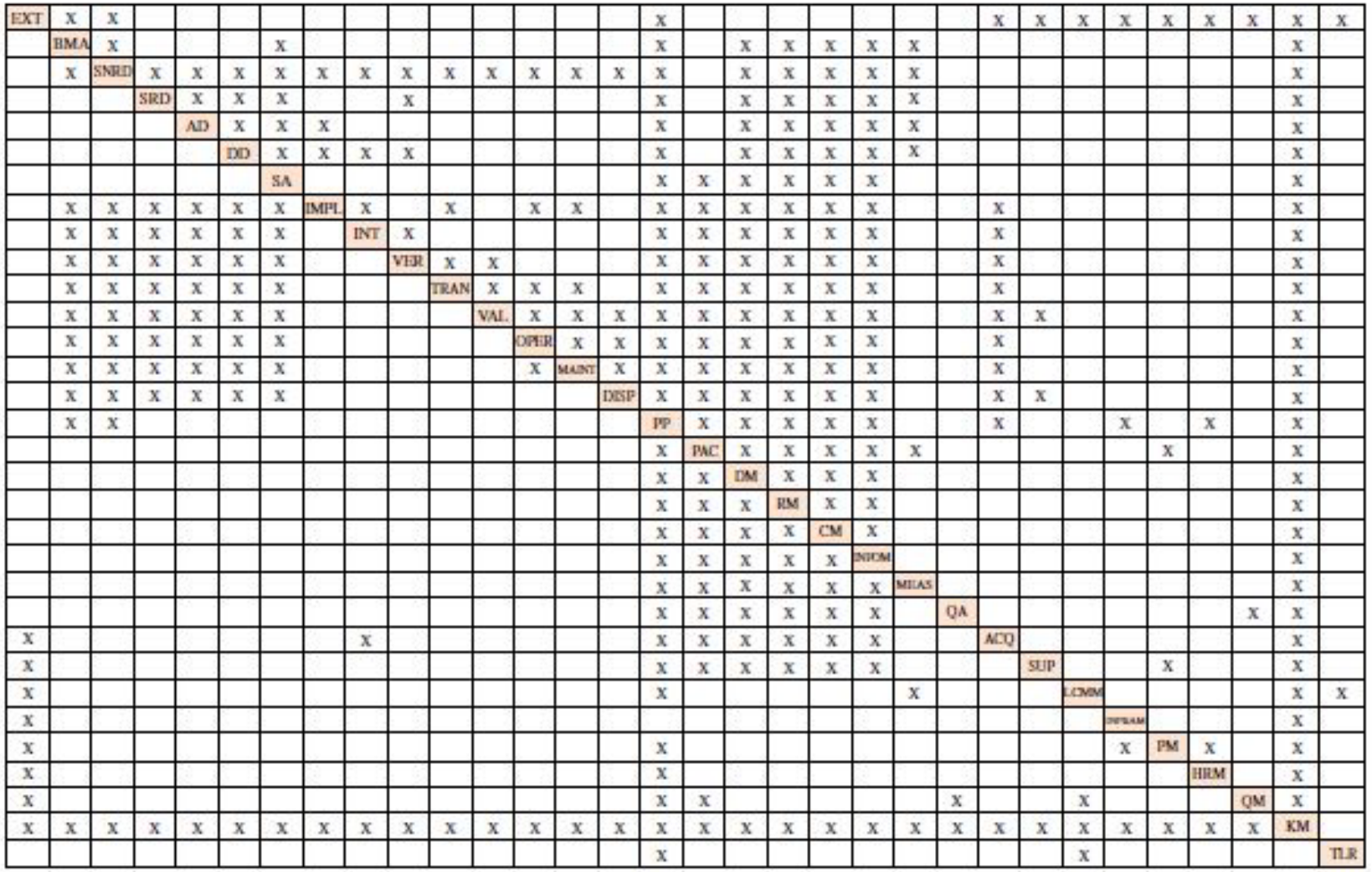


FIGURE D.1 Input/output relationships between the various SE processes. INCOSE SEH original figure created by David Walden. Usage per the INCOSE Notices page. All other rights reserved.

