

EEI/AGA Finance and Technology

2019 Automation Survey Executive Summary

Survey Trends

- 2/3 of surveyed companies have bots in production
- On average automation teams have:
 - Automated 8 processes equaling 8000 labor hours
 - 14 bots in operation
 - 8.5 employees and contractors on the team
- Automation sits in various locations depending on the organization. Of the 38 respondents:
 - Nearly 40% reside in IT
 - 26% in Finance
 - 34% in "Other" or use a decentralized model
- Customer billing/payment and application to application data transfer have the most hours automated
- Majority of respondents use Individual Bot IDs to determine login and segregation of duties
- Approximately half of respondents develop automations internally versus by onshore/offshore contractors
- 90% of companies are piloting emerging technologies or are considering implementation

Measuring Value

- Labor hours saved
- Business dollars saved
- Risk Reduction

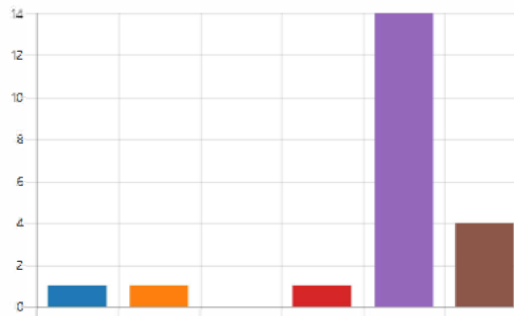
Biggest Takeaways

- Utility Industry is growing its RPA capabilities and starting to branch out to other emerging technologies
- Automation is being used across a wide-variety of processes, but the largest hours savings are being realized within Customer with Application to Application Data Transfer
- Utilities are successfully using both internal and contractor-led automation models

EI/AGA Finance and Technology 2019 Automation Survey Results

1. What stage of RPA implementation are you in?⁽¹⁾

● Not yet started	1
● Business justification and use ...	1
● RPA vendor evaluation and sel...	0
● Development and implementa...	1
● Bots in production, implement...	14
● Other	4



(1) Above lines cut off in the PDF are as follows: "Business justification and use case identification", "RPA vendor evaluation and selection", "Development and implementation of bots, not yet in production" and "Bots in production, implementation of additional bots and identification of additional use cases in process".

2. How many processes have you automated?

- a. Across 21 companies:
 - i. Average: 8
 - ii. Max: 63
 - iii. Min: zero (six companies had zero)

3. How many annual labor hours have you automated?

- a. Across 21 companies:
 - i. Average: 8,078
 - ii. Max: 56,000
 - iii. Min: zero (six companies had zero)

4. How many bots are in operation?

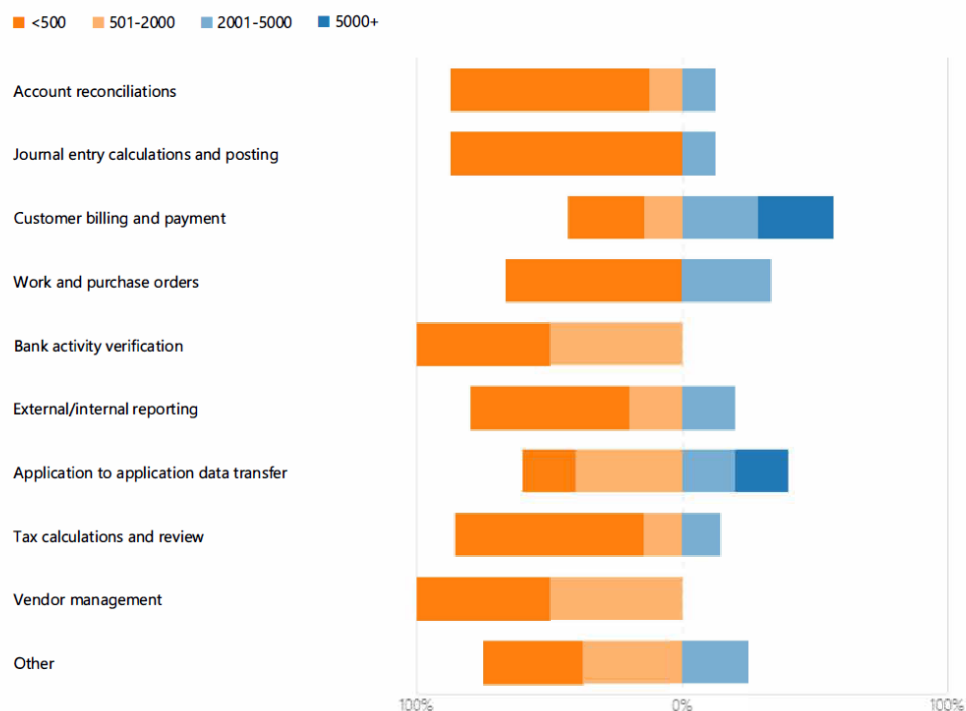
- a. Across 21 companies:
 - i. Average: 14
 - ii. Max: 197
 - iii. Min: zero (six companies had zero)

