IT Budgeting: Where Dreams Meet Reality (And Usually Fail)

Challenges of Budgeting for Technology in the Public Sector
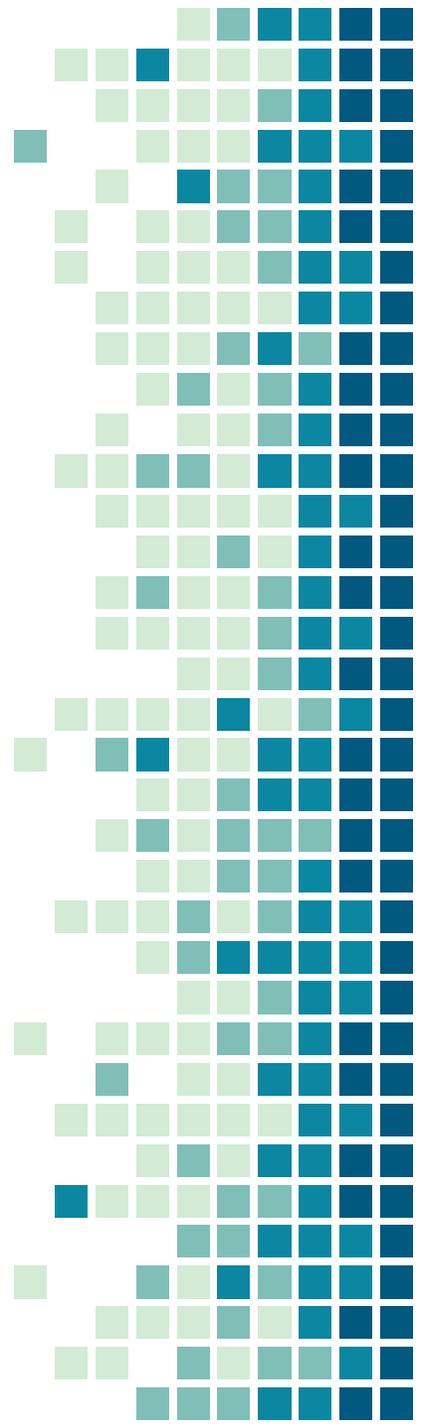
HELLO!

Lee Micai, CGCIO

Mercer County Board of Social Services, Department Head, MIS

NJGMIS Foundation, President

25+ years of experience

J im E. Pacanowski II, CGCIO

Ventnor City, IT Network Admin
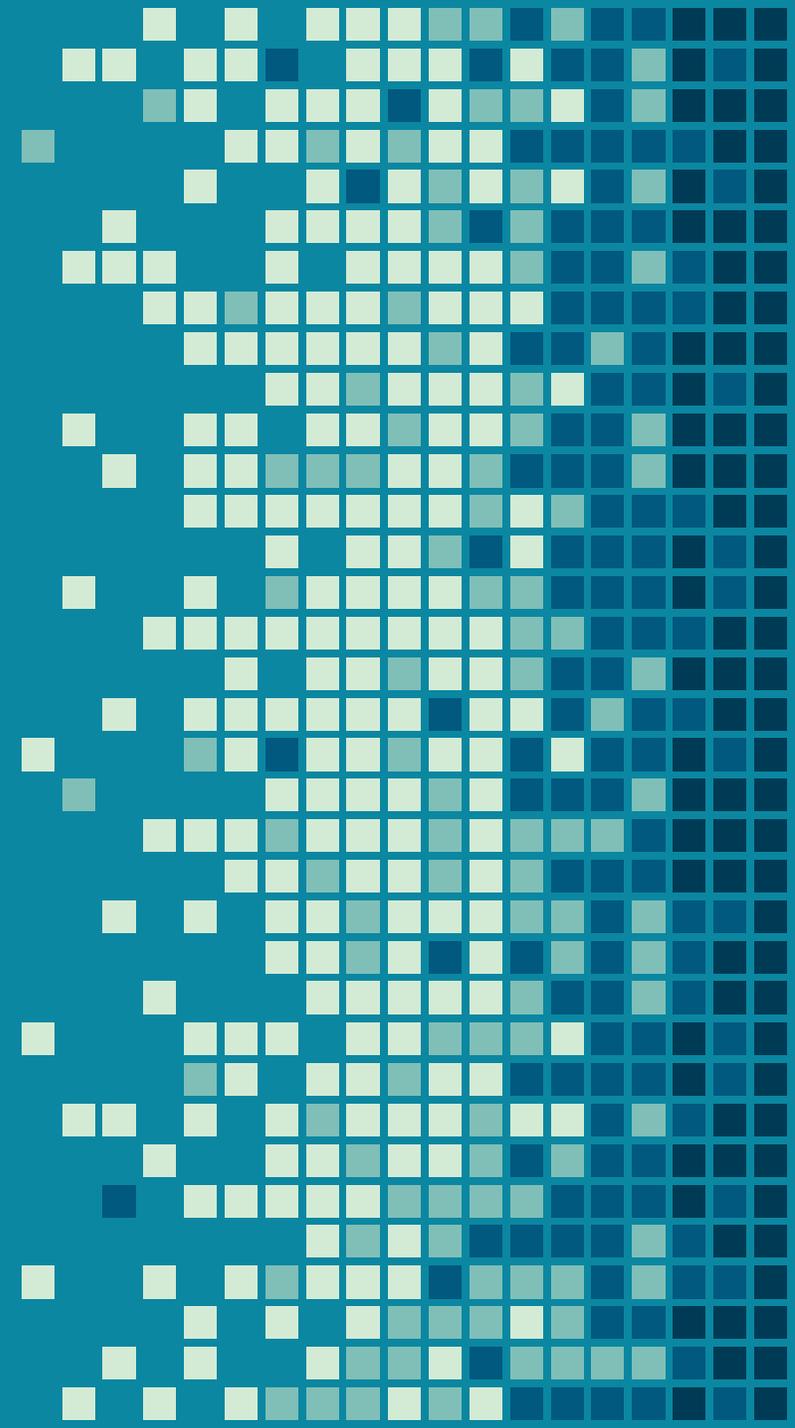
NJGMIS Chapter, President

25+ years of experience

Difference Between Public Finance and Private Finance

| Aspect	Public Finance	Private Finance
Primary Objective	Social welfare, economic stability, and public good	Profit maximization, wealth growth, and personal/business financial goals
Source of Income	Compulsory sources like taxes, fees, fines, and government-owned enterprises	Voluntary sources like wages, sales, services, and investments
Expenditure Decisions	Based on public needs, political priorities, and social benefit	Based on personal needs, profitability, and return on investment
Budgeting Principle	Expenditure determines income (spend first, raise funds later)	Income determines expenditure (spend based on what is earned or available)
Borrowing	Borrow from internal/external sources, including printing money	Borrow from banks/investors, limited by creditworthiness and income
Decision-Making	Political, bureaucratic, involves multiple stakeholders and public scrutiny	Centralized, quicker, made by individuals or business managers
Time Horizon	Long-term (decades, generations), but influenced by political cycles	Varies from short to long-term, often focused on immediate returns
Transparency	High public accountability and transparency expected (budgets, audits, etc.)	Varies; public companies must disclose finances; private ones have more privacy
Scope and Impact	Economy-wide impact affecting all citizens and businesses	Narrower, affecting individuals or specific businesses
Approach to Deficits	Can run deficits for public good or economic stimulation (Keynesian policy)	Deficits lead to debt risks and are usually unsustainable long-term
Coercive Power	Has legal authority to collect revenue and enforce compliance	No coercive power; income depends on market-based transactions
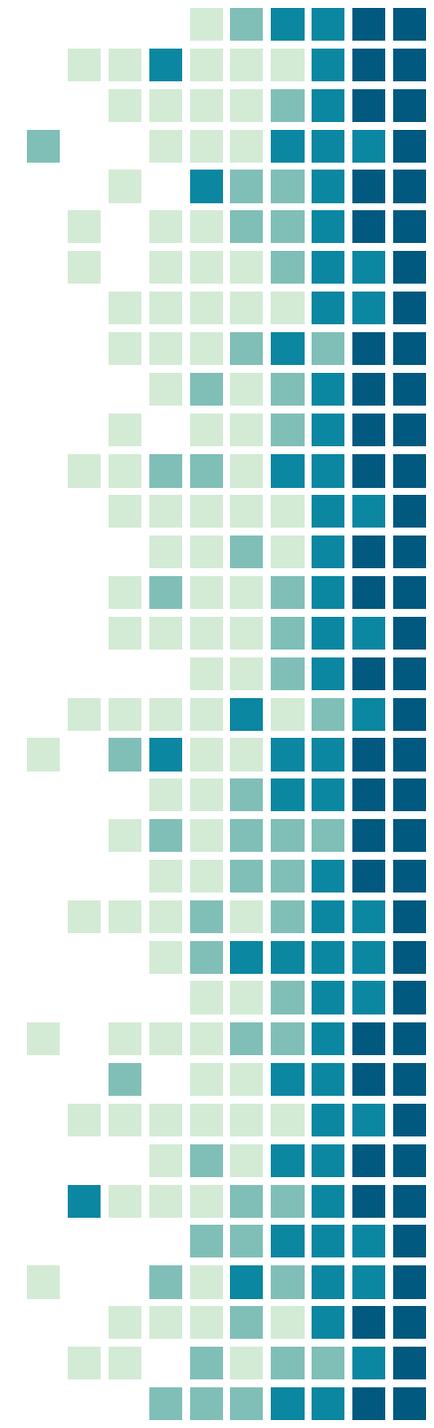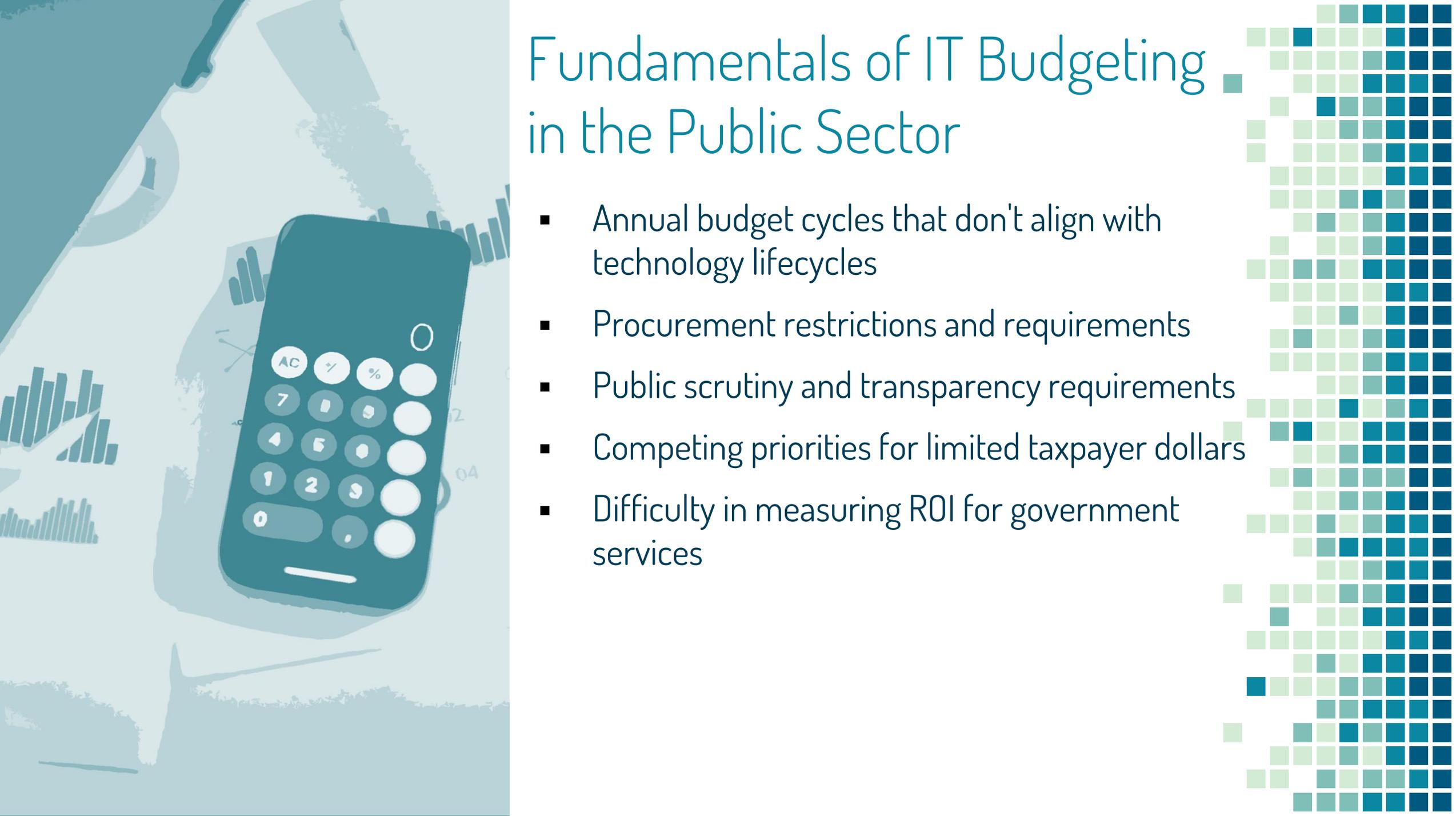
Fundamentals of IT Budgeting in the Public Sector

- Annual budget cycles that don't align with technology lifecycles

- Procurement restrictions and requirements

- Public scrutiny and transparency requirements

- Competing priorities for limited taxpayer dollars

- Difficulty in measuring ROI for government services

The True Cost of Technology in Government

- Ongoing maintenance and support contracts (typically 15-25% of purchase price annually)

