Designing Resilient Library Services: A Workshop on Resilience Engineering for Librarians

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Lorri Zipperer, MA – Zipperer Project Management, Blaisdell Medical Library, UC Davis

Session Objectives

Upon completion of the session, you will be able to:

- Explain the concept of resilience engineering and its components
- Ideate strategies for achieving increased service resilience in health sciences libraries and throughout your organization
- Articulate why resilience engineering is impactful
- Identify ways to re-evaluate current processes and adapt new frameworks to advocate for information roles in cutting-edge ways

Session Overview

Activity	Lead	Time
Welcome	Facilitators	5 min
Introduction to resilience engineering	Facilitators	20 min
Whole group brainstorm poll	All	5 min
Library resilience engineering examples	Facilitators	5 min
Quick question & answer / understanding check-in	All	5 min
Small-group activity (case studies)	Small groups	20 min
Report-outs/sharing	All	15 min
Large-group brainstorm/larger organizational resilience to build futures together	All	10 min
Questions and wrap-up	All	5 min

Resilience Engineering: Facilitators

- Nicole Capdarest-Arest, MA(LIS), AHIP, UC Davis Library

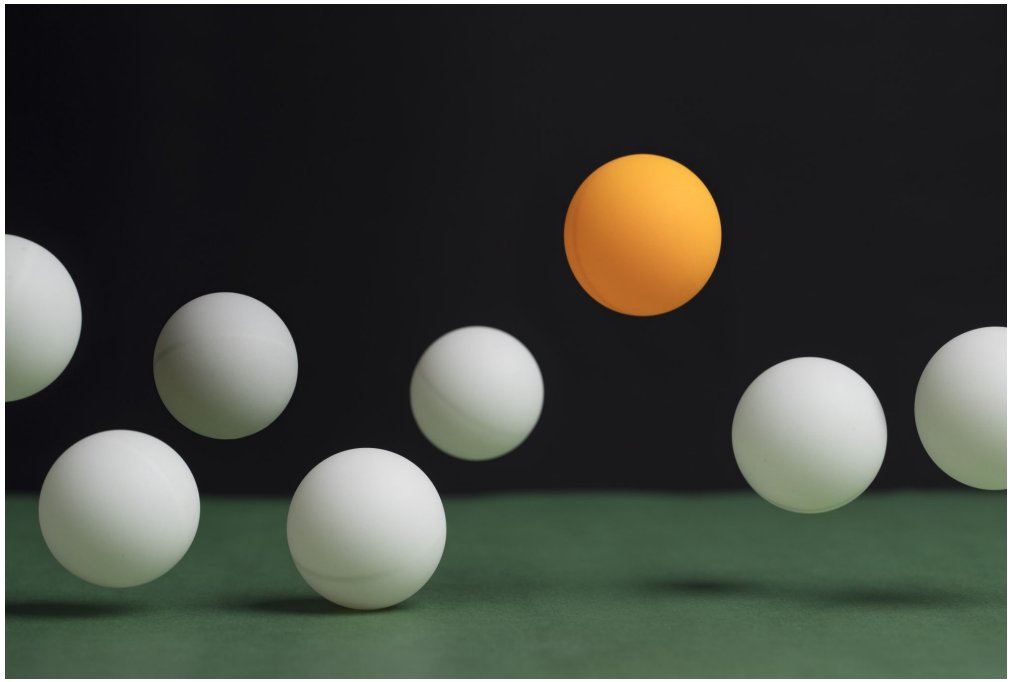
- Amanda Ross-White, MLIS, Queen's University Library

- Lorri Zipperer, MA, Blaisdell Medical Library, UC Davis, now at Zipperer Project Management

"Recovery itself is an expression of resilience." Fairbanks, et al.

What is Organizational Resilience?

"Resilient organizations don't bounce back, they bounce forward."*



Information and knowledge are key!

*Maor, D., Park, M., & Weddle, B. (2022, October 12). *Building organizational resilience*. McKinsey. Retrieved April 14, 2023.