5. Where does RPA sit in your organization? (check all that apply)

● Information Technology	15
● Continuous Improvement/Strat...	3
● Finance	10
● Third party vendor	3
● Multiple departments/parties ...	7



6. If RPA sits in multiple departments/parties please describe
 - a. Many companies described a multi-departmental team consisting of IT and Finance
7. How many full-time employees are working on your RPA team?
 - a. Across 21 companies:
 - i. Average: 3.0
 - ii. Max: 15
 - iii. Min: zero (six companies had zero)
8. How many part-time employees are working on your RPA team?
 - a. Across 21 companies:
 - i. Average: 2.5
 - ii. Max: 20
 - iii. Min: zero (twelve companies had zero)
9. How many contractors part-time and full-time are working on your RPA team?
 - a. Across 21 companies:
 - i. Average: 3.0
 - ii. Max: 15
 - iii. Min: zero (seven companies had zero)
10. If your company has automated the process listed below how many annual hours were automated for each process (estimates are fine).



11. Please describe "Other" processes your company has automated and include hours automated specific to each use case
 - a. Most common "other" response was Master Date Creation/Management and Accounts Payable related automation

12. How do Bots log into applications? (check all that apply)

Employee ID	3
Individual Bot ID	15
System ID	5
Other	2



13. How do you ensure appropriate segregation of duties in your automations? ⁽¹⁾

Controlled by permissions gra...	19
Controlled at the automated p...	3
Other	1



(2) Above lines cut off in the PDF are as follows: "Controlled by permissions granted to the Bot ID" and "Controlled at the automated process level"

14. What are the primary metrics you use to measure value delivered? (check all that apply)

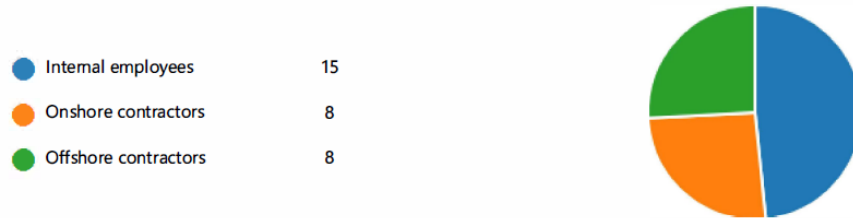
Labor hours saved	18
Business dollars saved	11
Risk reduction	10
Other	3



15. How do you measure and track value realization (in no particular order)?

- user feedback
- each process is measured individually and tracked by the related process and product owner
- labor hours
- business value, labor hours saved, dollars saved
- created script to measure performance of the bot; FP&A
- post implementation review
- closed loop budgeting
- dashboard that collects hours saved on an annual basis that the employees enter manually