- Training and staff development

- Integration with legacy systems

- Security and compliance requirements

- Staffing needs for management and support
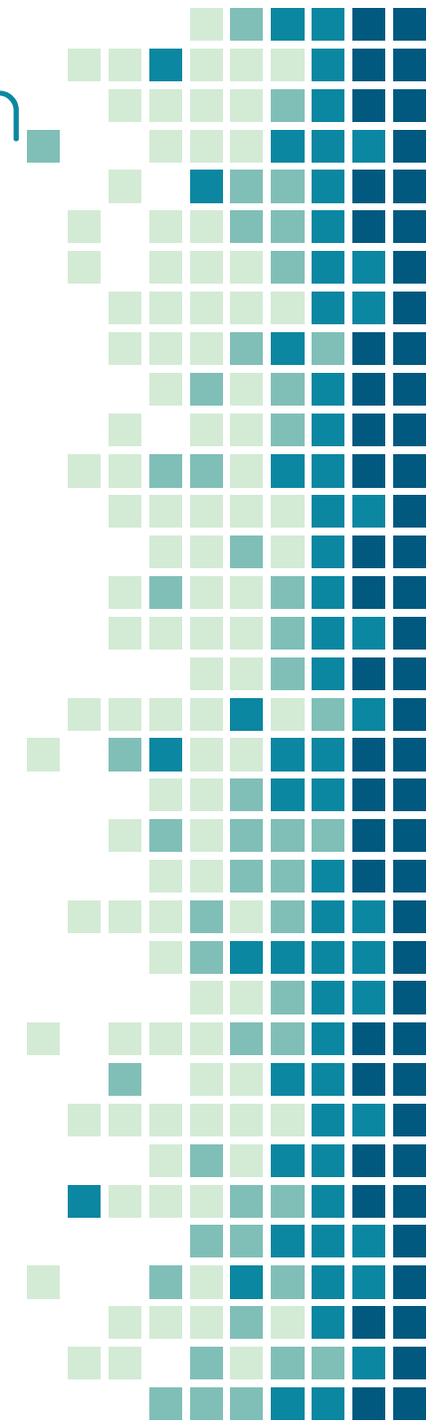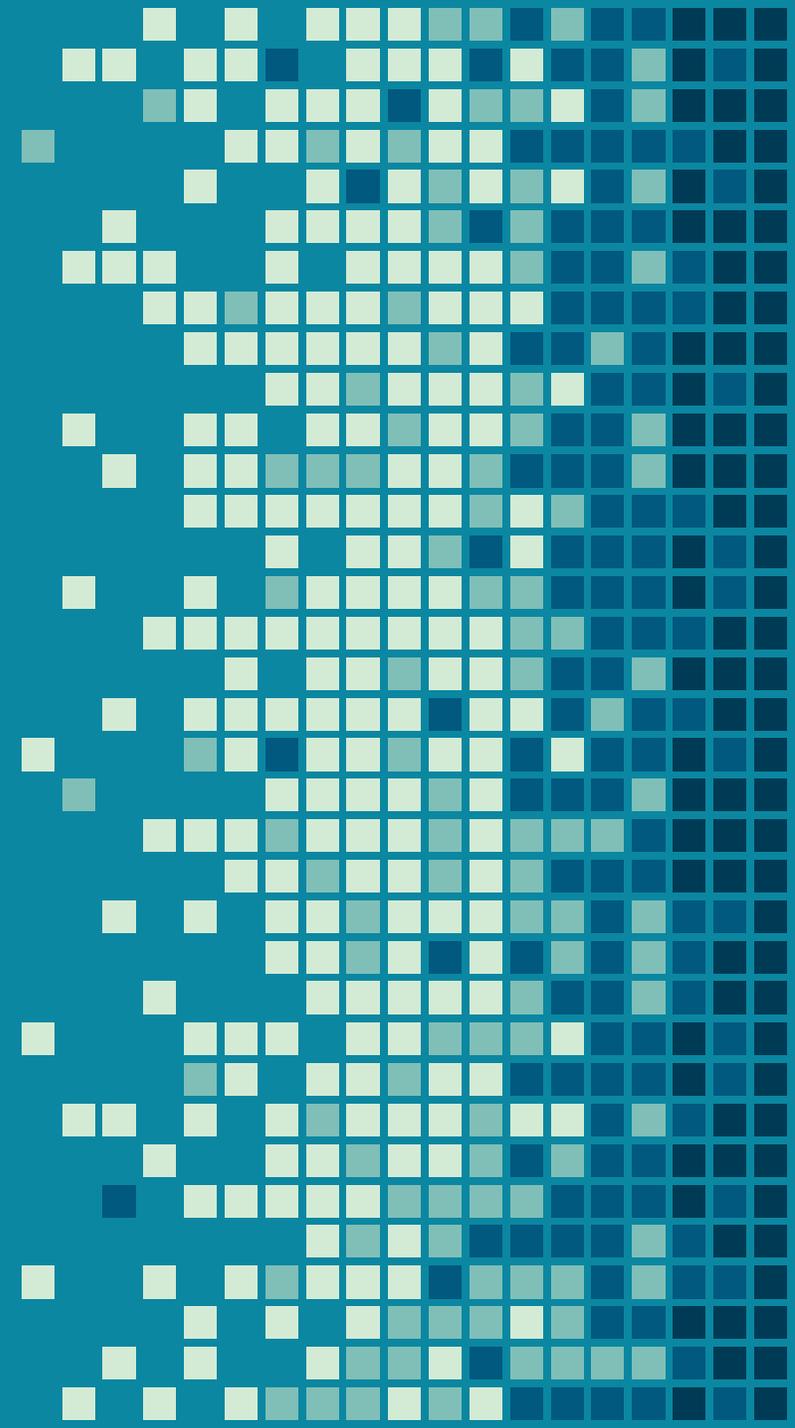
Challenge #1: The Technical Debt Trap

- Aging infrastructure requiring costly emergency replacements

- Outdated systems creating security vulnerabilities

- Compatibility issues between new and legacy systems

- Increasing maintenance costs for older systems

- Reduced productivity from obsolete technology

Challenge #2: Cybersecurity Funding Gap

- Difficulty quantifying return on security investments

- Rapidly evolving threats requiring constant adaptation

- Competing with more visible public safety priorities

- Insurance requirements creating unfunded mandates

- Compliance with state and federal security frameworks
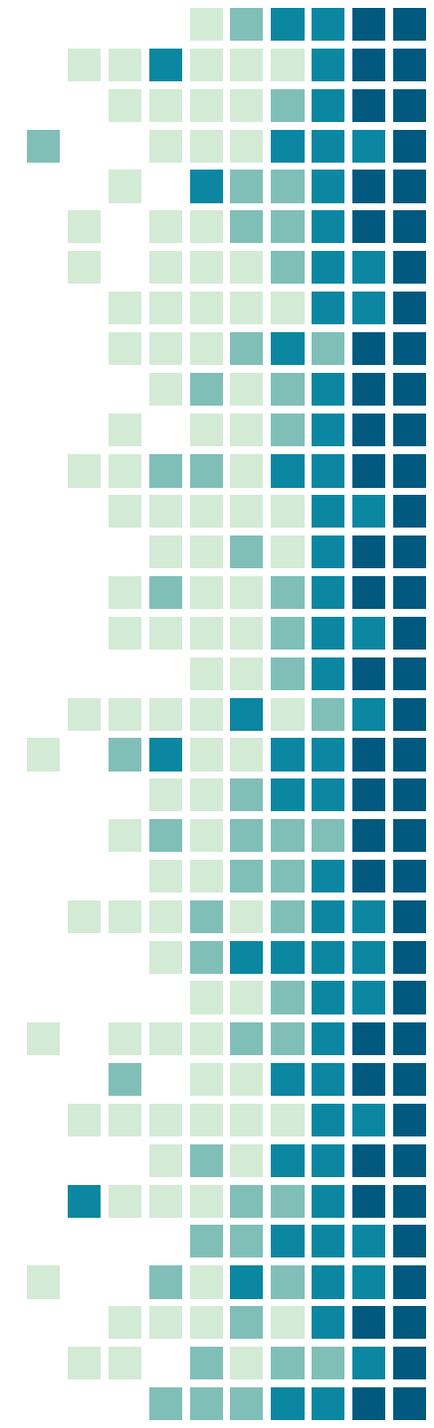
Global average total cost of a data breach

Year	Value
2018	3.86
2019	3.92
2020	3.86
2021	4.24
2022	4.35
2023	4.45
2024	4.88
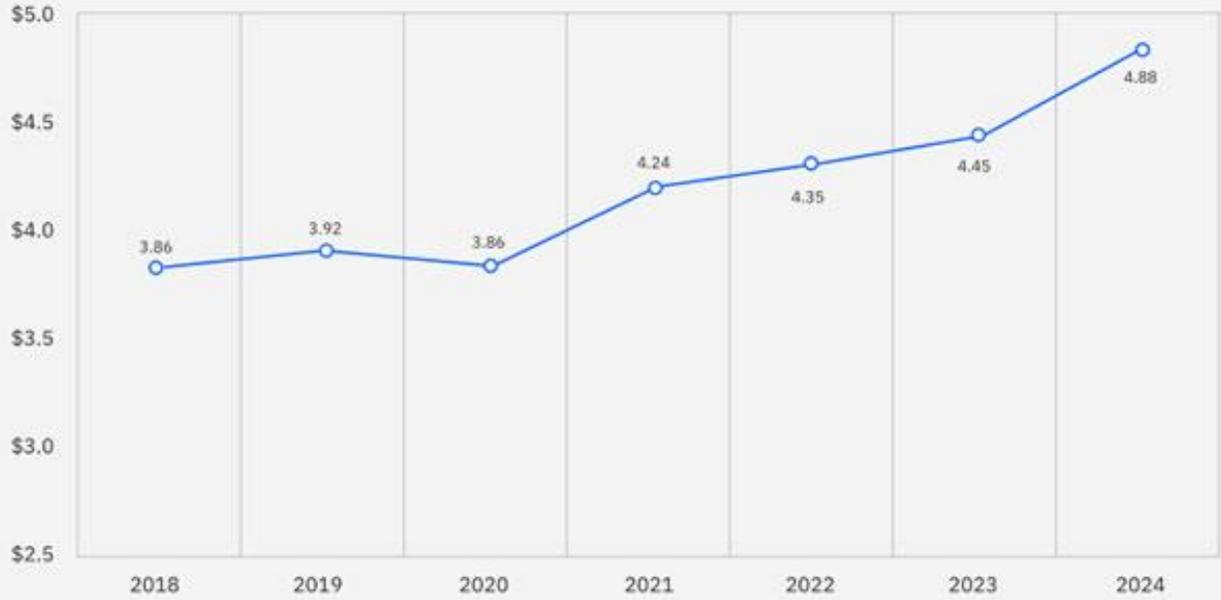
U.S. cyber insurance premiums will continue to climb
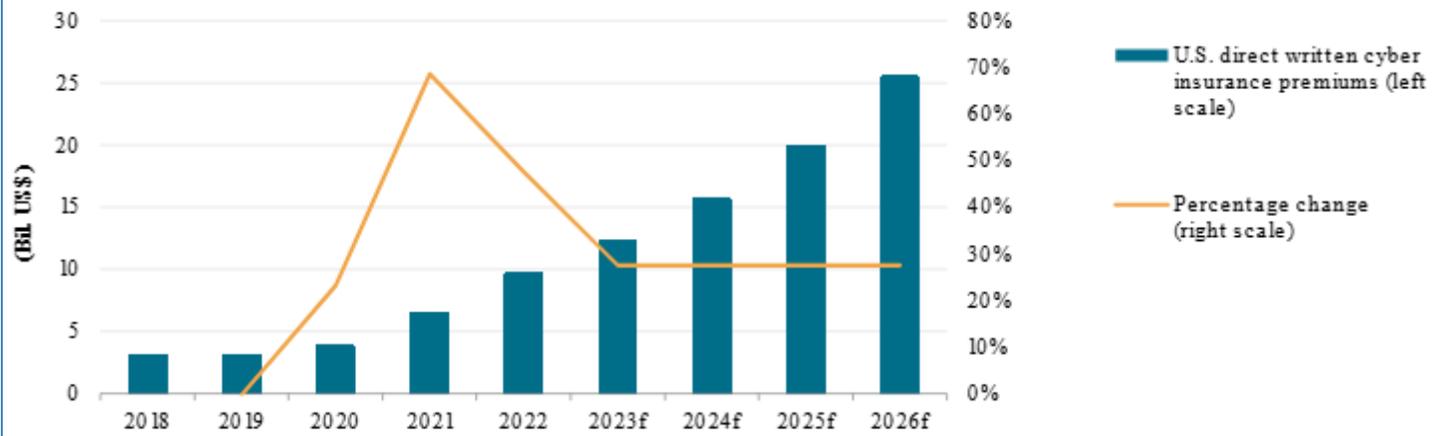
- U.S. direct written cyber insurance premiums (left scale)
- Percentage change (right scale)
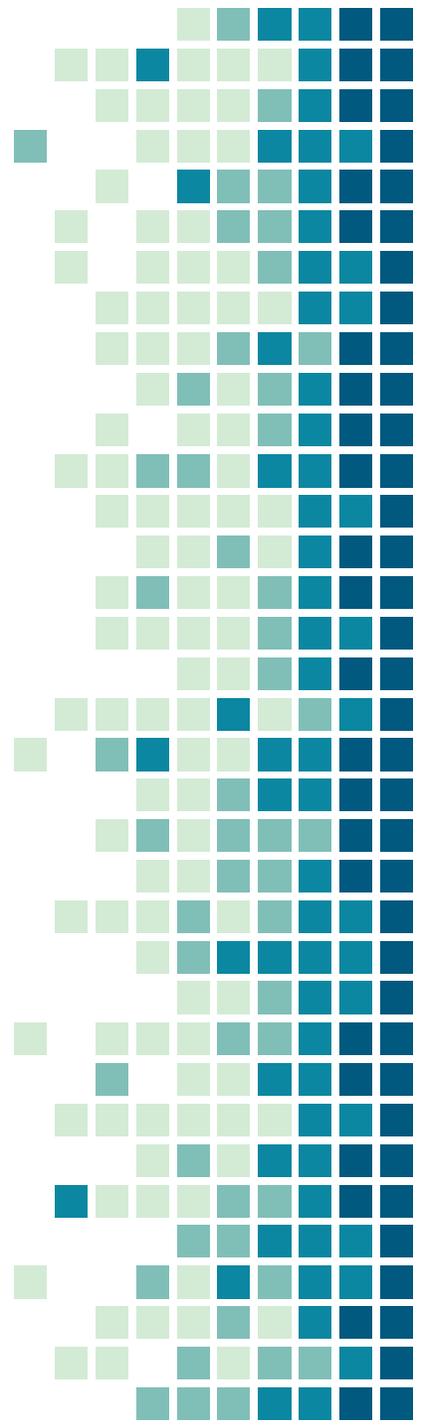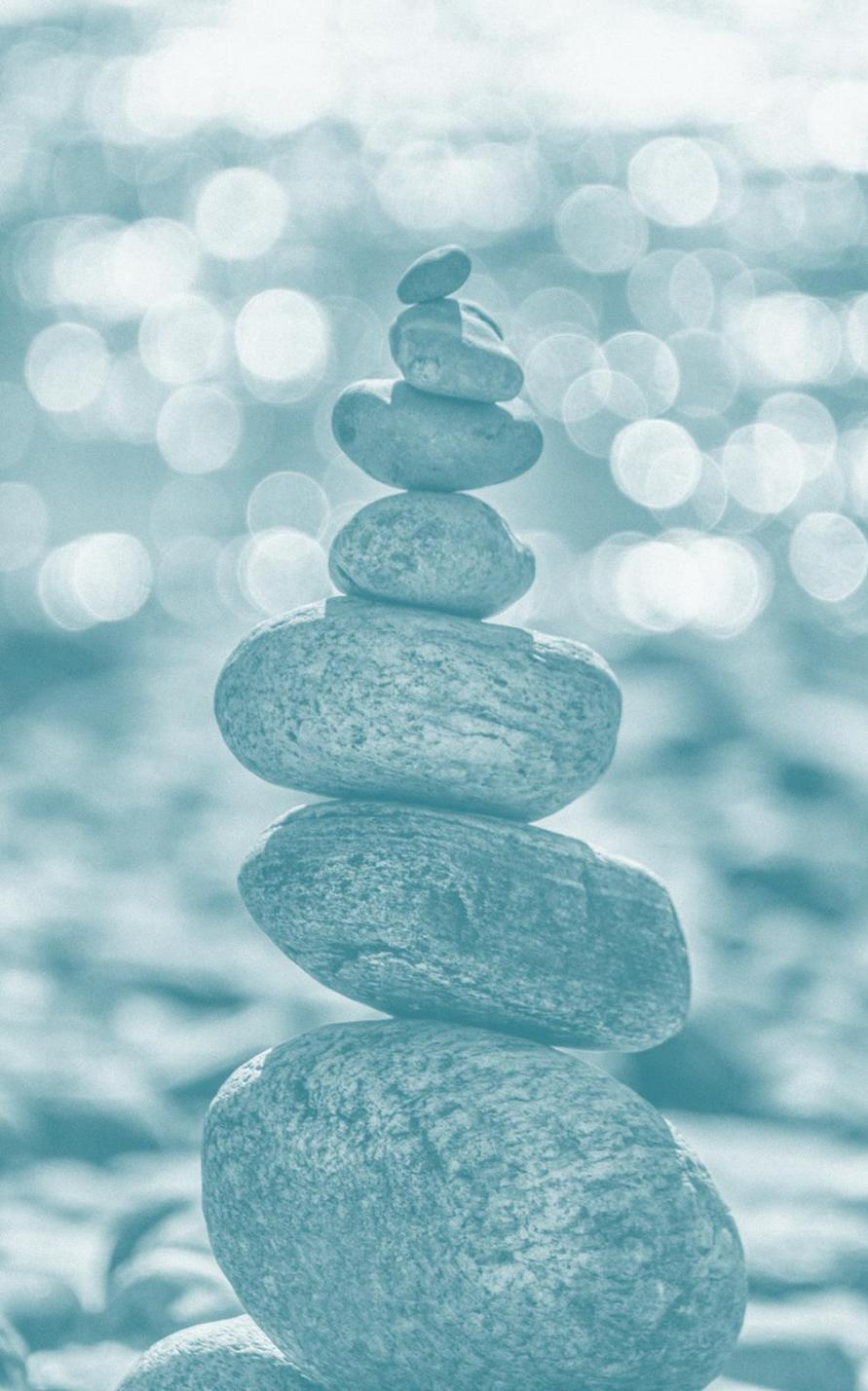
Challenge #3: Innovation vs. Operations Balance

