

How Reliable Are Your Efficiency Levers?

ICEAA Workshop 2023

Eric van der Vliet

Director - Estimation Center of Expertise



Agenda

- Objectives Estimation Centre of Expertise
- Application Services
- Application Services Estimation Initiative
- Efficiency Levers, How Reliable Are They?
- Conclusions
- Questions

Objectives Estimation Center of Expertise

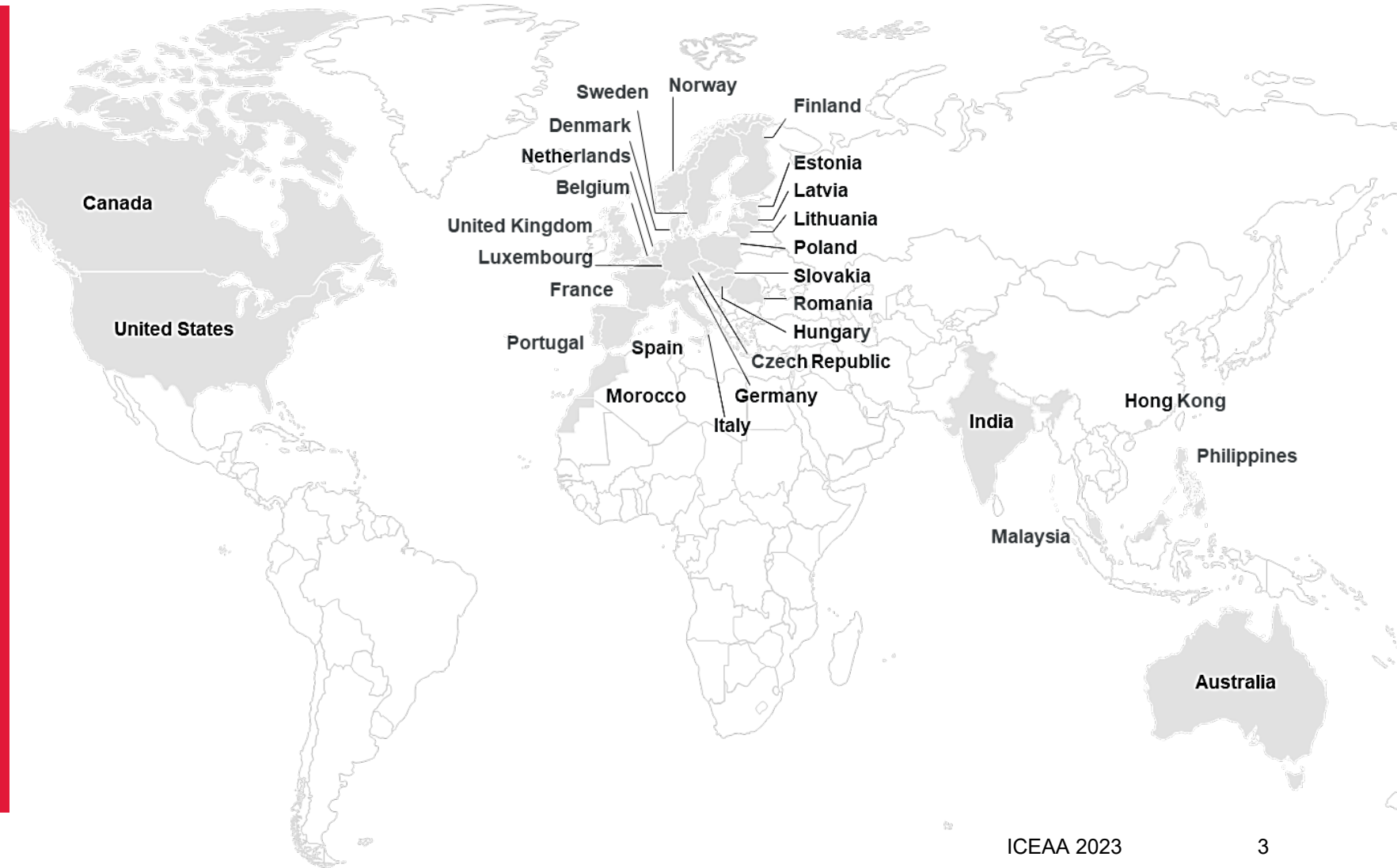
CGI: 82,000 consultants

400 locations in 40 countries

Delivering end-to-end services including Application Services

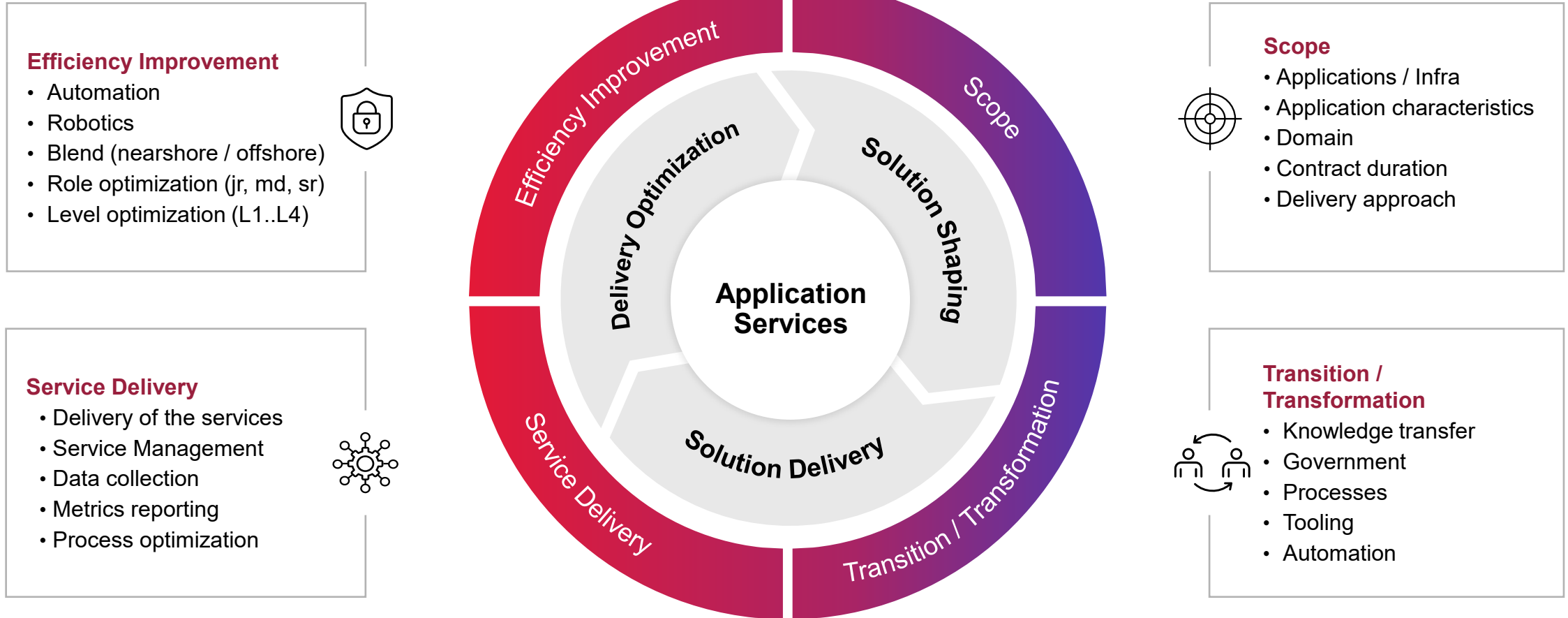
CoE: Improvement Cost Estimation including Application Service