16. Who develops your automations?



17. How do you perform post-implementation user-acceptance testing (in no particular order)?

- a. Hypercare period established post-implementation to validate bot performance and train end users
- b. Start out automating a small portion and ramp up as comfortable. Results list provided to users and IT to manually verify.
- c. Predefined test scripts by end users
- d. Business and functional users develop test cases for acceptance
- e. We run the bot in parallel with the manual operation to determine if the results are the same.
- f. Coordination between IT and Subject Matter Experts in Development environment
- g. Business process owner must review all automation scenarios and approve testing results in QA environment
- h. User acceptance testing is performed before implementation.
- i. Business users/process owners for the automated process perform UAT
- j. Information Technology Infrastructure Library Framework
- k. Defined per individual process
- l. Product or process owner perform validation of the automation while connected to the test URLs/shared drive locations
- m. Standard UAT Testing
- n. Annual certification from business units/BOT sponsors
- o. In most cases we ask business personnel to put together test plans and to execute those test plans with adequate testing evidence. The testing evidence and approval is required before changes are implemented into production.
- p. UAT is performed pre-implementation.

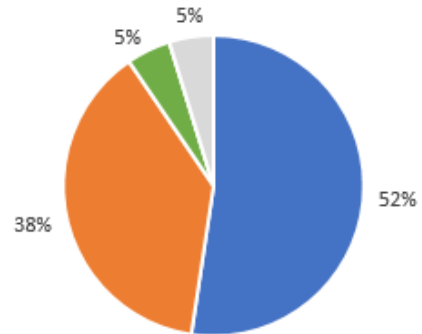
18. How and when do you perform regression testing (in no particular order)?
 - a. During development/testing
 - b. Start out automating a small portion and ramp up as comfortable with results list provided to users and IT to manually verify
 - c. Manual upon system changes
 - d. Whenever there are changes to the RPA platform, and/or changes to systems and processes that bots access
 - e. Execute updated process / bot in Development environment
 - f. Will be performed for first RPA software upgrade this spring
 - g. Regression testing has not been performed at this time
 - h. Follow normal IT procedures for identifying and executing regression testing; e.g., if source system is changed, impacted bots need to be included in testing program
 - i. Updates to bot
 - j. At change of underlying technology and when RPA's are enhanced
 - k. Standard UAT Testing
 - l. During development
 - m. Mostly manual, but we are starting to automate some of the regression tests. It is testing critical functions in a "production like" environment after all other testing is complete and after code is frozen."
19. How do you incorporate Cyber Security reviews into your process?
 - a. Part of bot design
 - b. Cyber Security team will be involved in the contract review for software and vendor selected
 - c. Security person is assigned to team to review access & permissions
 - d. Quarterly security audits, enterprise-wide Cyber Security initiatives
 - e. compliance policies and reviews handled by Corporate Audit Services and IT Security teams
 - f. Cyber Security reviews the automation software during the evaluation phase.
 - g. Cyber involved in "intrusion testing" of automation platform; safeguarding credentials
 - h. CoE design authority conducts code review for processes prior to promotion to production; CyberSec requirements are defined in CoE playbook
 - i. All process invoke the Cyber ARK Vault.
 - j. Follow standard IT procedures for all new applications/system development
 - k. Vendor evaluation, SOX controls
 - l. we haven't yet implemented RPA so no experience with this
 - m. RPA platform has been reviewed and additional review when we have an automation to a new system
 - n. Cyber security review of overall solution design of RPA platform at the launch of the RPA project; follow established best practices for each individual process
 - o. Qualify for it, enterprise security review board if needed
 - p. During development and annual certifications
 - q. Included within the Application design template. Authentication and password requirements.