- Allocating too much to "keeping the lights on" at the expense of modernization

- Pursuing shiny new projects without sustainable operational funding

- Underestimating the resource impact of new initiatives

- Failing to sunset legacy systems as new solutions are implemented

- Neglecting to build innovation capacity into operational budgets

Planned IT Budget Allocations in 2024

(as a percentage of overall IT spending):
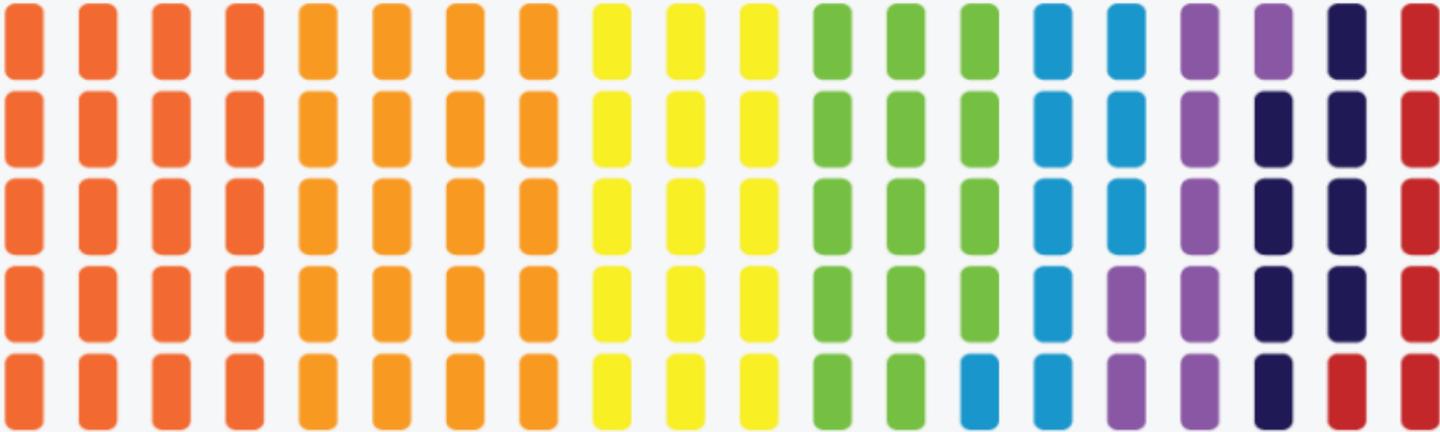
20%
■ Software

20%
■ Hardware

15%
■ IT Labor

14%
■ Hosting/Cloud-Based Services

9%
■ Managed Services

8%
■ Telecommunications

8%
■ Facilities and Power

6%
■ Internal Services
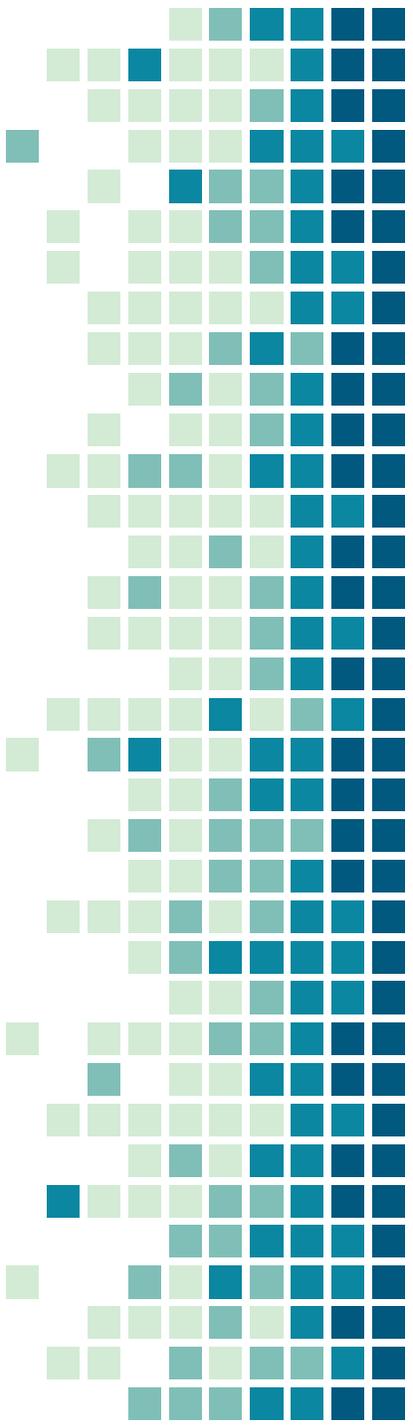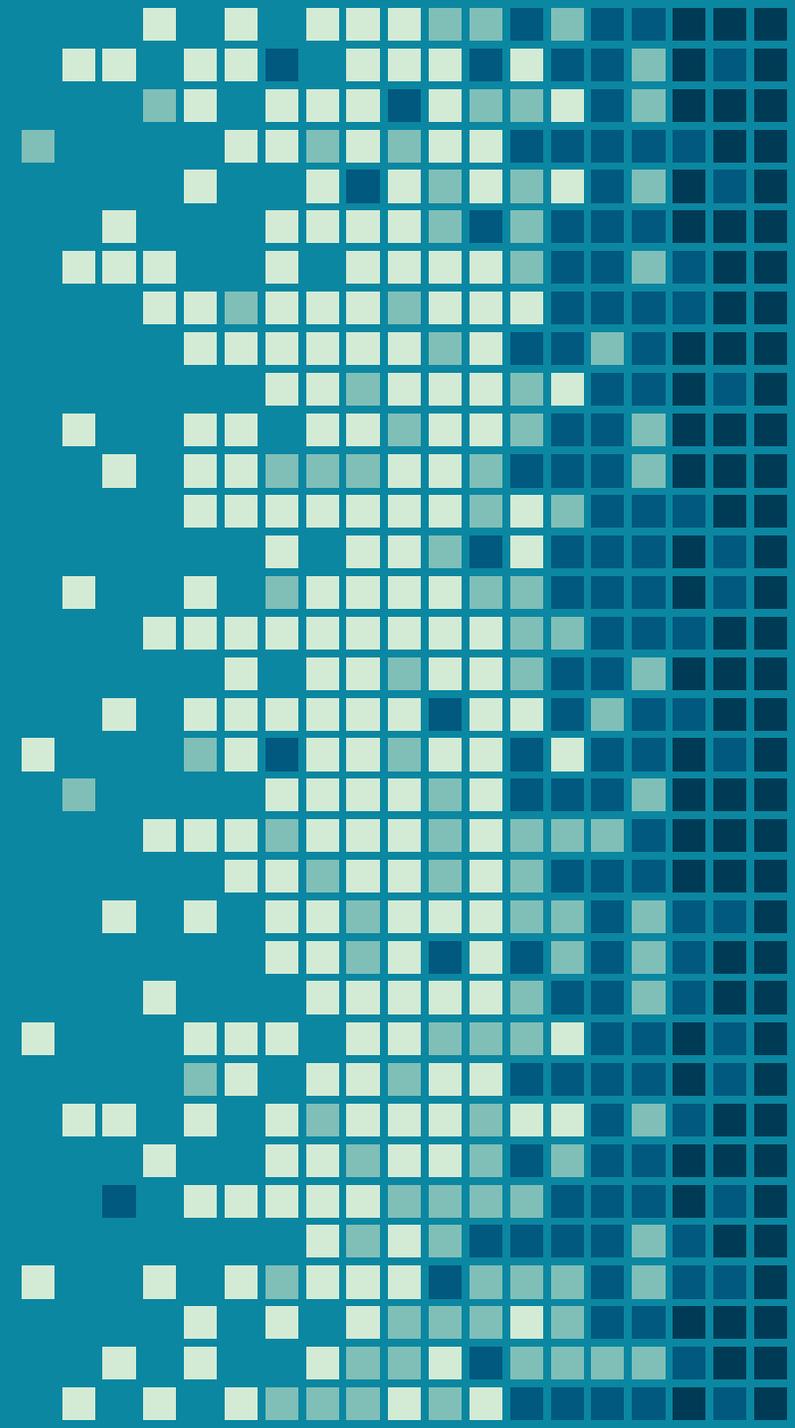
Step 1: Comprehensive Inventory and Assessment