Standardization of tooling to support Application Service Cost Estimation



Application Services

Application Services

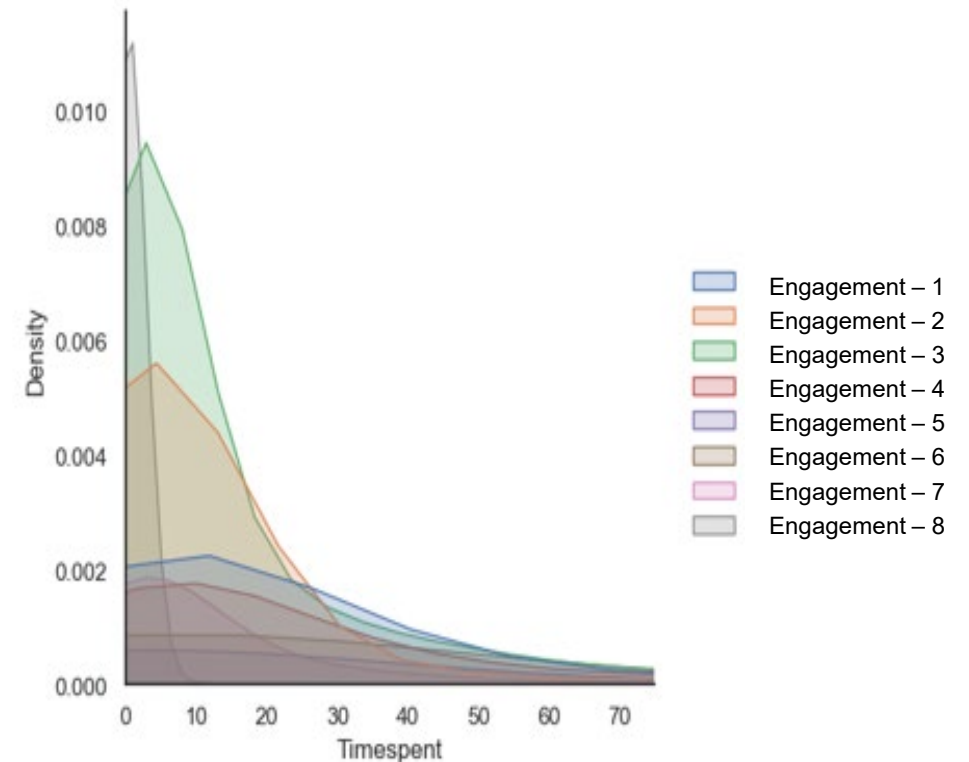


Application Services – Business Challenge

Business challenge

- Reduction of Application Service costs
- For reducing costs there are different options
 - Reduce the effort / costs of Application Services
 - Reduce the number of applications (rationalization)
- Reduction of effort / costs requires efficiency improvement
- Efficiency improvement is achieved by efficiency levers
 - Process optimization
 - Tooling
 - Automation
 - Delivery blend
 - Juniorization
- Reduction of effort / cost requires insight in actual spent
 - Time spent on tickets
 - Cost of tickets

Insight in actual time spent on tickets is important.
Data skewing to the right can have a big impact if averages are used for estimating new engagements



Application Service – Cost Estimation Challenges - 1

Scope

- What applications are in scope?
- What are the characteristics of the applications?
 - Support level (bronze, silver, gold)
 - Service window (5*8; 5*12; 7*24)
 - Domain (public; finance; telecom,...)
 - Technology (java; .Net; SAP; MS-Dynamics,...)
 - App. complexity (low, medium, high)
 - Skills (low, medium, high)
- Actual data of the current application services
 - # Incidents
 - # Problems
 - # Service Requests
 - # Enhancements
 - # FTE's

Transition

- Transition approach
- Knowledge transfer approach
- Transition planning
- Efficiency Improvements
 - E.g. processes, tooling, automation
- Transition cost estimate
 - WBS is required based on the delivery approach
- Experienced Transition Managers

Application Service – Cost Estimation Challenges - 2

Solution Delivery

- Effort / Costs required per ticket
 - # Incidents
 - # Problems
 - # Service Requests
 - # Enhancements
- Effort / Costs required for non-ticket costs
 - Service Management
 - Service Operation
 - Service Monitoring
- Historical data required
 - Data based on just one contract can result in an error of 50%
 - Base effort can have impact on transition and contract costs
 - How long is the base effort applied? Efficiency improvement?

Efficiency Improvement

- Efficiency Levers need to be defined
 - E.g. automation; robotics; tooling
- When are efficiency levers applied during the delivery?
- What is the actual impact of the efficiency levers?
- What is the impact of combining efficiency levers?
- What are the costs of applying efficiency levers?
- Are efficiency levers realistic?
 - E.g. increase of offshoring, juniorization; automation
- Efficiency lever impact must be calculated monthly
 - Including the combination of efficiency levers
- Assuming an overall % of improvement is a risk
 - Delivery must be able to monitor the impact of the levers

Application Services Estimation Initiative

Objectives Application Service Estimation Initiative



Estimation Improvement

Improved estimation

- More accurate estimation models / benchmark facilities based on historical data
- Estimates based on data of comparable engagements
- Estimates with a realistic impact of efficiency levers over time (multiple years)

Improved data analysis

- Exploiting data to make data driven decisions (*# Tickets, Effort / Ticket, Delivery Location, Service Level, ...*)
- Data analysis to improve the Application Service solution engineering
- Ability to determine the impact of efficiency levers over time (*e.g. automation, robotics, tooling, ...*)