- r. Cyber risk assessments are performed during the early stages of development once business requirements have been documented.
20. What is your primary means to encrypt files at-rest in an RPA process?
- a. Built-in encryption
 - b. Passwords are stored in an encrypted credential vault
 - c. Encryption technology available for sensitive data
 - d. The encryption is provided by the RPA software.
 - e. The files are on secured shared drives accessible by the non-human ID managed by
 - f. We do not perform file encryption. RPA does not maintain any data that needs to be encrypted
 - g. We do not perform file encryption; however, access to the production files is restricted to tenant admin.
 - h. Generally, we don't encrypt files at rest. We feel other controls mitigate the risk of unencrypted data at rest.
 - i. Unk
21. How do you manage and who has access to the production environment (RPA tool and config files)?
- a. Managed by Cyber Security with different roles locked down
 - b. Managed by the Center of Excellence and/or business administrators
 - c. Application Tool, limited/controlled list of end users, security provisioning
 - d. Utilize standard company logical access provisioning and de-provisioning protocols and tools
 - e. Managed by Information Technology.
 - f. Managed by Service Support Team
 - g. Roles defined within the RPA product
 - h. Segregation of duties and governance
 - i. Role-based security in the RPA production environment and underlying production files is restricted to the tenant admin. Config files, as needed, are restricted to process owners.
 - j. Internal tool built to manage access
 - k. Managed by security groups that are assigned owners and approvers
22. How do you mitigate the risk that changes to applications and operating systems (i.e., patching, security updates) do not disrupt automations in production? Communication and coordination between the various application teams
- a. Patching schedules are provided to CoE. Application changes require communication between application owners and CoE. No formal process currently.
 - b. Development environment where patches are applied first and RPA processes are tested.
 - c. Potential impacts identified during use case development and need to be included in post go-live operational plan
 - d. Achieve by using ITIL and CMMI
 - e. Coordination with teams that do patching to take offline when patching occurs

- f. Working closely with the change advisory board to identify application changes early so that we ensure any necessary updates occur to the automation prior to the application/operating system changes.
- g. Regression testing
- h. Testing in a non-production environment and run regression.
- i. Ensure all stakeholders are on related distribution lists and that system support and operations teams are aware of impacts to bots in production.

23. Emerging Technologies – Implementation

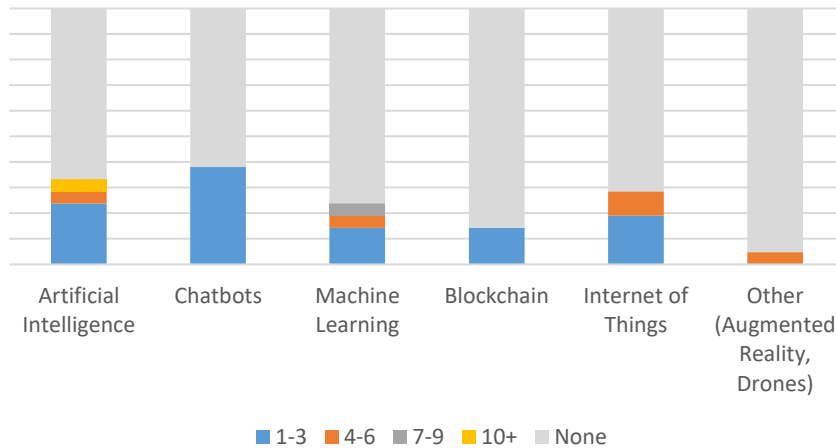
Thinking about it	11
Piloting different technologies	8
Testing different vendors	1
Robust program in place	0
None	1
Total	21



- Thinking about it
- Piloting different technologies
- Testing different vendors
- Robust program in place
- None

24. Emerging Technology – Use Case Implementation at Companies

	Number of			Total
	1-3	4-6	7-9	
<i>Artificial Intelligence</i>	5	1	14	21
<i>Chatbots</i>	8	0	13	21
<i>Machine Learning</i>	3	0	16	21
<i>Blockchain</i>	3	0	18	21
<i>Internet of Things</i>	4	0	15	21
<i>Other (Augmented Reality, Drones)</i>	0	0	20	21