- Hardware assets with age and replacement schedules

- Software licenses and subscription costs

- Support and maintenance agreements

- Cloud service costs

- Specialized equipment and systems

- Staffing allocations across different technology areas

City of Ventnor City

2025 Technology Inventory

Computers

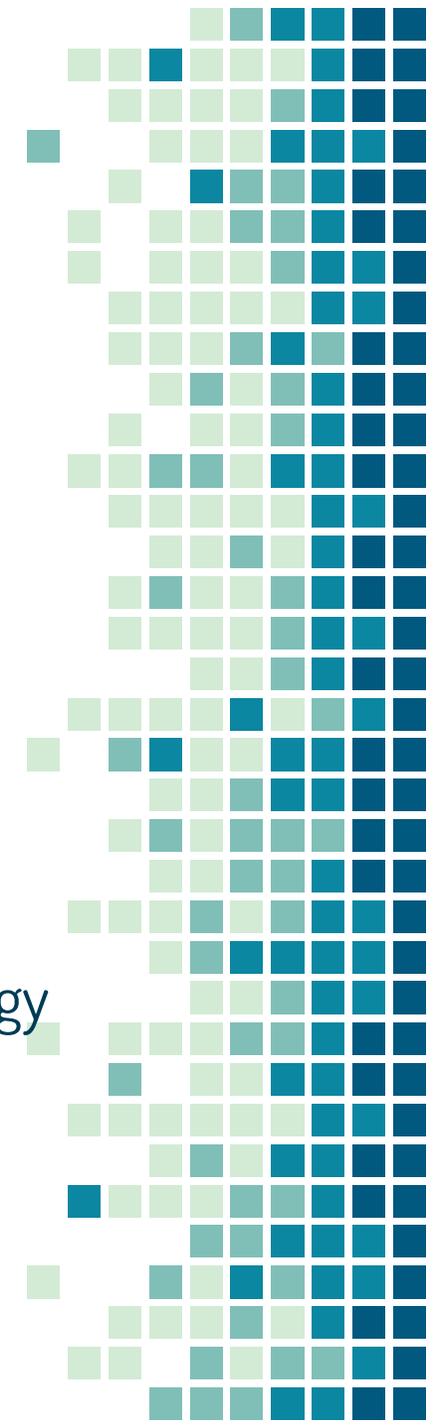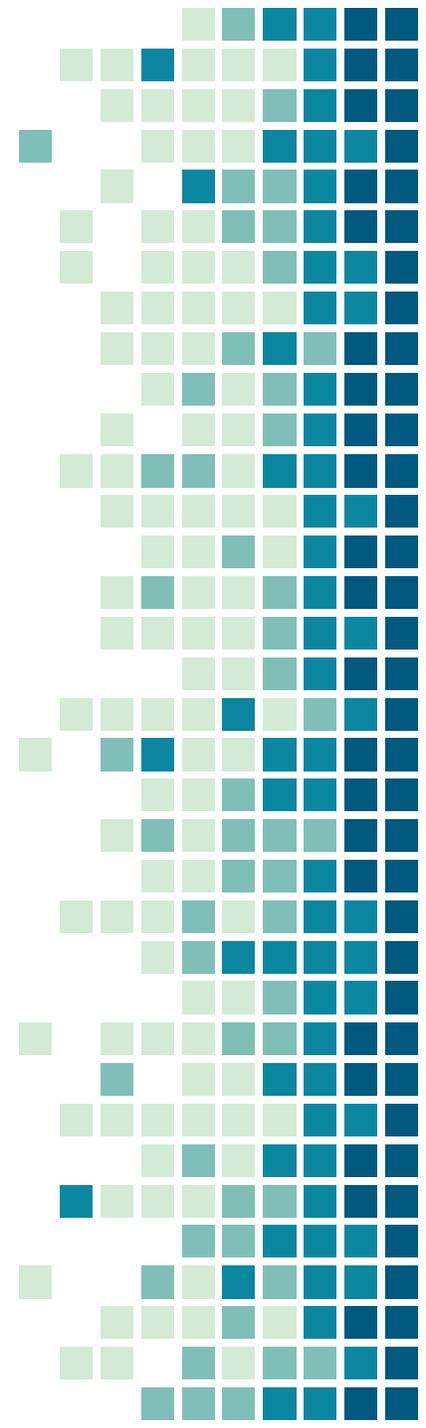| Location	Asset Tag	PO #	Serial #	User	Manufacturer	Type	Date In Service	Cost	Monitor	Operating System
Servers										
DPW		22-01476	3MWK9R3	DPW Server - DPW163	Dell	PowerEdge R540	12/1/2023	$ 7,054.39	24" LCD	Server 2022 STD
Firehouse		22-01476	3MWK9R3	Firehouse Server -Firehouse163	Dell	PowerEdge R540	12/1/2023	$ 7,054.39	24" LCD	Server 2022 STD
Server Room City Hall		24-01760	1H1YM34	DNS PHONE SYSTEM	Dell	OPTIPLEX 7020 MICRO	8/12/2024	$ 1,590.00	24" LCD	WIN 11 PRO
Server Room City Hall	844	17-01408	BDB5WK2	Misc Server 2018	Dell	PowerEdge R630	8/1/2018	$ 14,187.46	NA	Server 2019 R2 Standard
Mayors Office										
Mayors Office		18-01515	F32KHQ2	MAYORSECTY24 - PATTI K	Dell	Optiplex 3060	3/1/2019	$ 1,585.25	24" Wide Flat LCD	Windows 10 Pro
Mayors Office		17-01410	5L3ZWK2	COUNCIL-MMENTO	Dell	Optiplex 7040	11/10/2017	$ 1,942.00	24" Wide Flat LCD	Windows 10 Pro
Mayors Office	561	19-01999	67SYH03	MYRKRIEBEL24	Dell	Optiplex 7070 SFF	7/15/2020	$ 1,575.19	24" Wide Flat LCD	Windows 10 Pro
Mayors Office		21-01936	F5VZMM3	COMMLANDGRAF24	Dell	Optiplex SFF 7090	5/4/2022	$ 1,048.90	24" Wide Flat LCD	WINDOWS 11 PRO
Mayors Office		22-01700	JL0M533	CityAdmin24 - Tciccarone	Dell	Optiplex 7000 SFF	2/24/2023	$ 1,443.94	24" Wide Flat LCD	Windows 10 Pro
City Clerk Office										
City Clerk		18-01515	F32PHQ2	DEPCLERK24	Dell	Optiplex 3060	3/1/2019	$ 1,585.25	24" Flat LCD	Windows 10 Pro
City Clerk		23-01986	G7CBDZ3	CITYCLERK24	Dell	Optiplex 7010 SFF	3/1/2024	$ 1,850.00	24" Flat LCD	WINDOWS 11 PRO
City Clerk		17-01410	5L40XK2	BeachTag24	Dell	Optiplex 7040	3/28/2019	$ 1,549.00	24" Flat LCD	Windows 10 Pro
City Clerk		18-01515	F32JHQ2	Personnel24	Dell	Optiplex 3060	4/2/2019	$ 1,585.25	24" Flat LCD	Windows 10 Pro
City Clerk		23-02072	F992FZ3	CLERKWINDOW24	Dell	OPTIPLEX 7010 MICRO	3/1/2024	$ 1,850.00	24" Flat LCD	WINDOWS 11 PRO
Building Department										
Building Dept		18-01515	F32MHQ2	PLANCODE24 - CMALFARA	Dell	Optiplex 3060	7/18/2019	$ 1,585.25	24" Flat LCD	Windows 10 Pro
Building Dept		21-01996	GH5Z1N3	CODEADMIN24	Dell	Optiplex 7090 SFF	6/1/2022	$ 1,229.07	24" Flat LCD	Windows 11 Pro
Building Dept	561	16-01447	4VTNRD2	INSPECTCODE03	Dell	Optiplex 7040	9/16/2016	$ 1,205.00	24" Flat LCD	Windows 10 Pro
Building Dept		21-01996	JH5Z1N3	INSPECTCODE04 - DINO C	Dell	OPTIPLEX 7090 SFF	3/1/2024	$ 1,229.07	24" Flat LCD	Windows 10 Pro
Building Dept		23-02072	G99F2Z3	CodeCounter24	Dell	Optiplex 7010 Micro	3/1/2024	$ 1,850.00	24" Flat LCD	Windows 11 Pro
Building Dept		22-01700	95T4GT3	CODE001 - GEORGE D	Dell	Optiplex 7000 SFF	1/30/2015	$ 1,443.94	24" Flat LCD	Windows 10 Pro

Location	Name	Type
Various Computers	MS Windows 10	Operating System
Various Computers	MS Windows 11	Operating System
Server Room	MS Server 2019	Operating System
Server Room	MS Server 2012 Standard Server	Operating System
Server Room - Fire, DPW, Police	MS Server 2012 R2	Operating System

Step 2: Categorizing Budget Items

- Operational Maintenance

- Capital Improvements

- Innovation and Transformation

- Staff Development and Training

- Contingency and Emergency Response

City of Ventnor City
IT Department 2025 - Budget Activity

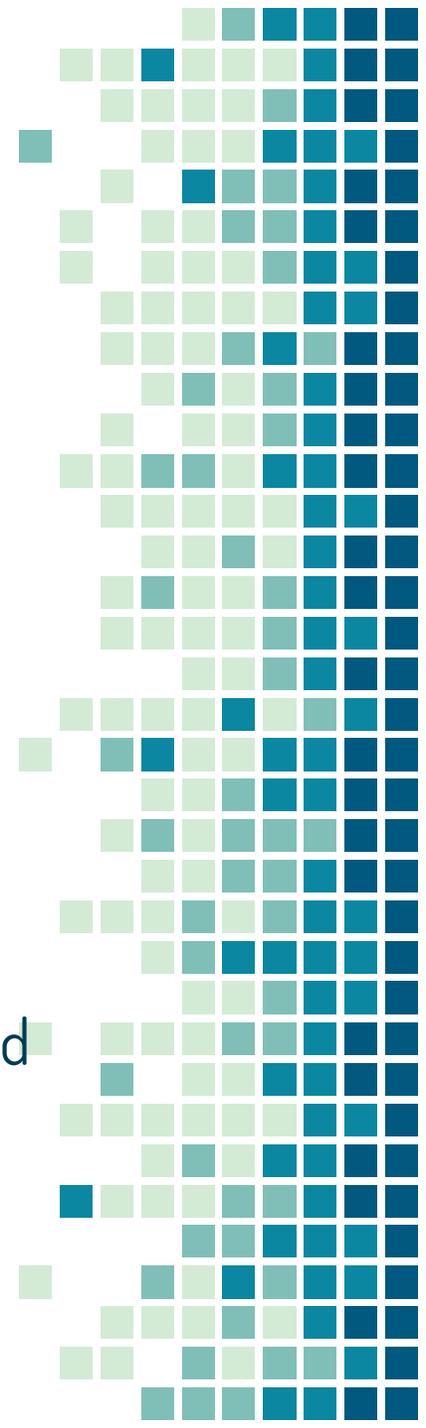| Account	Line item	2025 Budgeted amount	2025 Balance	2025 Used
Computer Expense (Hardware)	20-140-210	$ 10,000.00	$ 9,378.71	$ 621.29
Computer Repair	20-140-211	$ 5,000.00	$ 4,951.44	$ 48.56
Network Fees	20-140-213	$ 105,000.00	$ 85,847.65	$ 19,152.35
New Computers	20-140-214	$ 32,000.00	$ 32,000.00	$ -
Software Maintenance	20-140-216	$ 264,500.00	$ 110,475.74	$ 154,024.26
Office Expenses	20-140-220	$ 1,500.00	$ 1,500.00	$ -
Toner/Print Supplies	20-140-221	$ 7,500.00	$ 5,425.49	$ 2,074.51
Office Supplies	20-140-225	$ 3,000.00	$ 2,836.09	$ 163.91
Professional Services	20-140-236	$ 40,000.00	$ 1,800.00	$ 38,200.00
Seminars & Conferences	20-140-244	$ 1,500.00	$ 953.35	$ 546.65
Total Expenditures	20-140-020	$ 470,000.00	$ 255,168.47	$ 214,831.53

Item Reasoning

		Item	Cost	PO #
Cell Phones	20-140-205		$ -	
	Total		$ -	

		Item	Cost	PO #
Computer Expense (Hardware)	20-140-210	Amazon - Misc Supplies	$ 621.29	25-00317
	Total		$ 621.29	

Yearly Maintenance Agreements					
City Agreements					
Vendor	Item	Cost	Actual	Date	PO #
Sensus	Sensus Analytics Yearly Maintenance - Water Reading System	$ 9,500.00			
Sensus	Sensus Analytics Yearly SAAS fee	$ 9,500.00			
SDL	Code Enforcement System	$ 25,000.00	$ 30,000.00	5/29/2025	R5-00596
BIS DIGITAL	Video System for Court room	$ 2,500.00			
Primepoint	New Time Clock System	$ 40,000.00			
BIS DIGITAL	Sound system - BIS DIGITAL	$ 5,000.00	$ 1,387.40	5/5/2025	R5-00451
GMIS	GMIS Renewal	$ 250.00	$ 125.00	5/5/2025	R5-00454
Network Solutions	Domain Name Renewal	$ 1,000.00			
PTI	CIO Dues	$ 1,500.00			
JAG	JAG Dues	$ 500.00	$ 350.00	6/9/2025	R5-00684
Starnet	Starnet - N-Able Remote Patching	$ 9,000.00			
SHI	Adobe Acrobat Licensing	$ 3,000.00	$ 2,772.00	17-Apr	25-00812
FRA Tech	Clerk Programs	$ 2,000.00			
Dell	Server Warranties/ PC Warranties	$ 5,000.00			
SHI	Maintenance - Barracuda Applicances	$ 2,800.00			
SHI	O365 Email in the Cloud	$ 30,000.00	$ 20,665.75	2/11/2025	25-00379
SHI	O365 P2 LICENSES TO GET CURRENT		$ 2,738.25	4/23/2025	R5-00402
SHI	O365 Additional G3 Licenses		$ 8,370.00	5/13/2025	R5-00497
SHI	Malwarebytes	$ 12,500.00			
DCW	VNC Renewal	$ 2,500.00	$ 2,550.00	2/11/2025	25-00376
DCW	CCleaner	$ 5,000.00			
Copiers Plus	Plotter Maintenance	$ 700.00			
STARNET	VMWare Renewal	$ 6,000.00	$ 6,350.00	4/23/2025	R5-00404
Starnet	Unitrends Renewal - Backup Solution Year 3	$ 25,000.00			
SHI	Zoom Recordings	$ 3,500.00	$ 2,972.10	2/11/2025	25-00378
Starnet	Kiwi Syslog Maintenance	$ 1,500.00			
Starnet	Monthly Monitoring - Cisco - StarNet	$ 7,500.00			
JCT	Salto Door Maintenance	$ 11,000.00			
REC DESK	Rec Dept Program - Rec Desk	$ 6,000.00			
EDMUNDS	Edmunds - Work Order system	$ 9,000.00			
EDMUNDS	Edmunds - Validator Maintenance	$ 750.00	$ 632.10	4/17/2025	25-00816
Data Center	STORMWINDS STUDIOS	$ 2,000.00	$ 1,000.00	5/5/2025	25-00900
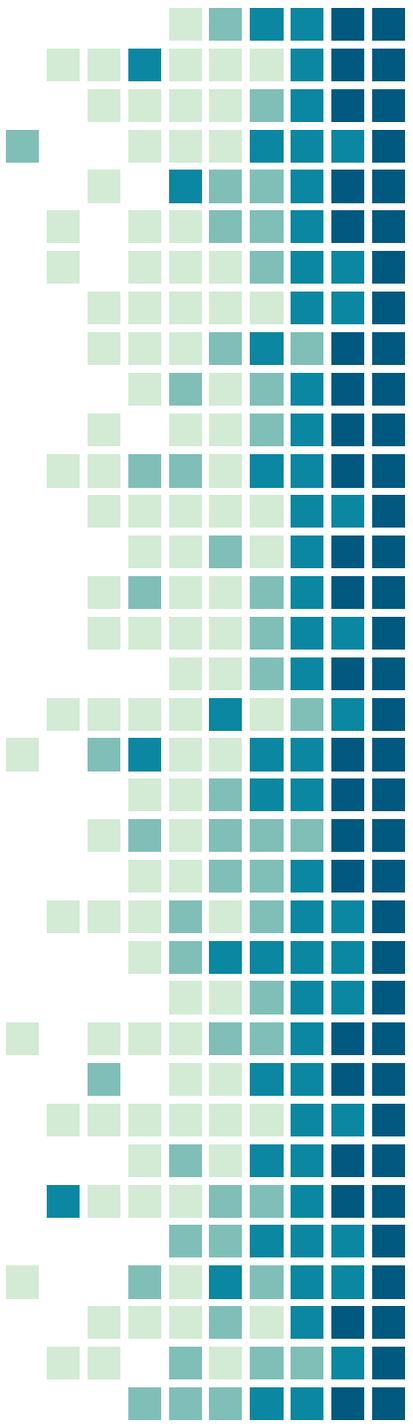
Step 3: Multi-Year Planning Approach