Community Appraisal Validator

Question: How do the dynamics of one Practice inform or impact the dynamics of another Practice? (Keep in mind: The Practices are *dynamic* exchanges among people *and* between people and resources.)

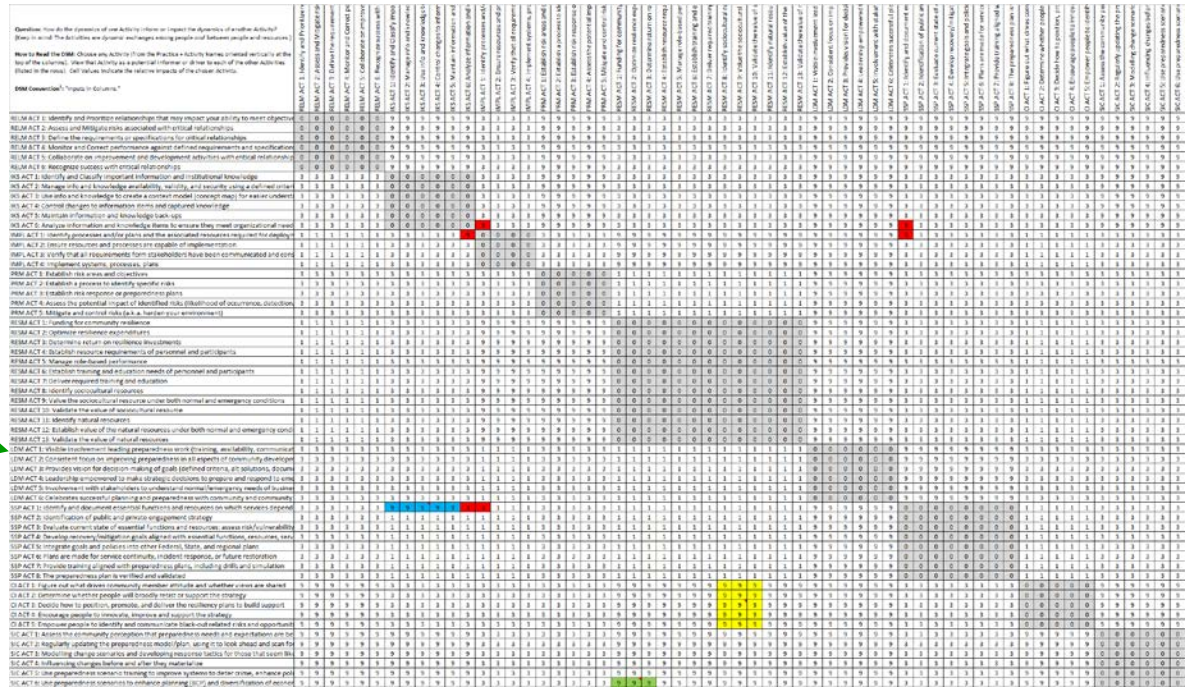
How to Read the DSM: Choose any Practice (from the Practice Names oriented vertically at the top of the columns). View that Practice as a potential informer or driver to each of the other Practices (listed in the rows). Cell Values indicate the relative impacts of the chosen Practice.

DSM Convention[1]**:** "Inputs in Columns."