A resilient organization…

Offers the opportunity to emerge from changes, challenges and disturbances stronger and smarter

Builds capacity to meet the future head on

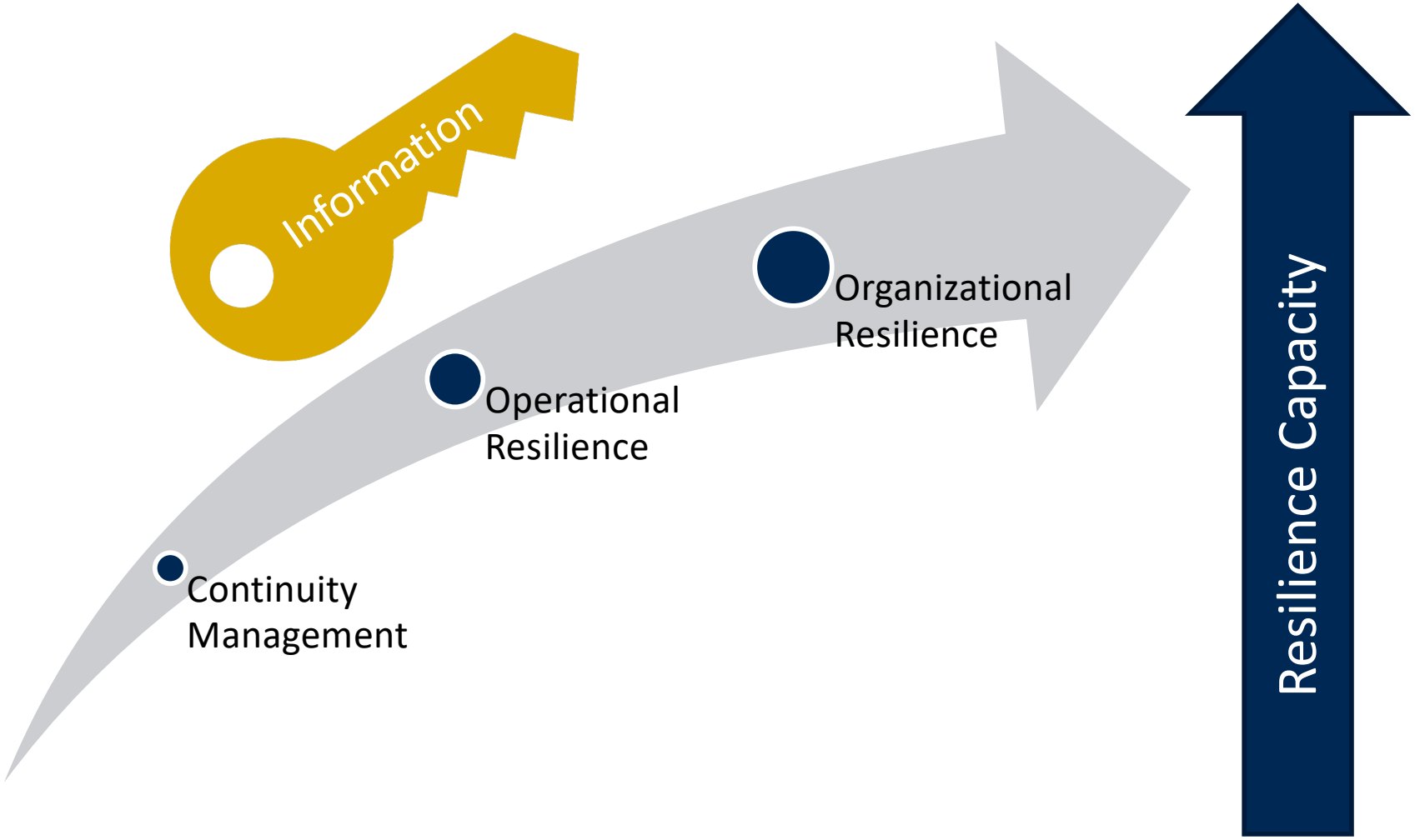
Directs resources to higher priority goals

Relies on experience to inform the future

Resilience Engineering: A New Model for Health Care

- A build on holistic, yet structured, approaches
- A strategy that relies on effective knowledge sharing
- An active practice for organizations (action/learning)
- NOT personal resilience (also very important)!