Operational Improvement

Improved monitoring

- Improved monitor of delivery efficiency and actual ticket data
- Holistic view of the data; effort and cost
- Identify further efficiency improvements that could be achieved

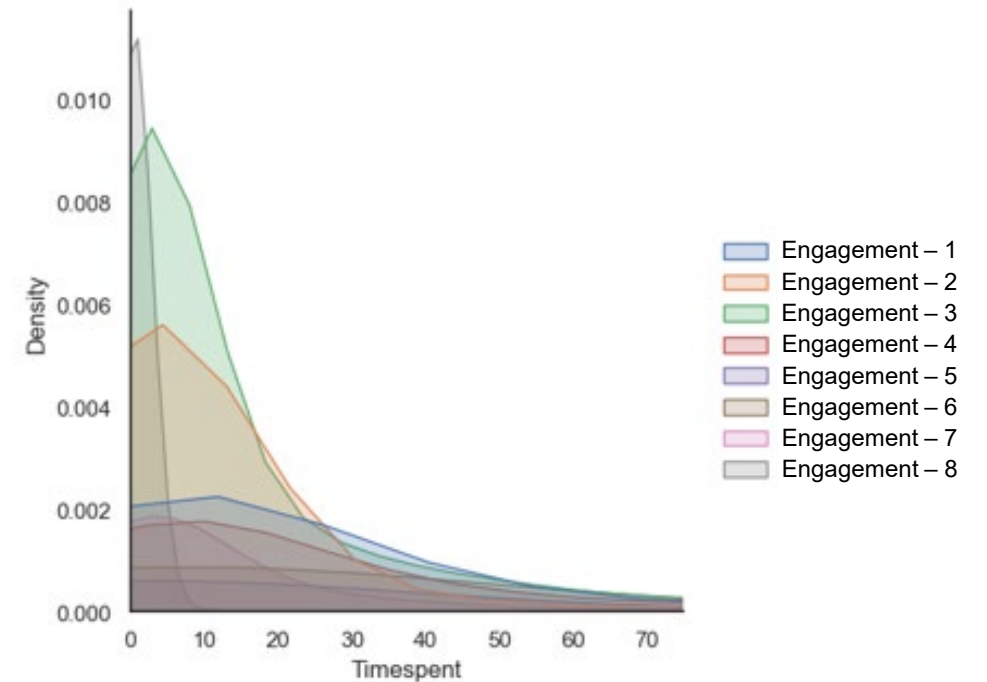
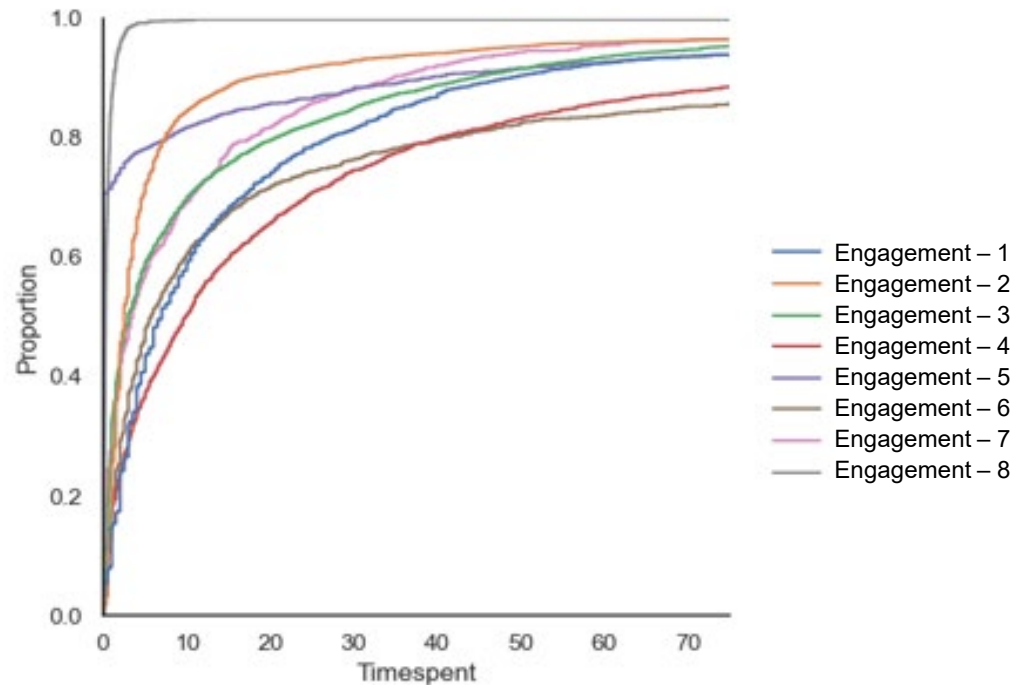
Improved data registration