- 3-5 year technology roadmap aligned with organizational strategic goals

- Staggered replacement schedules to avoid funding spikes

- Capital reserve Strategy for major system replacements

- Identification of recurring vs. one-time costs

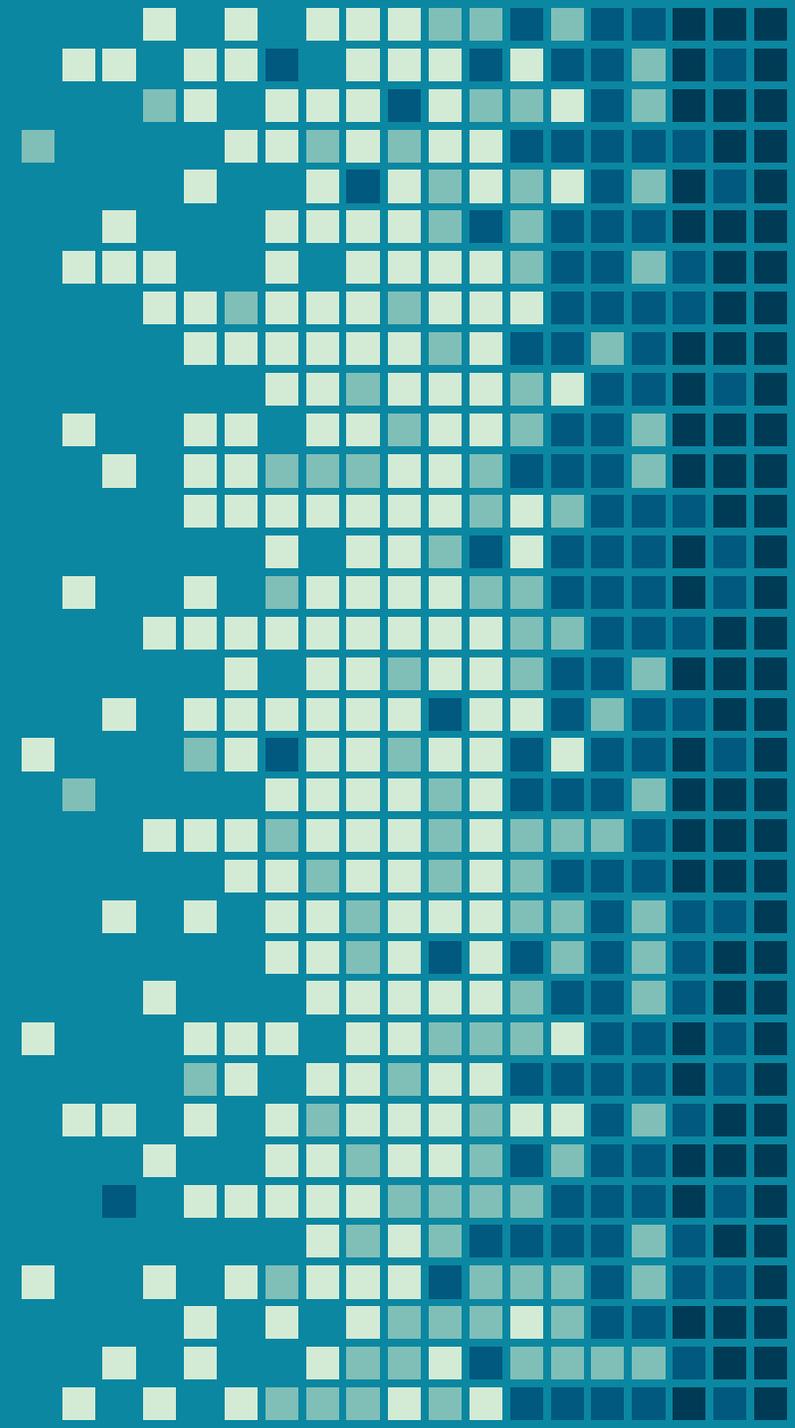- Early identification of future requirements and regulatory changes

Best Practice #1: Aligning Technology with Strategic Priorities

- Directly linking technology investments to strategic plan objectives

- Quantifying how technology supports departmental service delivery metrics

- Identifying operational inefficiencies that technology can address

- Developing cross-departmental technology initiatives

- Creating technology roadmaps that reflect organizational priorities

Best Practice #2: Building the Business Case

- Clear problem statement and proposed solution

- Quantifiable benefits (cost savings, productivity improvements, service enhancements)

- Total cost of ownership analysis (not just purchase price)

- Risk assessment of action vs. inaction

- Implementation timeline and resource requirements

- Success metrics and evaluation plan

Best Practice #3: Collaborative Budgeting Approaches

- IT should be called into any project from the start

- Technology steering committee with cross-departmental representation

- Shared funding models for enterprise systems

- Department-sponsored technology initiatives

- Service-level agreements with defined costs

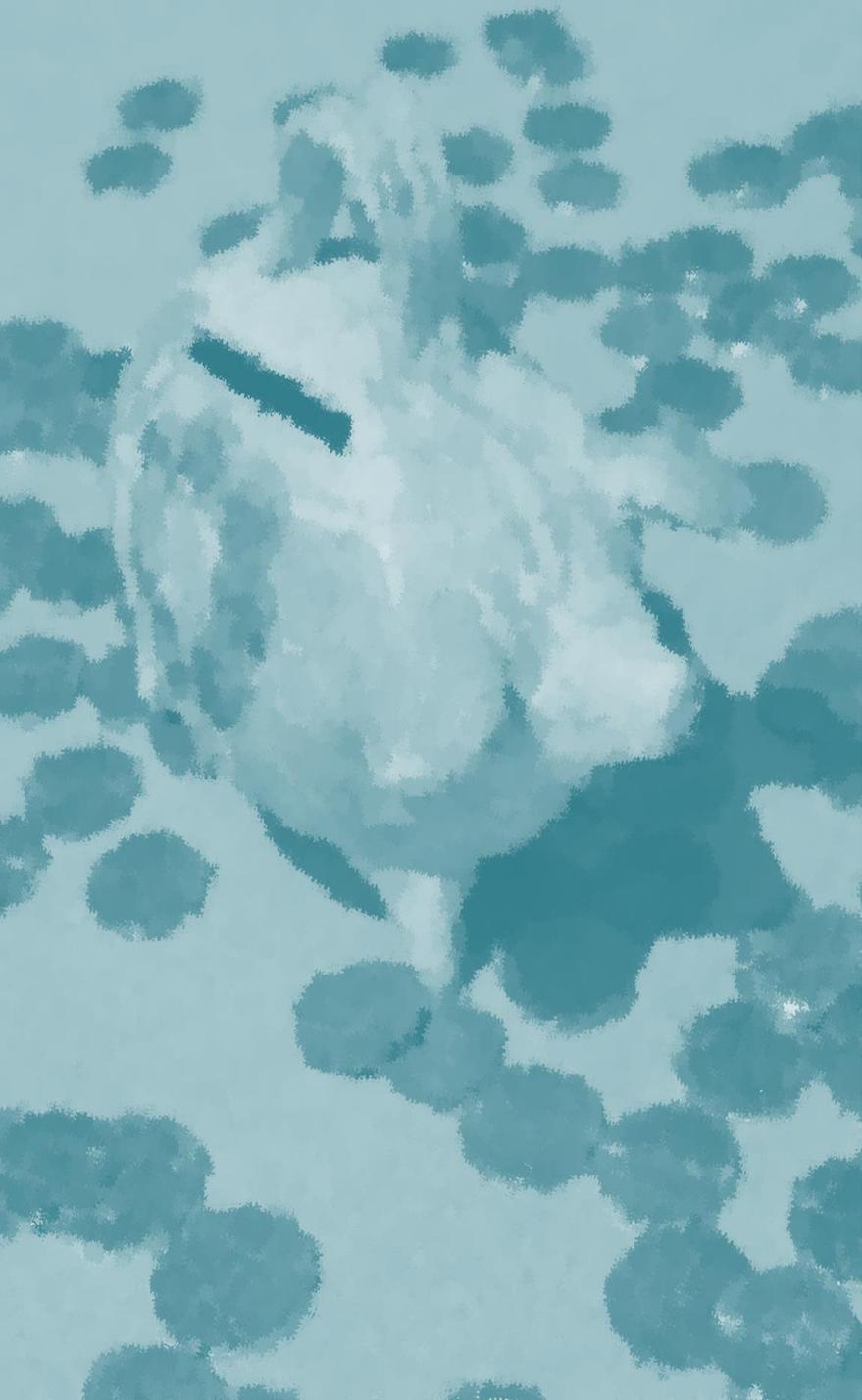- Joint presentations of technology budget requests
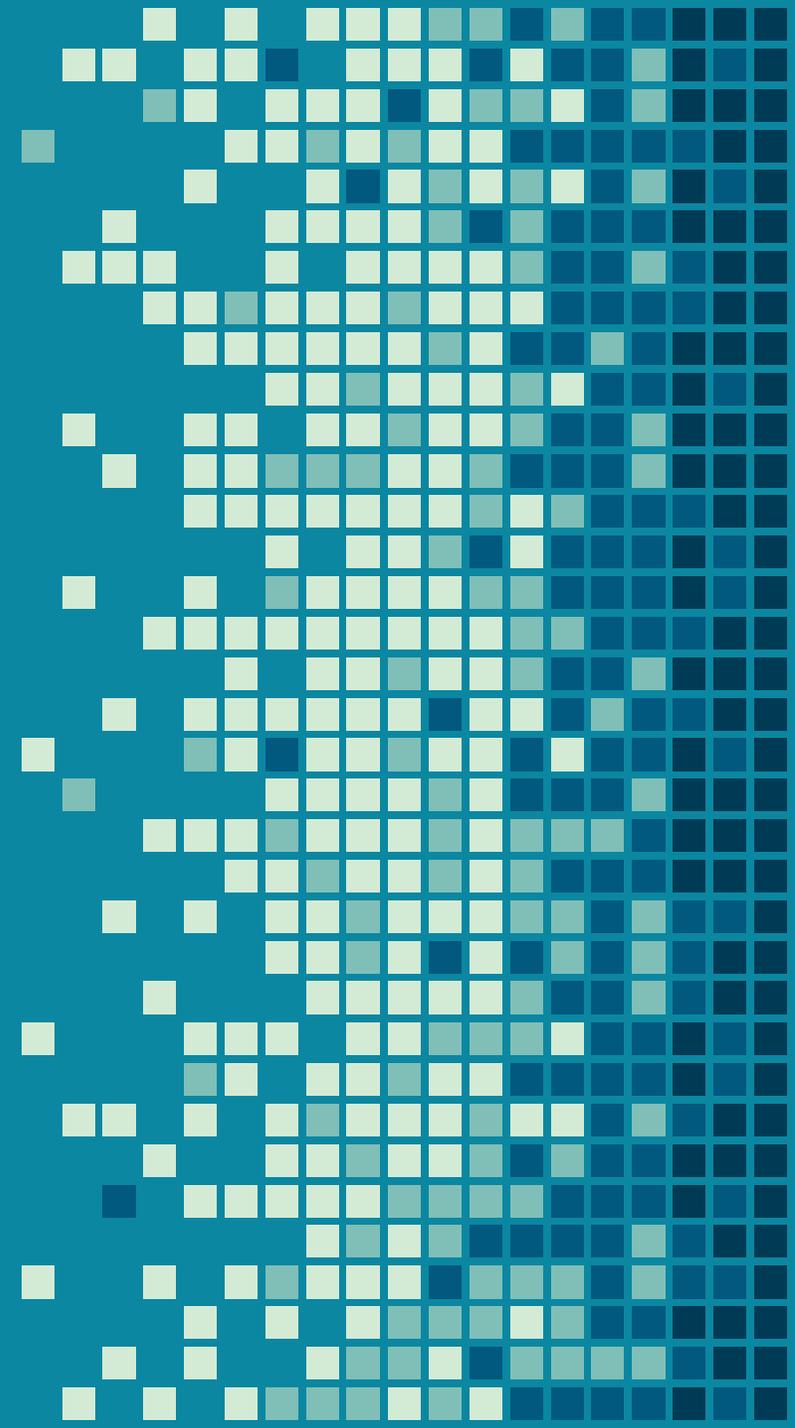
State Funding Programs for Technology

- Local Efficiency Achievement Program (LEAP) Grants for Shared Services Technology

- NJ Cybersecurity & Communications Integration Cell (NJCCIC) State And Local Cybersecurity Grant Program (SLCGP)