Information Builds Resilience Capacity



Resilience Engineering Framework

Components/Aspects of Resilience	
Aspect	Description
Monitor	Scan, listen, observe, attend to, examine the system operation over different time scales to understand the current state of the system
Respond	Act or react, intervene, correct, tune, adjust, tweak, trade off, sacrifice to achieve specific goals
Anticipate	Project, foresee, look ahead, forecast, predict, simulate within the system to understand likely and unlikely future conditions and events
Learn	Incorporate, grasp, review, study experiences and integrate the resulting knowledge into structures available for future practice

Fairbanks, R. J., Wears, R. L., Woods, D. D., Hollnagel, E., Plsek, P., & Cook, R. I. (2014). Resilience and resilience engineering in health care. *Joint Commission journal on quality and patient safety*, *40*(8), 376-383.

Monitor

- Scan
- Listen
- Observe
- Attend to
- Examine...

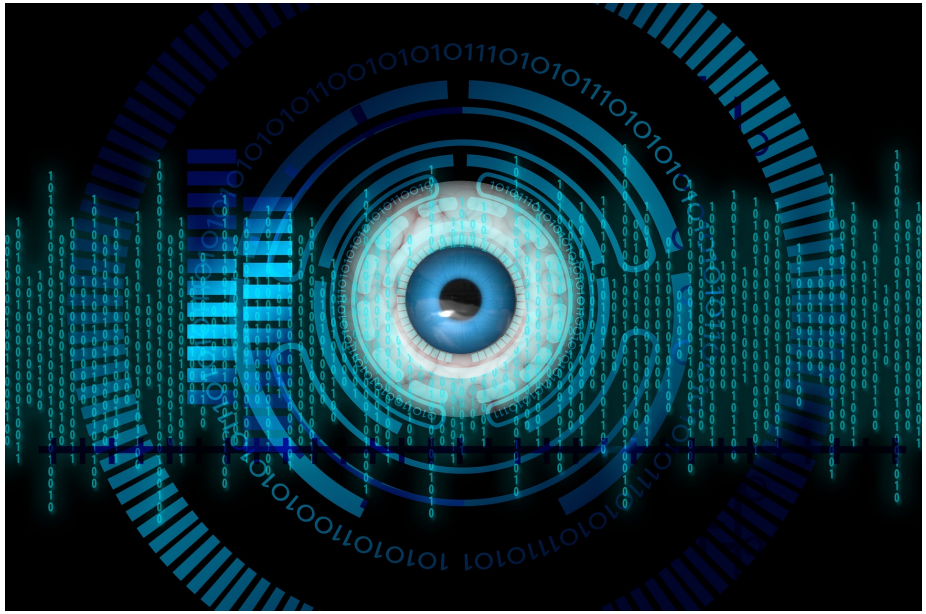


Image by Gerd Altmann, Pixabay

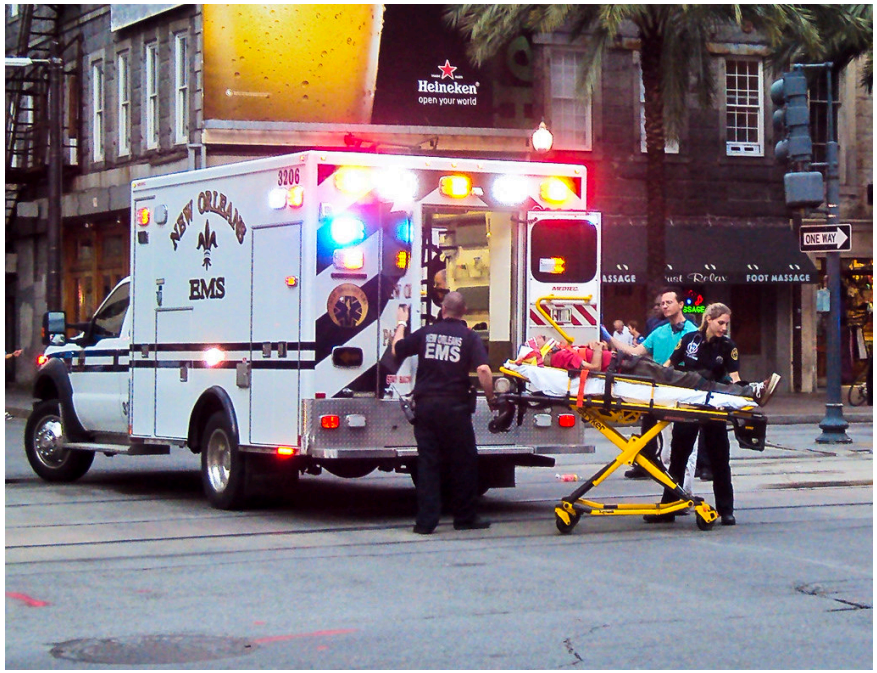
...the system operation over different time scales to understand the current state of the system.