	Relationship Management (RELM)	Information and Knowledge Sharing (IKS)	Implementation (IMPL)	Preparedness and Risk Management (PRM)	Resource Management (RESM)	Leadership and Decision Making (LDM)	Strategic and Service Planning (SSP)	Community Inclusion (CI)	Social Impact and Change (SIC)
Relationship Management (RELM)	0	9	3	9	3	9	9	9	9
Information and Knowledge Sharing (IKS)	3	0	3	9	3	9	3	3	9
Implementation (IMPL)	1	3	0	3	9	9	3	1	3
Preparedness and Risk Management (PRM)	3	3	3	0	1	9	3	3	3
Resource Management (RESM)	1	3	9	9	0	9	3	1	3
Leadership and Decision Making (LDM)	3	3	1	3	1	0	9	3	3
Strategic and Service Planning (SSP)	3	1	1	3	1	9	0	1	3
Community Inclusion (CI)	9	3	3	3	9	9	3	0	9
Social Impact and Change (SIC)	9	9	3	3	9	9	3	9	0

Numerical values in non-shaded cells indicate the relative impact of the relationship:
- **0** = None
- **1** = Minor
- **3** = Moderate
- **9** = Major

CARE Program Practices:
9x9 High-Level Design Structure Matrix (DSM)



Preliminary Results

➢ Develop Preliminary Results

- Validator Tool
  - Adjust implementation levels
    - Take into account Internal Control Relationships
  - Review strength and weakness statements
    - Accurate with Validator Tool results?

Snapshot of a Validator Tool

Area	Capability Score	Level	Max Score	Max Level	Validation Check	81%
ACM SP 1.1 Identify assets and configuration items	0.15	NI	0.37	PI	0.41	GOOD
ACM SP 1.2 Define asset and configuration item attributes	0.40	PI	0.37	PI	1.08	OFF
ACM SP 1.3 Establish inventory and configuration control systems	0.35	PI	0.37	PI	0.95	GOOD
ACM SP 1.4 Establish inventory and configuration baselines	0.15	NI	0.37	PI	0.41	GOOD
ACM SP 2.1 Establish change control	0.25	NI	0.37	PI	0.68	GOOD
ACM SP 2.2 Control changes to assets and configuration items and b	0.15	NI	0.37	PI	0.41	GOOD
ACM SP 3.1 Establish and maintain change records	0.15	NI	0.37	PI	0.41	GOOD
ACM SP 3.2 Perform assessments	0.15	NI	0.37	PI	0.41	GOOD
ACM GP 1.1 Perform specific practices	0.22	NI	0.12	NI	1.85	OFF
ACM GP 2.1 Establish and maintain governance	0.10	NI	0.12	NI	0.85	GOOD
ACM GP 2.2 Plan and monitor the process	0.30	PI	0.14	NI	2.15	OFF
ACM GP 2.3 Provide resources for the process	0.10	NI	0.10	NI	1.00	GOOD
ACM GP 2.4 Define responsibility and stakeholder involvement	0.10	NI	0.10	NI	1.00	GOOD
ACM GP 2.5 Educate and train people on the process	0.10	NI	0.13	NI	0.77	GOOD
ACM GP 2.6 Manage and control the process	0.10	NI	0.22	NI	0.46	GOOD
ACM GP 2.7 Objectively monitor the process	0.10	NI	0.30	PI	0.33	GOOD
ACM GP 3.1 Define the process	0.10	NI	0.12	NI	0.81	GOOD
ACM GP 3.2 Improve the process	0.10	NI	0.10	NI	1.00	GOOD

Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

Beer Game MIT

Managers in an executive workshop playing the Beer Game at MIT.