- Department of Community Affairs (DCA) Modernization Funds

- New Jersey Library Construction Bond Act Technology Allocations

- County Innovation Grants for Municipal Partnerships
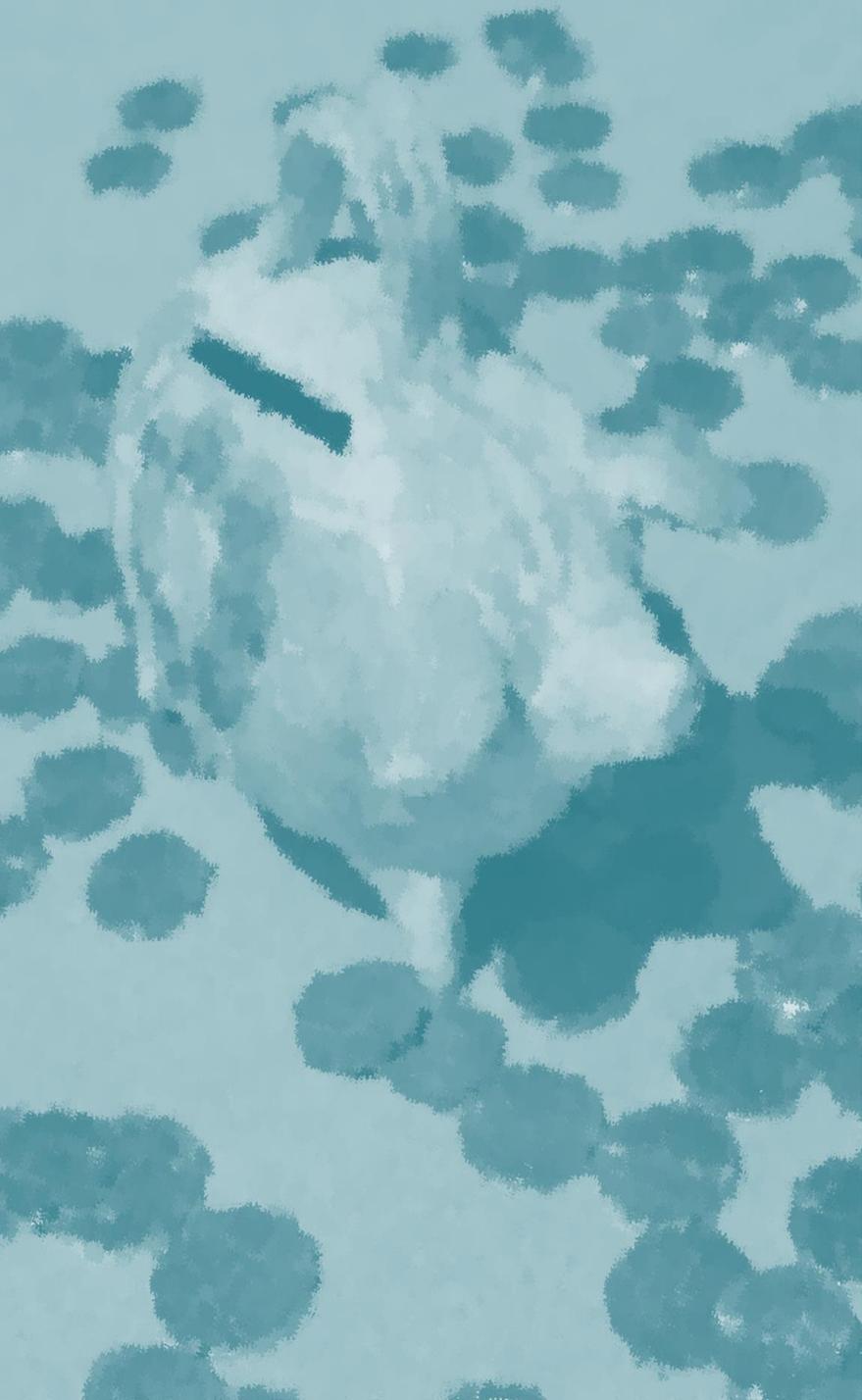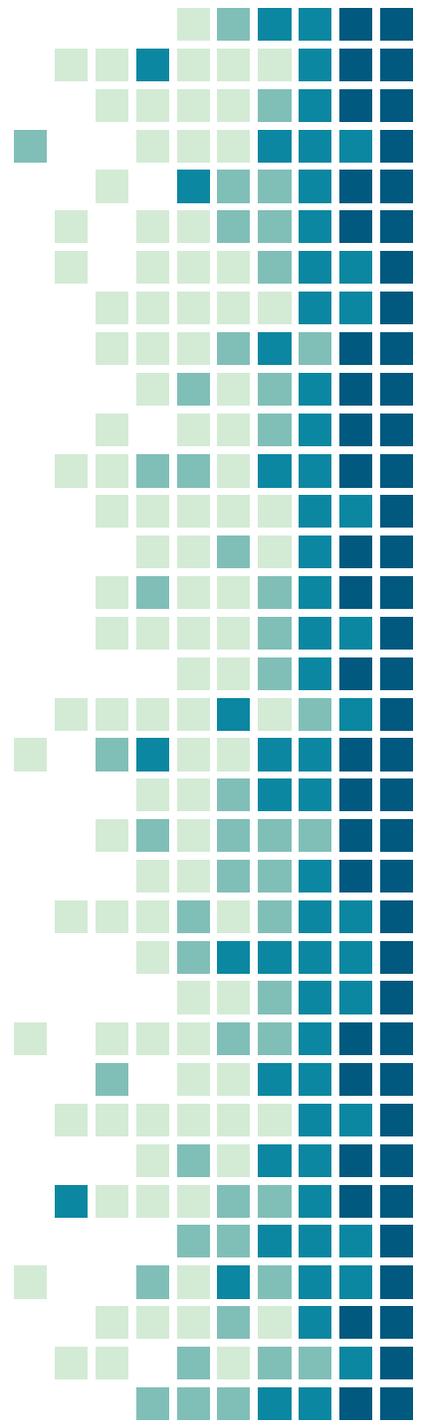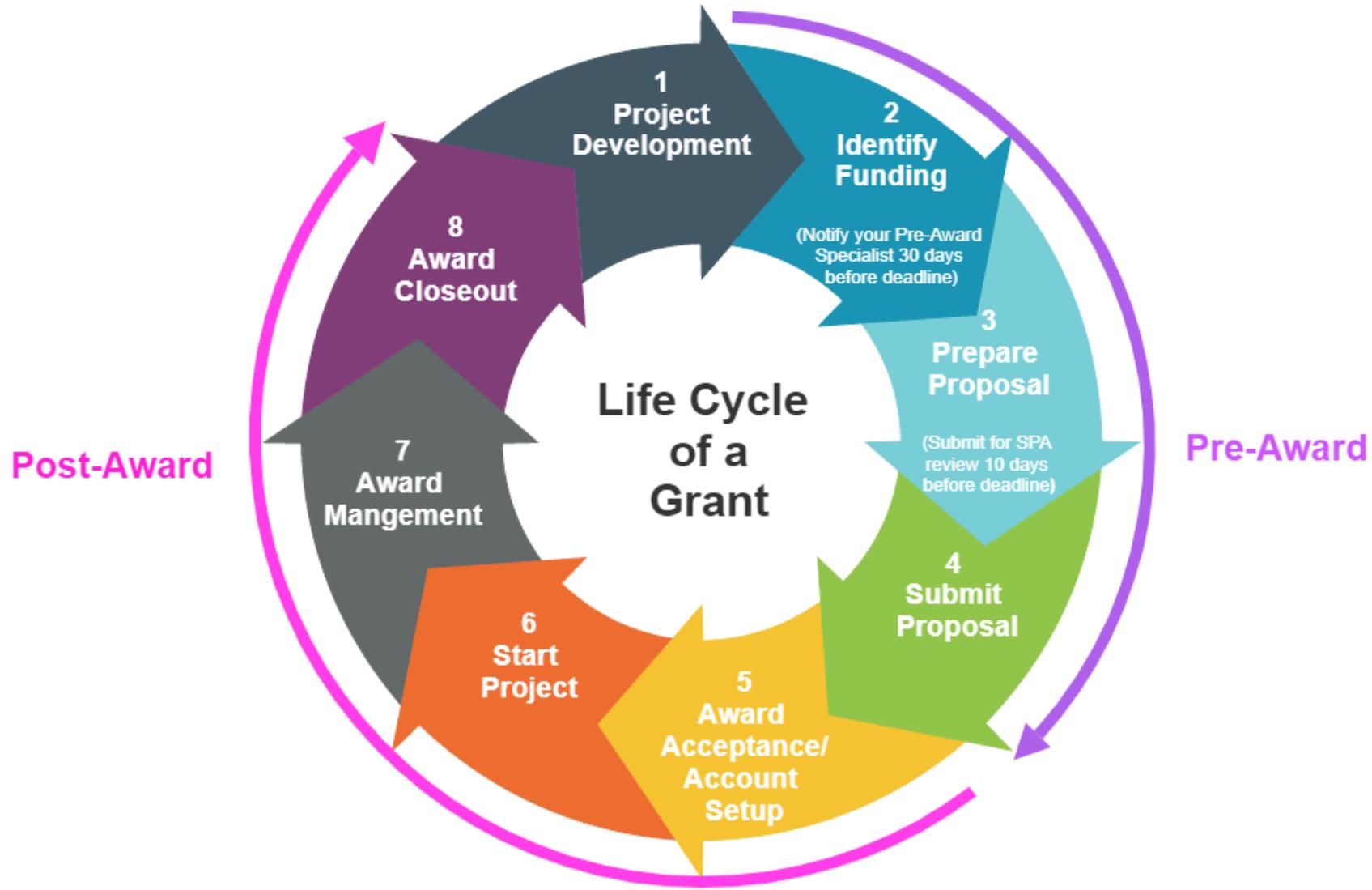
Federal Funding Opportunities

- American Rescue Plan Act (ARPA) Funds for Digital Infrastructure

- FEMA Grants For Emergency Management Systems

- Department of Justice Technology Modernization Grants

- Rural Development Technology Grants

- Federal Broadband Expansion Funding

Strategies for Grant Success

- Maintaining "shovel–ready" project plans for funding opportunities

- Building relationships with state and federal program officers

- Developing regional partnerships to strengthen applications

- Creating reusable components for grant applications

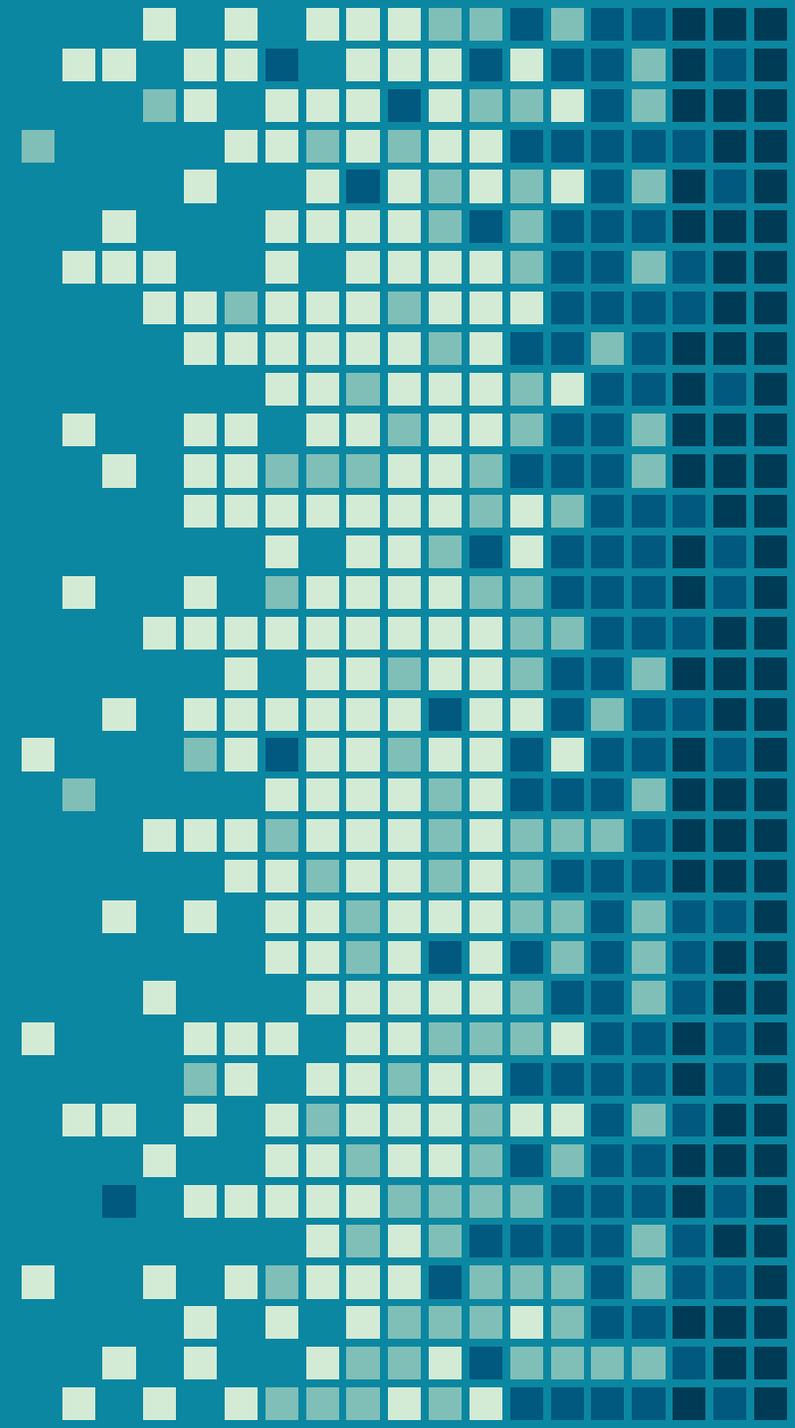- Establishing grant management capabilities within your organization

Life Cycle of a Grant

1 Project Development

2 Identify Funding
(Notify your Pre-Award Specialist 30 days before deadline)

3 Prepare Proposal
(Submit for SPA review 10 days before deadline)

4 Submit Proposal

5 Award Acceptance/ Account Setup

6 Start Project

7 Award Mangement

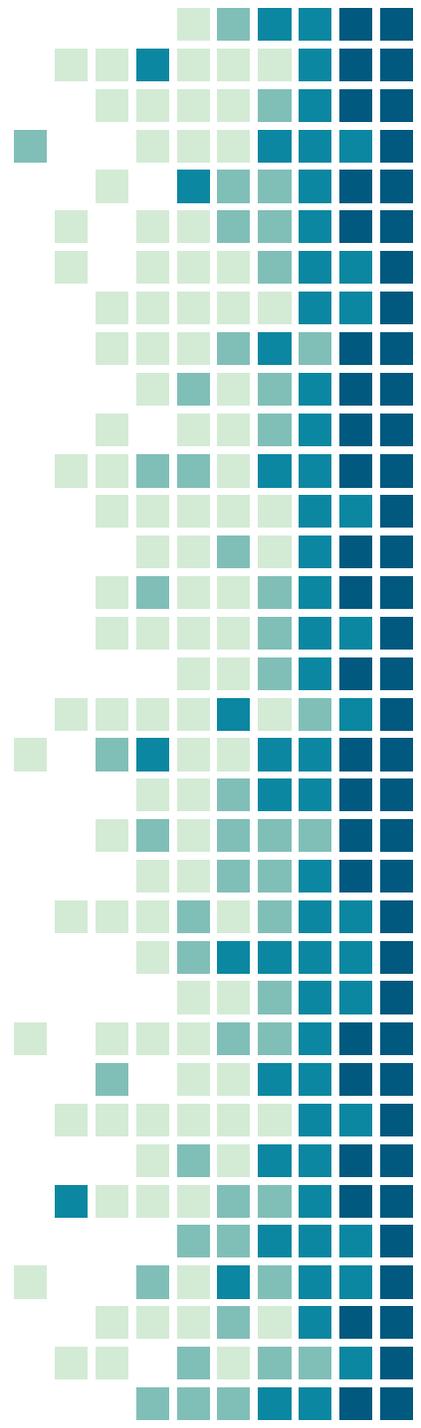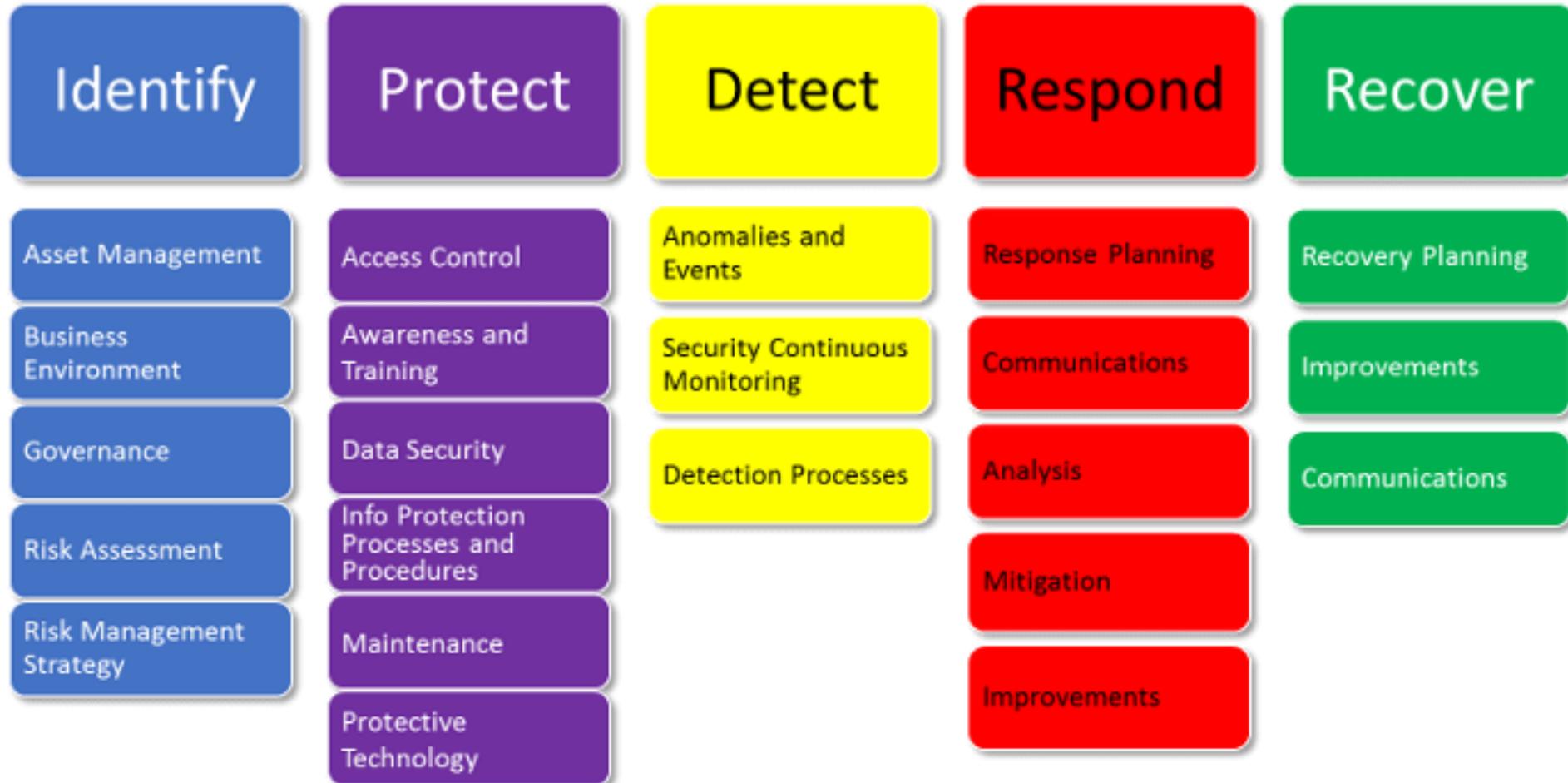8 Award Closeout