In action: continually monitor potential hazards/threats to facilities, technology, personnel, equipment, etc.

Respond

- Act or react
- Intervene
- Correct
- Adjust
- Tweak
- Trade off
- Sacrifice...

...to achieve specific goals.



In action: developing deployable and mobilizable response capabilities in advance of surprises

Anticipate

- Project
- Foresee
- Look ahead
- Forecast
- Predict
- Simulate...

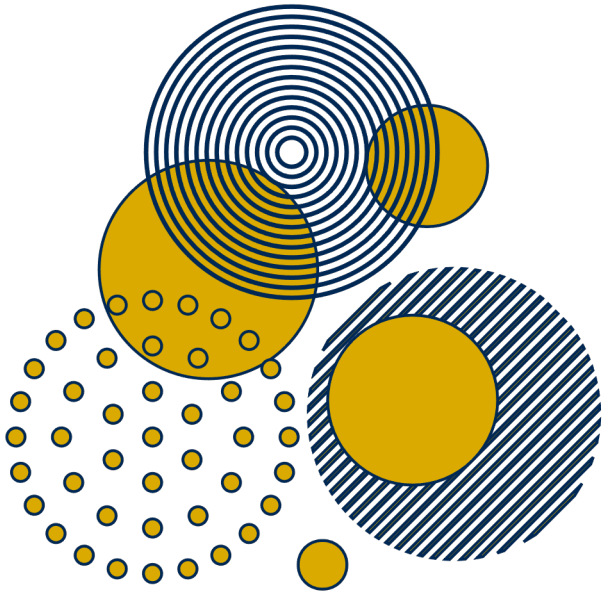
Image by Roman Grac, Pixabay

...within the system to understand likely and unlikely future conditions and events

In action: trying to anticipate changes in user needs, regulations, the environment, etc.

Learn

- Incorporate
- Grasp
- Review
- Study...



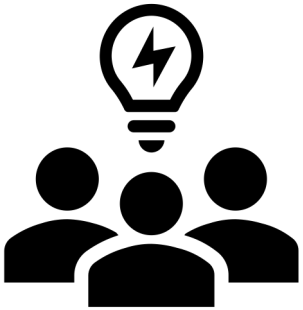
… experiences and integrate the resulting knowledge to expect the unexpected and transform future practice.

In action: taking time for reflection, seeking feedback, considering the impacts of change and using experience for improvement.

Examples

- Systematic review service burden
- Budget cuts
- Resource access to expanding clinics
- Rapid adoption of new technologies (e.g., generative AI)
- Cybersecurity

Small Group Activity – 20 minutes



Case Studies

Case Studies

Room	Resilience Engineering Aspect	Example	Question
1	Monitoring	Scanning, listening, observing, examining system over time, etc.	What are you **Monitoring** in your libraries?
2	Responding	Acting, reacting, correcting, tuning, adjusting, etc.	What are ways in which you **Respond** in your libraries?
3	Anticipating	Projecting, foreseeing, forecasting, to better understand future conditions/events, etc.	How can you better **Anticipate** in your libraries?
4	Learning	Incorporating, reviewing, integrating lessons learned, etc.	What mechanisms are place to better **Learn** in your libraries?