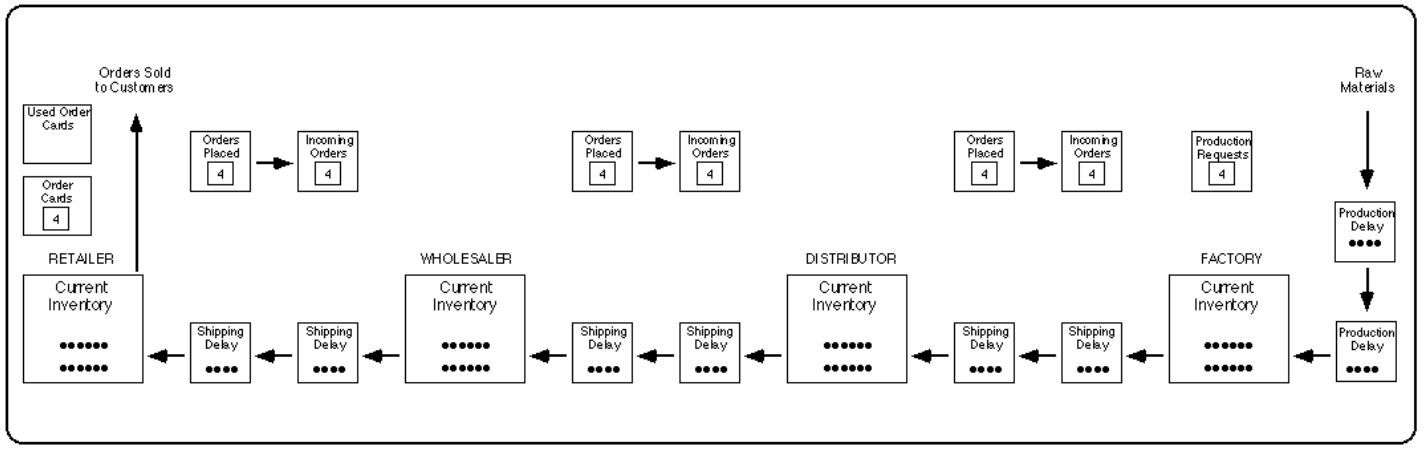
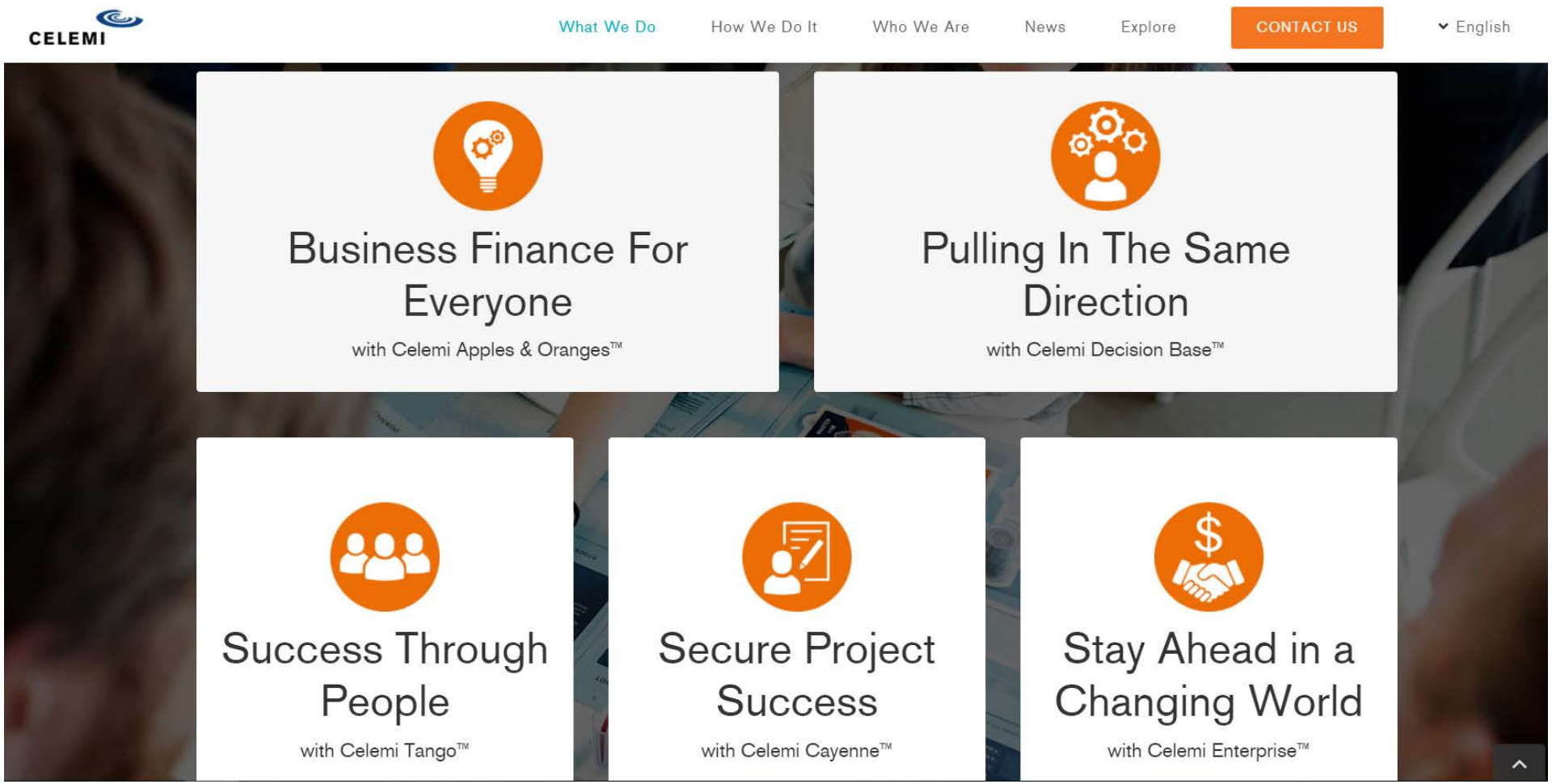