- 1-3
- 4-6
- 7-9
- 10+
- None

25. Prominent Vendors for Emerging Technologies

- a. *Artificial Intelligence* - Automation Anywhere, UI Path, Kofax, Microsoft, Pyron
- b. *Chatbots* - Genesys, Microsoft
- c. *Machine Learning* - UI Path, Automation Anywhere, Microsoft
- d. *Blockchain* - None selected
- e. *Internet of Things* - Microsoft, Grid Modernization Vendors
- f. *Other (Augmented Reality, Drones)* - None selected

26. Prominent Implementation Partners for Emerging Technologies

- a. *Artificial Intelligence* - Automation Anywhere, E&Y, Western Integrated, Strategy Wise
- b. *Chatbots* - None selected
- c. *Machine Learning* - Automation Anywhere, Microsoft, Strategy Wise
- d. *Blockchain* - None selected
- e. *Internet of Things* - None selected
- f. *Other (Augmented Reality, Drones)* - None selected

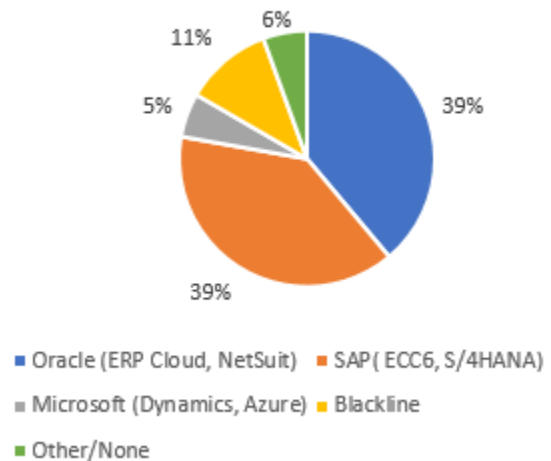
27. Use Cases for Emerging Technologies

- a. *Artificial Intelligence* - Invoice processing, Extract information from scanned images, Hi/Lo To Do's in customer care system, Identify fraudulent meter use
- b. *Chatbots* - Customer Service, Internal help desk
- c. *Machine Learning* - Improve existing automation capabilities, Extract information from scanned images, Claims handling, Video facial recognition for security
- d. *Blockchain* - Verify completion of steps in formal task, Energy Credits
- e. *Internet of Things* - Grid Modernization: Smart lighting, line sensors, Smart meter applications, Automated vehicle tracking

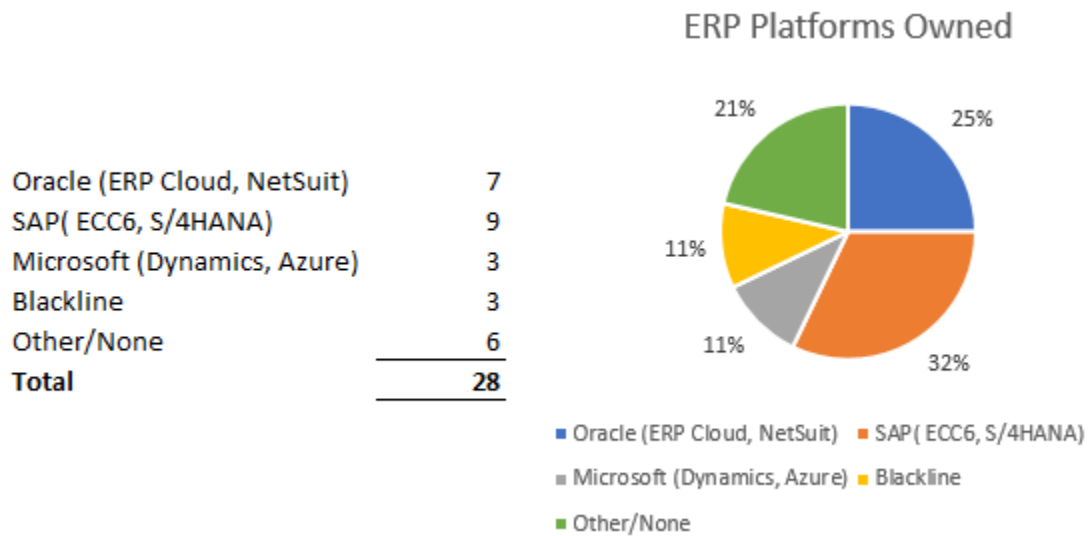
28. ERP Platform: Suitable In Member Opinion