Case-study sharing

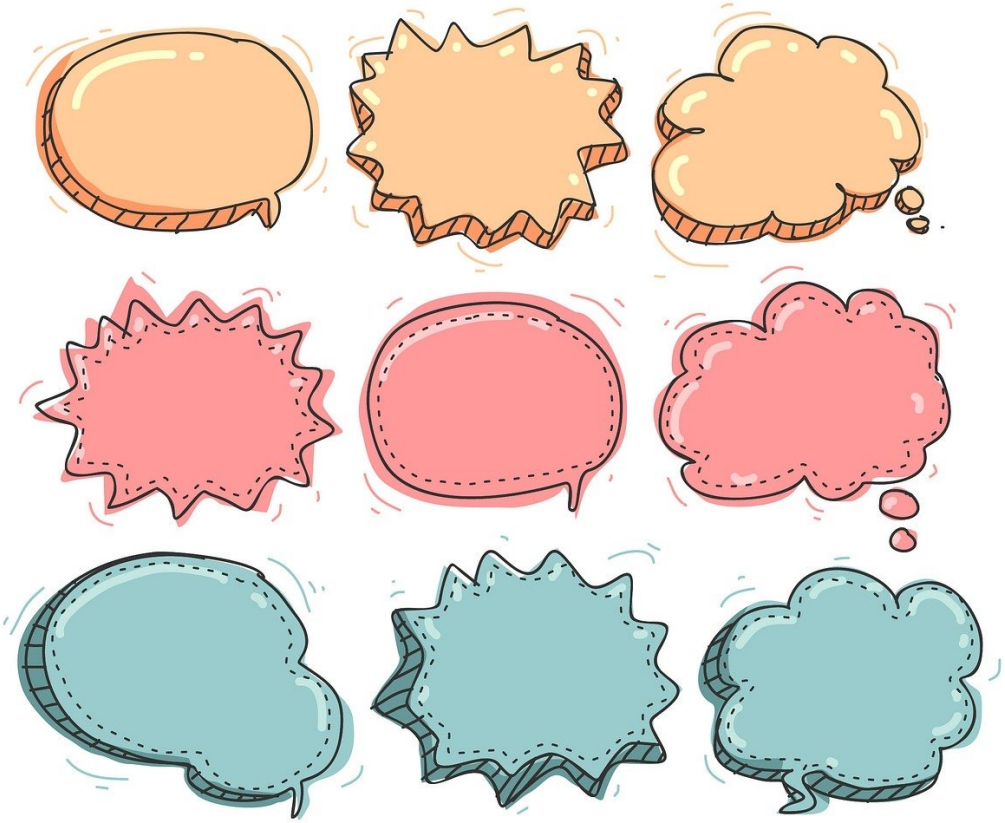


Image by pencil parker from Pixabay

Large group brainstorm: building futures together

Further Reading

Primary Reading (if you only have time to read three things, read these!):

- Fairbanks, R. J., Wears, R. L., Woods, D. D., Hollnagel, E., Plsek, P., & Cook, R. I. (2014). Resilience and resilience engineering in health care. *Jt Comm J Qual Patient Saf, 40*(8), 376-383. https://doi.org/10.1016/s1553-7250(14)40049-7
- Capdarest-Arest, N., Tompson, S., & Zipperer, L. (2022). Persistent service even in disruptive times: an introduction to resilience engineering. *J Med Libr Assoc, 110*(1), 139-145. https://doi.org/10.5195/jmla.2022.1359
- Ward, E. J., & Webster, C. S. (2025). The Conceptualization of Health Care Resilience: A Scoping Review. *J Patient Saf*. https://doi.org/10.1097/PTS.0000000000001353

Suggested Readings:

- Bodenheimer, L. (2018). Leadership Reflections. Journal of Library Administration, 58(4), 364-374. https://doi.org/10.1080/01930826.2018.1448651
- Hollnagel E, Woods DD, Leveson N, eds. Resilience Engineering: Concepts and Precepts. CRC Press; 2017.
- Maor, D., Park, M., & Weddle, B. (2022). Raising the resilience of your organization. Retrieved April 14, 2023, from https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/raising-the-resilience-of-your-organization#/
- Munro, K. (2011). Resilience vs. sustainability: The future of libraries. *In the Library with the Lead Pipe.* Retrieved April 14, 2023, from http://www.inthelibrarywiththeleadpipe.org/2011/resilience-vs-sustainability-the-future-of-libraries/

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Nicole Capdarest-Arest's attendance at this workshop was supported in part by a Presentation Grant from the Librarians Association of the University of California (LAUC).

LAUC Librarians Association of the University of California

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Queen's University

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