Figure 1. Beer Game board, showing initial conditions.

To meet these challenges we need to develop 'management flight simulators', learning environments that motivate, that provide experiential as well as cognitive lessons, that compress time and space so that we may experience the long-term consequences of our actions. The Beer Game is one of a number of management flight simulators developed at MIT's Sloan School of Management for these purposes**. The game was developed by Sloan's System Dynamics Group in the early 1960s as part of Jay Forrester's research on industrial dynamics.** Its has been played all over the world by thousands of people ranging from high school students to chief executive officers and government officials.

Serious Games - Global



Serious Games - Local

yelp

tacos, cheap dinner, Max's | San Francisco, CA

For Businesses | Write a Review | Log In

Restaurants | Home Services | Auto Services | More

Games Done Legit

Unclaimed

1 review | Details

Party & Event Planning | Edit

Open Open 24 hours

Request Information

You can now request information from this business directly from Yelp

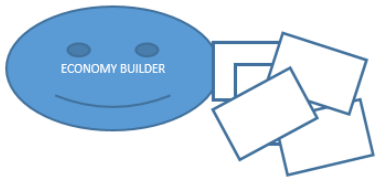
Request Information

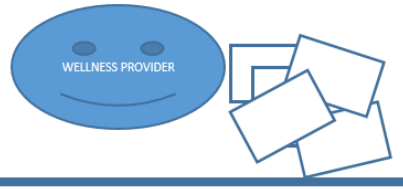
Game Concept 1

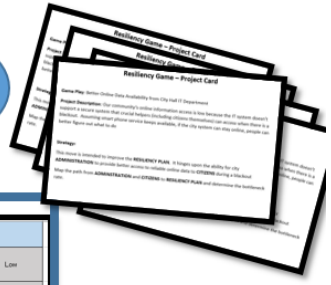
THE DMM

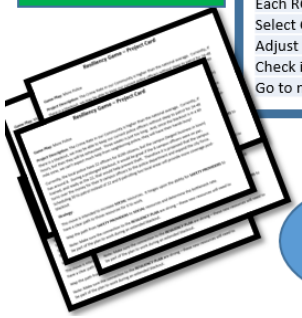
THE DSM (VALIDATOR)