Post-Award

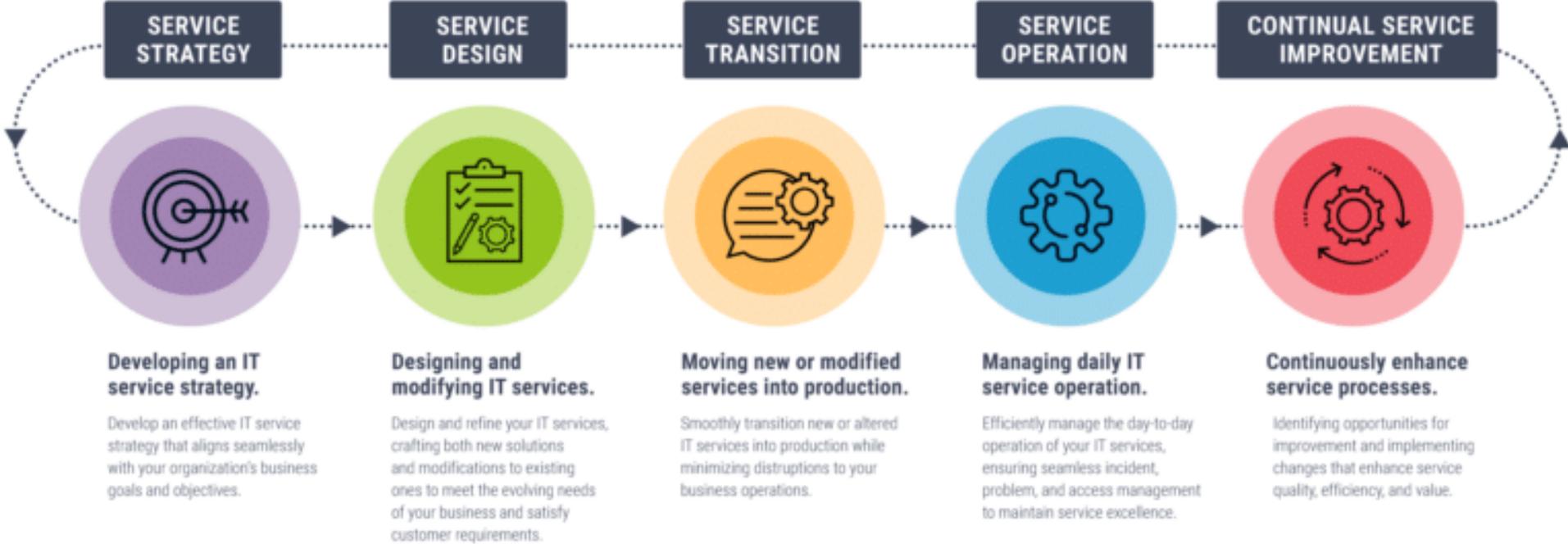Pre-Award

Technology Assessment Frameworks

- NIST Cybersecurity Framework for security investment prioritization

- IT Infrastructure Library (ITIL) for service management investments

- Total Economic Impact (TEI) methodology for cost-benefit analysis

- Government Finance Officers Association (GFOA) technology budgeting guidelines

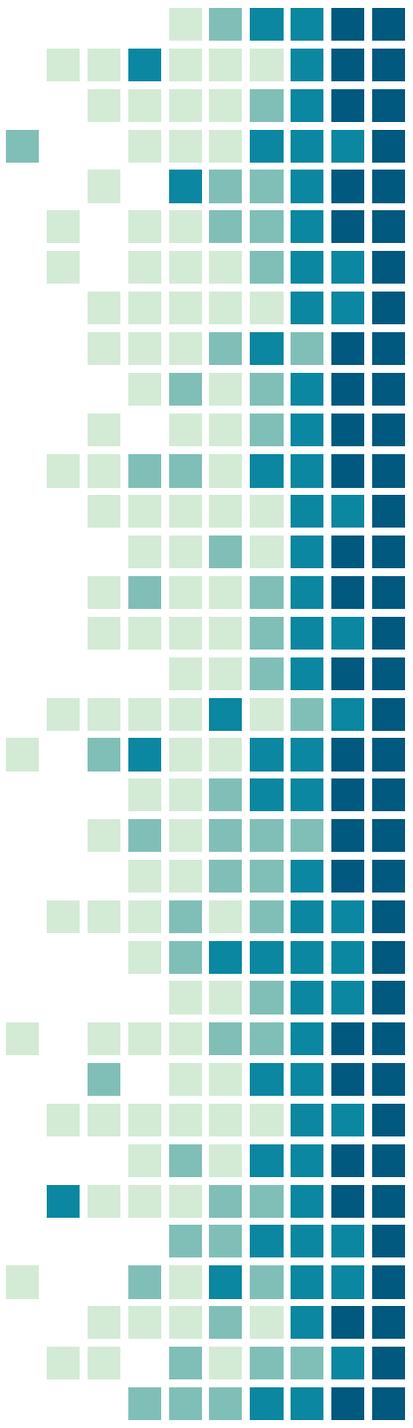- Digital maturity assessment tools for strategic planning
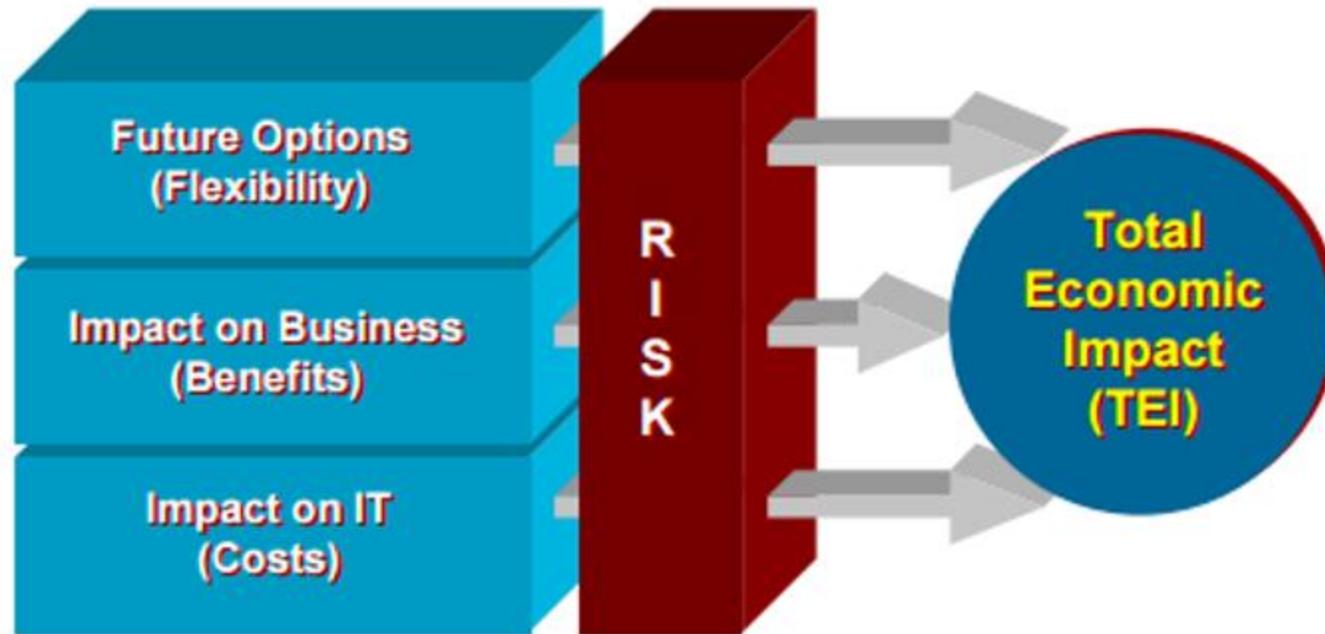
NIST Cyber Security Framework

Identify	Protect	Detect	Respond	Recover
Asset Management	Access Control	Anomalies and Events	Response Planning	Recovery Planning
Business Environment	Awareness and Training	Security Continuous Monitoring	Communications	Improvements
Governance	Data Security	Detection Processes	Analysis	Communications
Risk Assessment	Info Protection Processes and Procedures		Mitigation	
Risk Management Strategy	Maintenance		Improvements	
	Protective Technology			

ITIL Processes

SERVICE STRATEGY	SERVICE DESIGN	SERVICE TRANSITION	SERVICE OPERATION	CONTINUAL SERVICE IMPROVEMENT

Developing an IT service strategy.

Develop an effective IT service strategy that aligns seamlessly with your organization's business goals and objectives.

Designing and modifying IT services.

Design and refine your IT services, crafting both new solutions and modifications to existing ones to meet the evolving needs of your business and satisfy customer requirements.

Moving new or modified services into production.

Smoothly transition new or altered IT services into production while minimizing distruptions to your business operations.

Managing daily IT service operation.

Efficiently manage the day-to-day operation of your IT services, ensuring seamless incident, problem, and access management to maintain service excellence.

Continuously enhance service processes.

Identifying opportunities for improvement and implementing changes that enhance service quality, efficiency, and value.
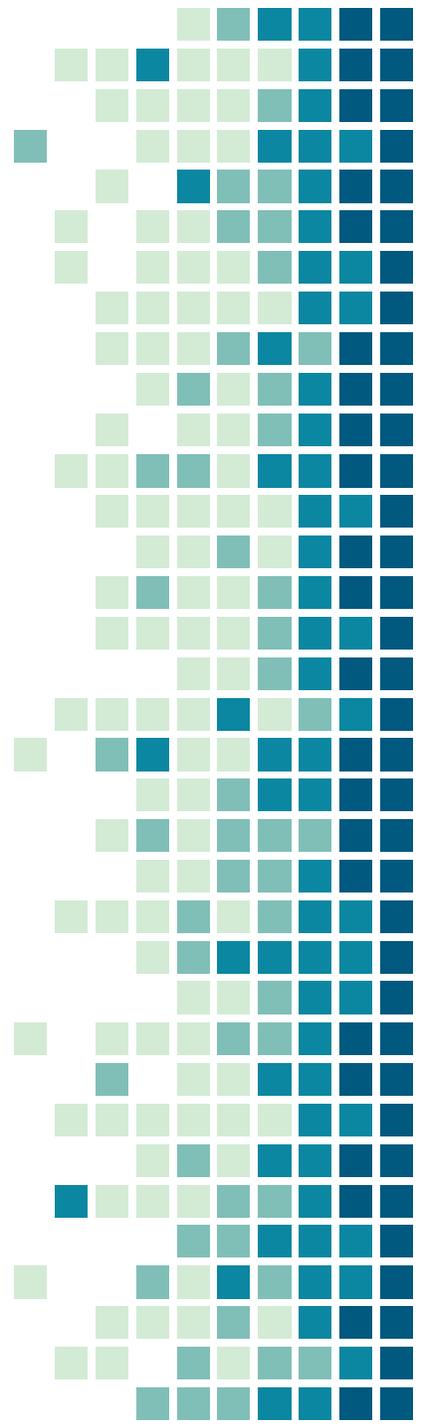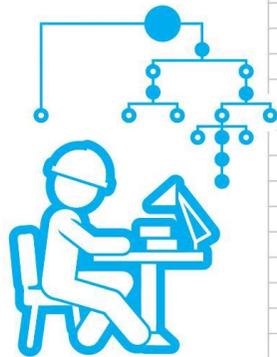
Sources: axelos.com and vivantio.com

Total Economic Impact (TEI)

Note: Risk is an inherent part of the TEI model and overlays all parameters. Risk equates to uncertainty and broadens estimate ranges for all other variables.