Oracle (ERP Cloud, NetSuit)	7
SAP(ECC6, S/4HANA)	7
Microsoft (Dynamics, Azure)	1
Blackline	2
Other/None	1
Total	18

Preferred ERP Platforms



29. ERP Platform: Member Owned (multiple selections allowed)



30. Continuous Close Status and Expected Hurdles

- a. "Financial info is updated in ERP in near real-time; expect hurdles with ability to change process and embrace technology. Trusting technology using internal controls. Workforce transformation."
- b. "Business complexity significantly impacts achieving objective; expect hurdles in addressing required system upgrades, assessing functionality installed but not used, developing use cases for advance technologies "
- c. "Real time data is available in limited use cases; continuous close is not viable yet due to system and business process limitations"
- d. "Critical for utility operations; expect hurdles in Organizational change management"
- e. "Multiple point solution systems provide challenges to achieving continuous close and availability of real data at all times; hurdles are lack of ERP and sufficient BI/Data analytics environments"
- f. "Challenged with time commitment to implement with scarce resources"

31. Application Areas (Agile and Lean PM)

<i>Agile</i>	Automation	Proj. Mgmt.	HR	Finance	IT
<i>Scrum</i>	Automation	Proj. Mgmt.	HR	Finance	IT
<i>Kanban</i>		Proj. Mgmt.	HR	Finance	IT
<i>Six Sigma</i>	Continuous Improvement	Proj. Mgmt.		Finance	IT

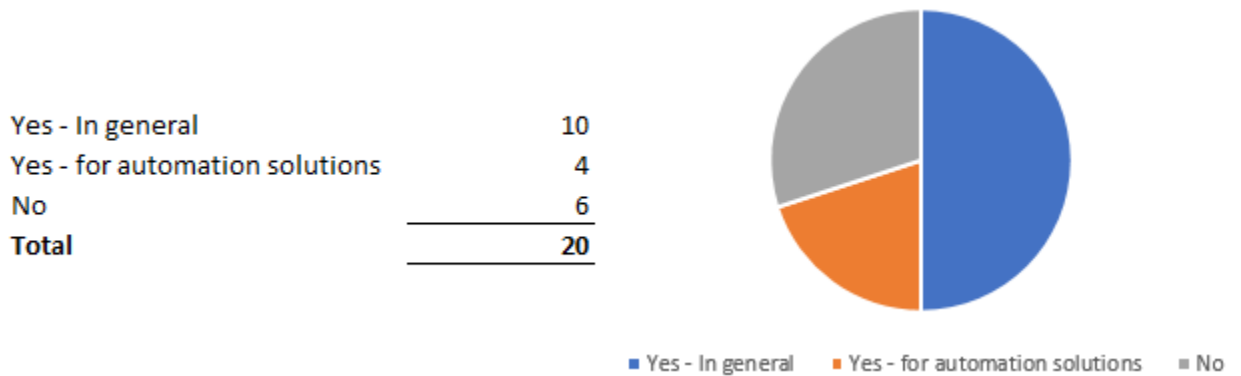
32. Executive Sponsors (Agile and Lean PM)

<i>Agile</i>	IT PMO	CIO	VP - Business Transformation	SVP / CIDO
<i>Scrum</i>	IT PMO	CIO	VP - Business Transformation	SVP / CIDO
<i>Kanban</i>		CIO	VP - Business Transformation	SVP / CIDO
<i>Six Sigma</i>	President	CFO	VP - Business Transformation	