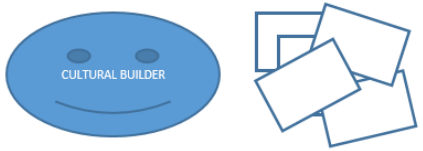
THE CALCULATOR

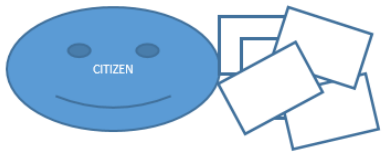












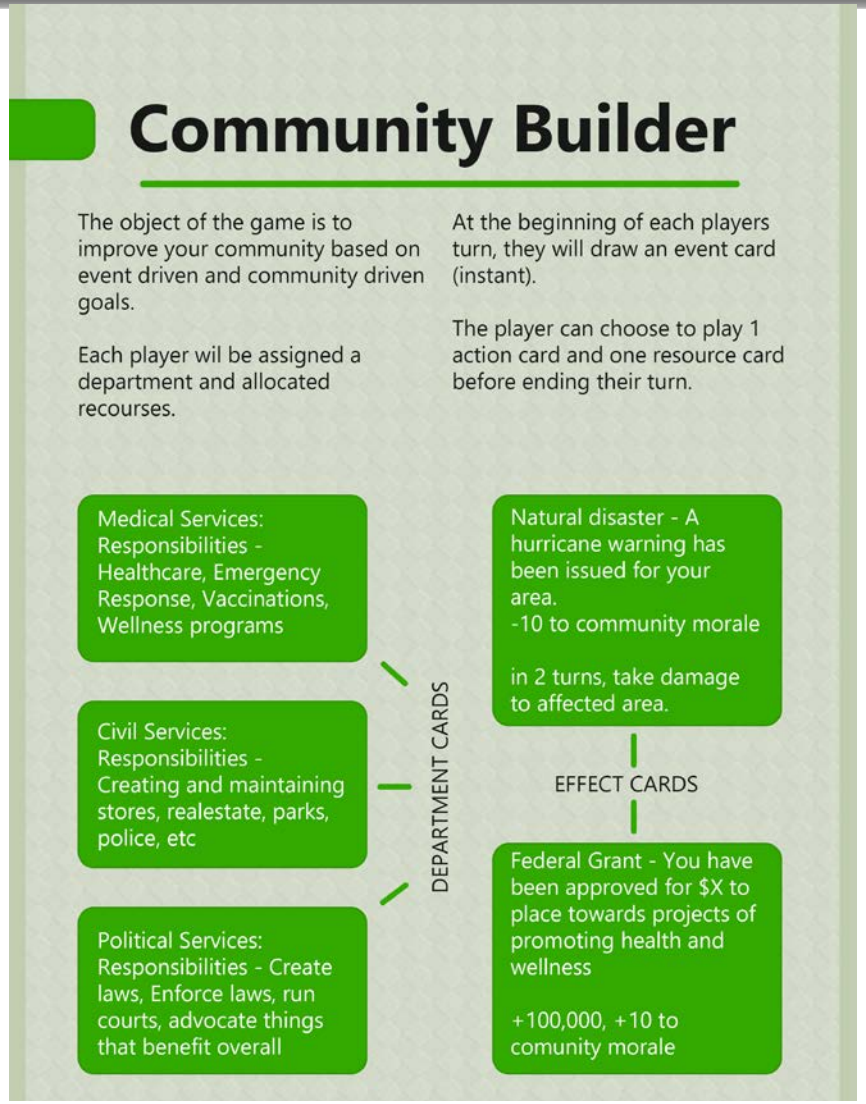
Risk & Threat Profile - How Many Days Without Power Can Your Community Handle?