Source: Giga Research, a wholly owned subsidiary of Forrester Research, Inc.
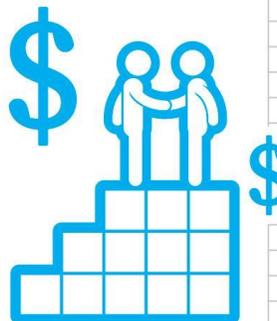
HELP DECISION-MAKERS SEE A WIDER OPTION SET

HELP DECISION-MAKERS TEST ASSUMPTIONS

HELP DECISION-MAKERS CHOOSE HIGHEST-VALUE OPTIONS

CREATE TRUST IN THE PROCESS

STRONG SENSE OF IDENTITY AND PURPOSE

FAIR AND INCLUSIVE DECISION-MAKING

MONITORING AGREED-UPON BEHAVIOR
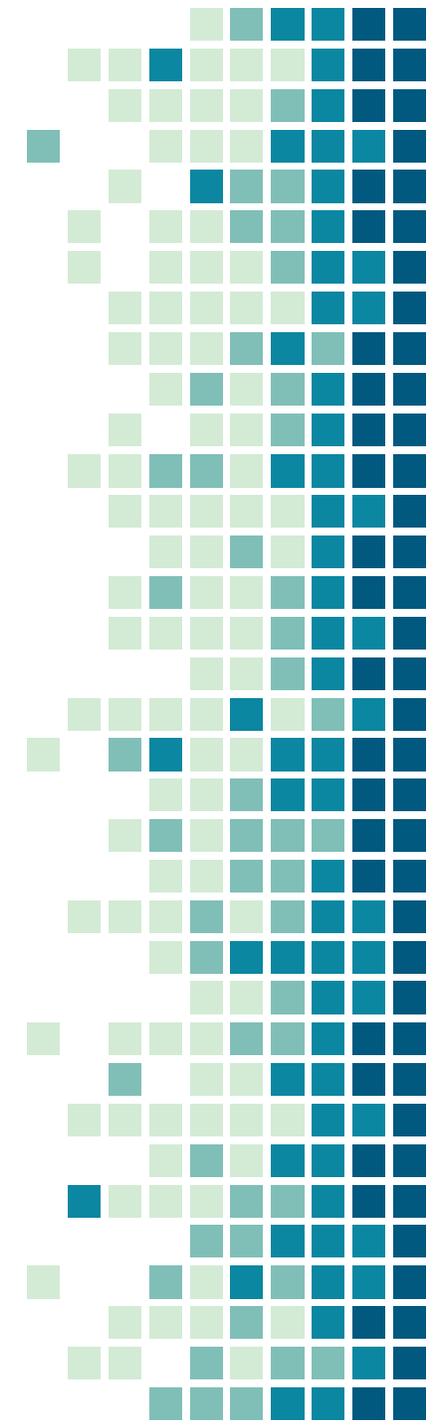
LOCAL AUTONOMY

GRADUATED SANCTIONS AND REWARDS

BENEFITS PROPORTIONAL TO COST

FAST AND FAIR CONFLICT RESOLUTION

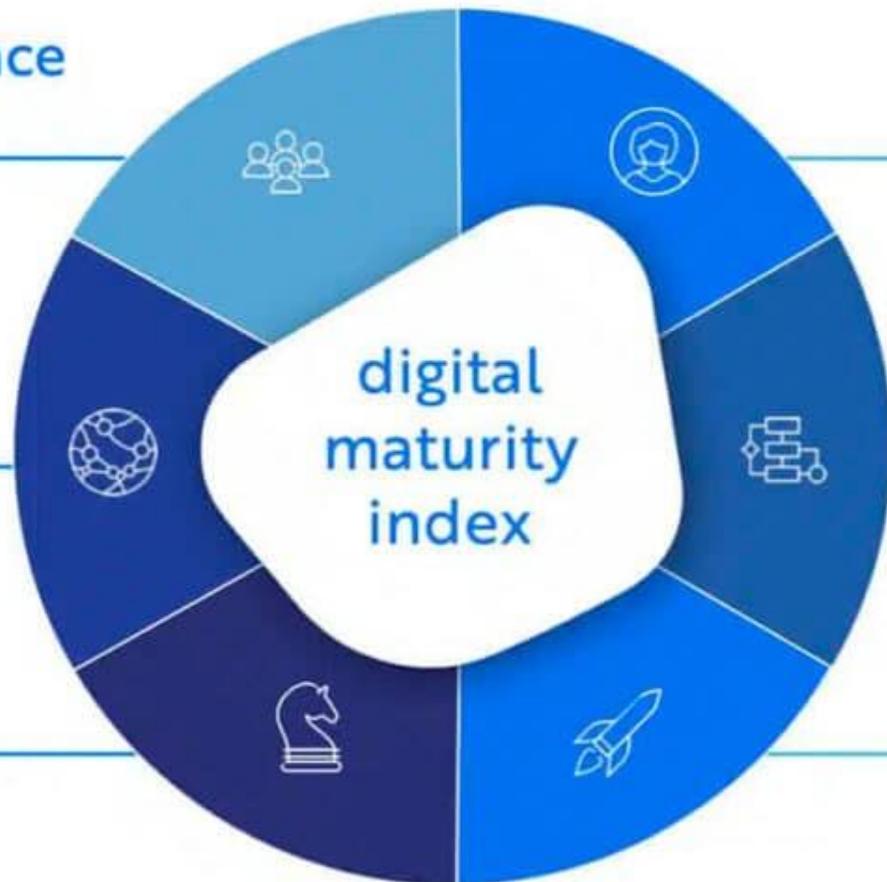APPROPRIATE RELATIONS WITH OTHER GROUPS

Digital Endurance

people
Capabilities
Culture
Analytics

technology
Applications
Infrastructure
Data & Analytics

governance
Administration
Performance
Analytics

digital maturity index
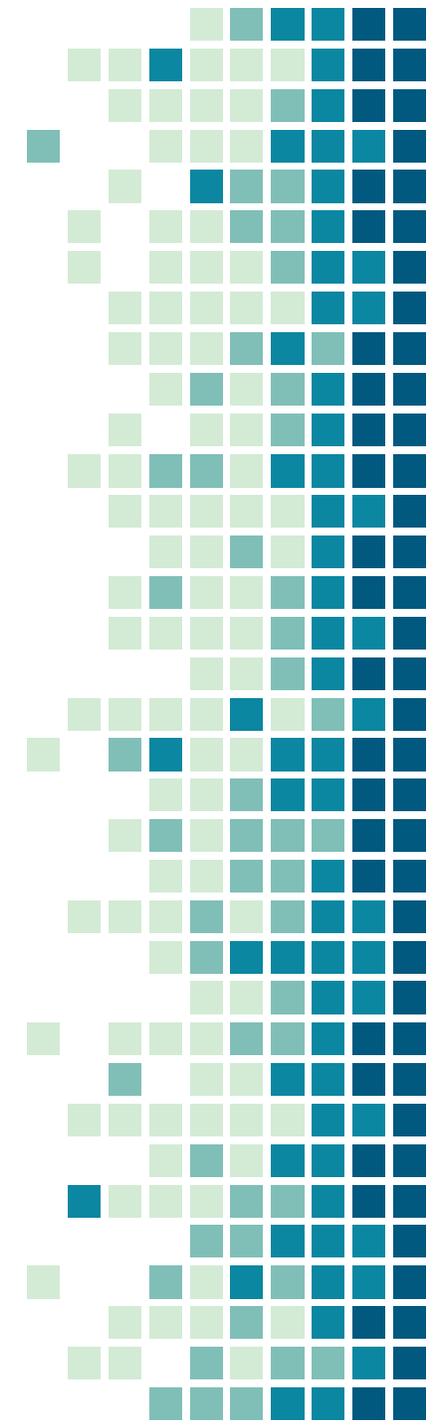
Digital Velocity

customer
Offerings
Experience
Analytics

operations
Processes
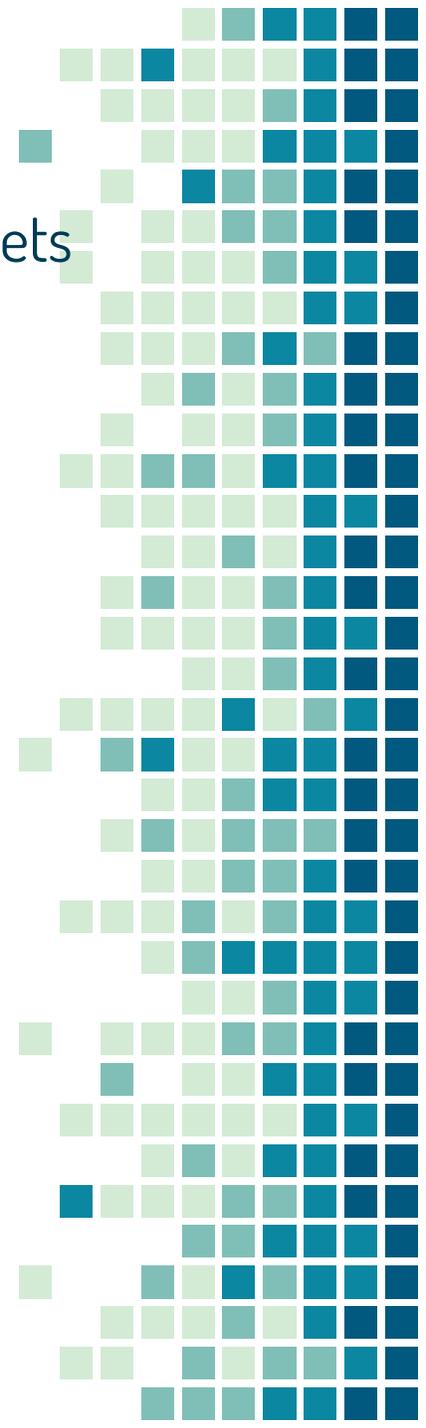Industry 4.0
Analytics

innovation
Idea Management
Expansion
Culture

Budget Templates and Tools

- Technology lifecycle management spreadsheets

- Total Cost of Ownership (TCO) calculators

- Project prioritization matrices

- Capital improvement planning templates

- Budget visualization tools for presenting to stakeholders

Peer Resources and Networks

- New Jersey Association of Counties

- Government Management Information Sciences (GMIS) NJ Chapter

- New Jersey State League of Municipalities

- NJ Municipal Information Systems Association (NJMISA)

- Regional Roundtables and Forums

NJ-GMIS – LEADERS in GOVERNMENT TECHNOLOGY

- NJ-GMIS is an association of public sector technology leaders.
- Annual conference providing educational sessions, networking opportunities, discussions of trends and emerging technologies.
- Virtual Round-table Series for Public Sector Technology Professionals.

Membership:

- Visit https://www.gmis.org.
- Click 'Membership'
- Choose 'Agency Membership'
- Annual fees start at $100 and are based on your agency's annual technology budget.

- GMIS International hosts a similar 3-day annual conference which brings together public sector IT professionals throughout the world.
- Award scholarships for members enrolled in the CGCIO "Certified Government Chief Information Officer" certificate program.

GMIS NEW JERSEY
*An Association Of Government IT Leaders*

Any questions?
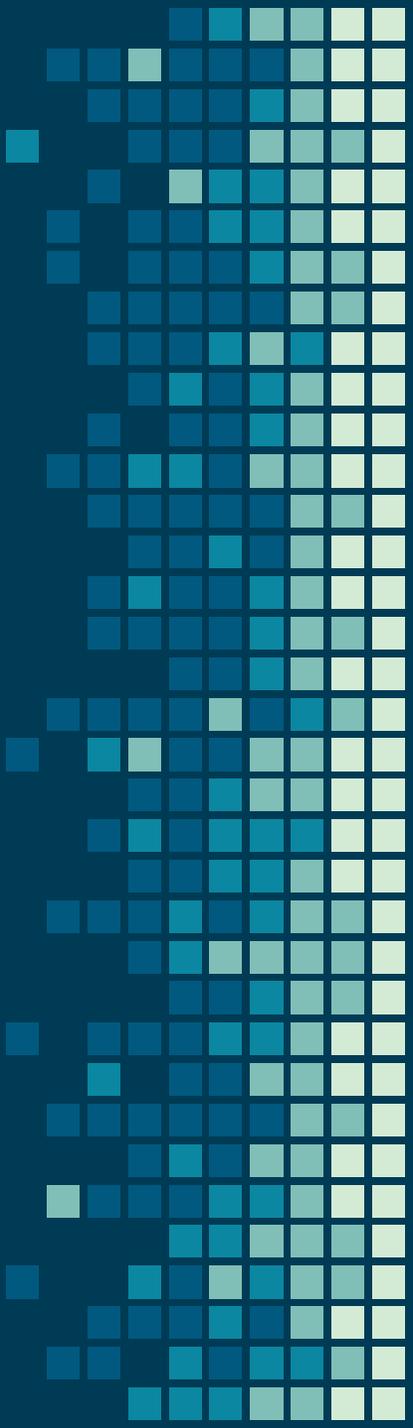
TAKEAWAYS

- **Start with comprehensive inventory and clear organizational priorities**

- **Develop multi-year planning horizons that transcend annual budget cycles**

- **Build compelling business cases with quantifiable benefits**

- **Leverage collaborative approaches across departments**

- **Explore external funding opportunities to supplement local resources**
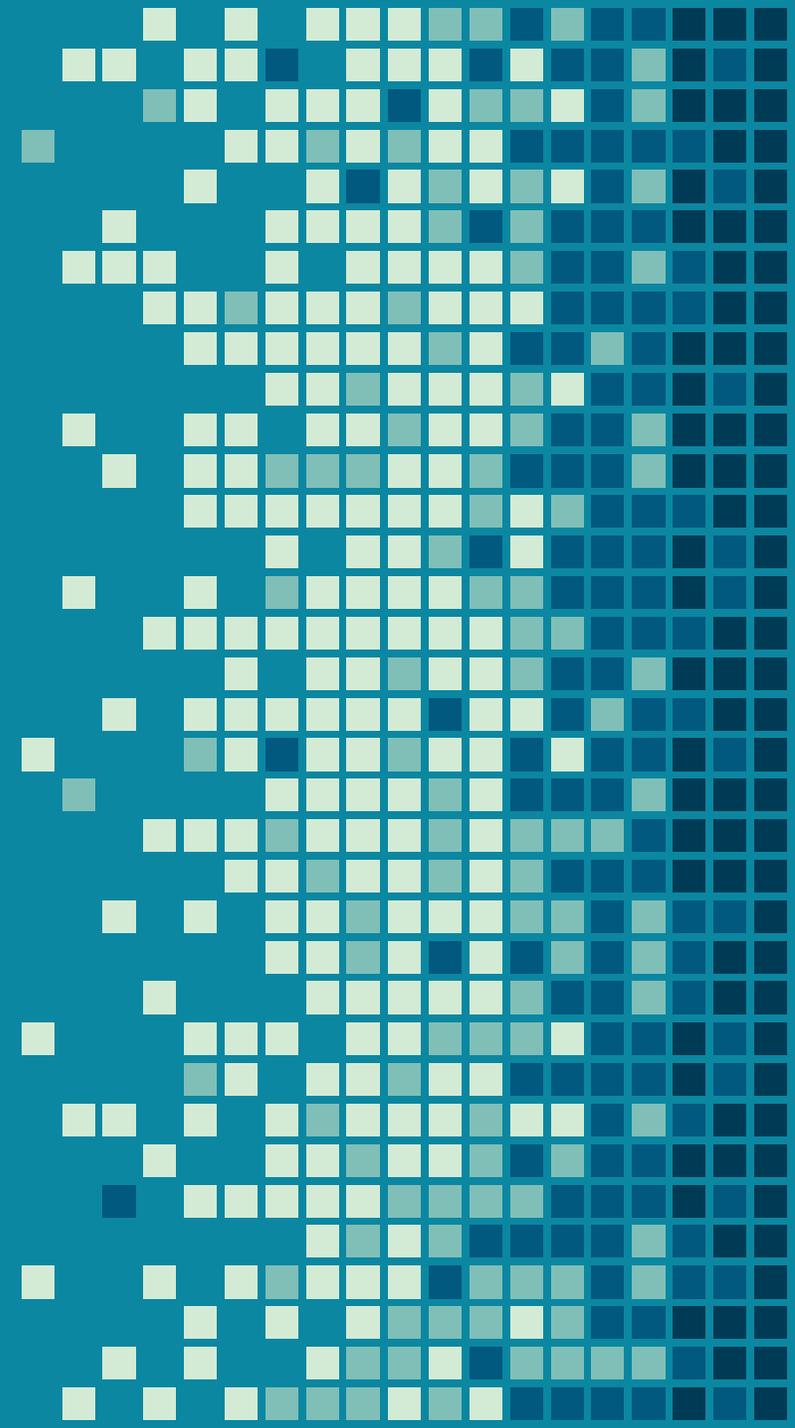
THANKS!

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