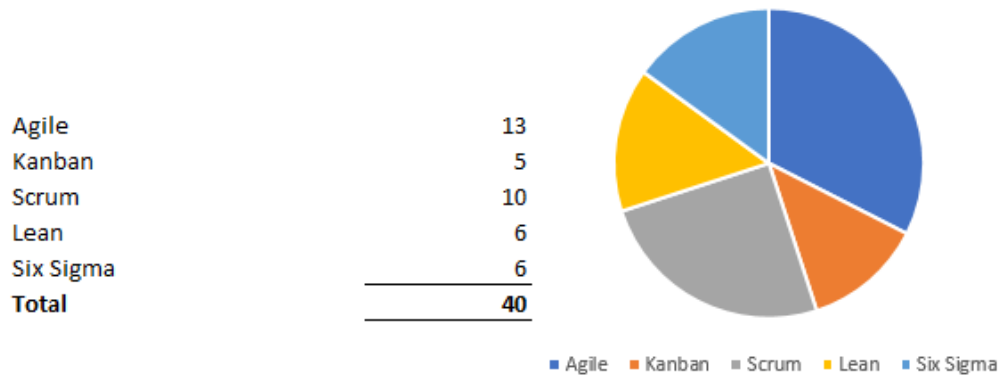
33. Comments (Agile and Lean PM)

<i>Agile</i>	"Driven by Information Technology, used in cross-functional teams when implementing solutions" "Concepts of sprints and close collaboration can be very effective for some types of projects; it doesn't work well for all projects equally, and there is value in selective vs. dogmatic" "Agile methods can help teams manage work more efficiently and do the work more effectively while delivering the highest quality product within the constraints of the budget"
<i>Scrum</i>	"Benefits of Scrum are: Better Product Quality, Faster ROI, More Control, Reduced Risk, Improved Customer Satisfaction"
<i>Kanban</i>	"We leverage JIRA and Confluence software solutions to manage teams"
<i>Six Sigma</i>	"Primary methodology used for identifying process improvements"

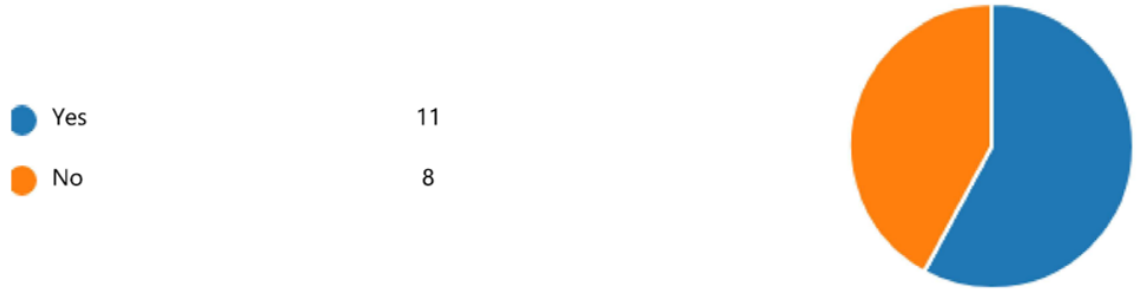
34. Use of Agile and Lean methods of project management



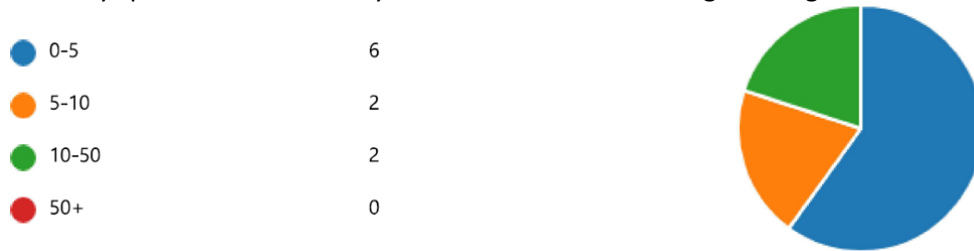
35. Agile and Lean Methods Used



36. Do you have specific resources dedicated to change management (i.e. helping users adopt to new tools and processes) in your organization?



37. How many specific resources do you have dedicated to change management?



38. Department % of specific resources