Risk 2 Community	Related Focus Areas	Risk Severity	Resiliency [Initial]	Resiliency [Rd 1]	Resiliency [Rd 2]	Resiliency [Rd 3]
Disaster and Emergency Response Plan Development By The Police Department Not Being Sufficient	PRM LDM SSP	90%	4 Day Outage	4 Day Outage	7 Day Outage	14 Day Outage
The Police Department Working With The Utilities To Understand Critical Loads/Facilities To Keep The Community Safe In A Disaster/Power Outage Not Being Sufficient	RELM CI SIC	60%				
Local Businesses Planning for Service Continuity During a Disaster/Power Outage Not Being Sufficient	SSP IKS	50%				
Community Administration Working With Churches/Schools/Non-Profits to Specify What Locations In The Community Can House/Support Citizens In A Disaster/Power Outage Not Being Sufficient	RELM RESM CI	70%				
Citzens Who Have Been Identifed In Disaster and Emergency Response Plan Performing Their Specified Roll (i.e. Farmer Supplying Corn to Shelter) Not Being Sufficient	IMPL PRM RESM	40%				
Utilities Working With Public To Provide The Requirements To Citizens For Quick Restoration or Rotating Brown Outs Not Being Sufficient	IMPL RESM RELM	60%				

Recovery Time---->	48 Hours			3 Weeks			
People	Low	Med	Med	High	Low	Low	Low
Economic	Low	Low	Low	High	High	Low	Low
Natural	Low	Med	Med				High
Social	Med	High	Med	Low	High	High	High
External	Low	Low	Low	Low	Low	Low	High
Resiliency Plan	Med	Low	Med	Low	High	High	High
Scenario Description	Low Income Urban Sprawl: This community has a large number of citizens in a small area, perhaps remnant of urban sprawl.	Mixed Rural Farming Community: This community has farming, but also has several other people commuting to jobs outside of the community.	Mixed Rural Large Business in Town: This rural community has a small number of really big businesses in town (e.g. University, Manufacturing) that drives the economy, but that economy is not so strong.	Self Sufficient Farmers: This community has a low density of relatively well off people living on large plots of land.	Strong Community: This community has a wonderful complement of citizen-led groups, that are designed to help one another in times of crises.	Strong Business: This community has a number of well run businesses with ready private resources, made available to citizens in times of need.	Strong Government: This community has considerable community assets well maintained by the trusted local government.

RISK BASED GAME PLAY	RESOURCE BASED GAME PLAY
Each ROLE playing, identifies RISKS they would like to reduce	Each ROLE playing identifies RECOVERY TIME they would like to improve (in other words a TYPE OF COMMUNITY)
Players write down a Starting Point for APPRAISAL SCORES	Game defaults to a set of default starting APPRAISAL SCORES for the TYPE OF COMMUNITY
Each ROLE proposes THREE GAME CARD projects	Each ROLE proposes THREE GAME CARD projects
Select ONE of them	Select ONE of them
Adjust RESOURCES and APPRAISAL SCORES based upon selected card	Adjust RESOURCES and APPRAISAL SCORES based upon selected card
Check interrelatedness impacts or bottlenecks	Check interrelatedness impacts or bottlenecks
Go to next Role	Go to next Role

Example Game Card



Meeting Outline

- **Introduction: (Tim / Myra 15 Minutes)**
  - The Holism of ISO/IEC15288
  - Applicability of ISO/IEC15288 to Community Development
- **Presentation: Overview of the Model (Brian and Lindsey 15 Minutes)**
  - General: Tailoring the ISO/IEC15288 to Systems Challenges
  - Specific: The CARE Model (Purpose of the CARE Model)
- **Presentation: Individual Practices with /Thermometer Ranking (Lindsey and Brian 15 Minutes)**
  - General: Quantifying Capabilities using Public/Expert Deliberation
  - Specific: The Practices and Ranking Readiness in CARE (A few examples close to INCOSE)
- **Presentation: The Validator (Bill 15 Minutes)**
  - General: Creating and Validating Large System Networks Using N-Squared Diagrams (Design Structure Matrix – DSMs)
  - Specific: Creation and Validation of the CARE DSM 59X59
- **Presentation: How Communities will run Scenarios (Carl 15 Minutes)**
  - General: Systems Thinking Through Game Play
  - Specific: CARE Game Strategy and Game Play
- **Closing: November 10th 5PM to 7PM Training Announcement (Tim 15 Minutes)**
  - Chapter Survey on Volunteering – Invite to Training

Questions & Answers