- Consistent data registration (e.g. effort per ticket)
- Extension of data registration (e.g. technology, complexity)
- More pre-formatted and mandated fields in registration systems

Optimization of the Data

Important is to understand the reason for the high time spent; possible causes are:

- Tickets were more complex
- Smaller tickets are combined in one ticket in the system
- Tickets got solved by more junior members resulting in a higher effort but with no impact on the costs
- Application complexity was higher than average



Application Service – Estimation Method

Data collection & Analysis

- Actual data is required for new estimates
- Statistical analysis on actual data (Machine Learning model) to create predictive models
- Machine Learning model can be retrained if additional data is available



Cost Estimation

- Application Service Estimation model based on actual data using Machine Learning model
- Reporting of estimation results on a Monthly and Yearly basis during contract period (3 – 7 years)
- Including efficiency improvements per month (based on Efficiency Levels)



Efficiency Levels

- Multiple efficiency levels are applied during the estimation of an Application Service project
- Understanding the impact of the efficiency levels is essential
- Build efficiency level profiles for multiple year projects
- Calculation and reporting of efficiency improvements on a monthly basis based on efficiency levels applied

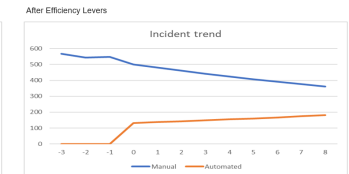
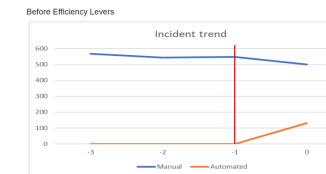
Hours spent per ticket:

	Priority-1	Priority-2	Priority-3	Priority-4	Average
Incident	2.16	2.06	1.97	1.88	2.02
Problem	3.39		3.09		3.24
Service Request	3.22	3.08	2.94	2.8	3.01
Average	2.92	2.57	2.67	2.34	

Issue Type	Cost Type	Priority 1	Priority 2	Priority 3	Priority 4	Total
Problem	Ticket Direct	1074	1074	1074	1074	7,466
Incident	Ticket Direct	4153	4153	4153	4153	29,981
Service Request	Ticket Direct	3176	3176	3176	3176	22,927
Enhancement	Non Ticket - Direct	3176	3176	3176	3176	5,692
Service Monitoring	Non Ticket - Direct	3176	3176	3176	3176	3,646
Service Operation	Non Ticket - In Direct	3176	3176	3176	3176	729
Service Management	Non Ticket - In Direct	3176	3176	3176	3176	1,823

*Please note: Any changes to the data below will update the data in the Effort tab

All Years 2020 2021 2022 2023 2024



Efficiency Levers, How reliable are they?

Efficiency Levers

• Efficiency Lever types (technology)

- Chatbot
 - Level 1 support
 - Questions; providing information
 - Authorization; providing access
- Robotics
 - Solving repeating issues
- Automation
 - Test automation
 - Automated deployment
- Tooling
 - Ticket handling
 - Quality monitoring

Efficiency Lever types (process)

- Documentation actualization
 - Designs
- Process optimization
 - Lean six sigma
 - Work instructions
- Blending
 - From Onshore to Nearshore to Offshore
- Juniorization
 - From Senior to Mid-Level to Junior
- Rationalization
 - Optimization of the use of applications
 - Reduce the amount of applications

Impact of Efficiency Lever

- Each Efficiency Lever will have an impact by itself
- The combination of Efficiency Levers can strengthen the impact but...
- Efficiency levers are not free
 - What are the costs for implementing Efficiency Levers?
 - What are the actual benefits?
- What is the right order for implementing Efficiency Levers?
- An analysis needs to be made month by month for the duration of the contract

Efficiency Lever Name	Description	Impact	Location	Issue Type	Priority	Level	Efficiency Target	Efficiency Value	Start Month	Duration (Months)	Cost required?
Improve quality ticket decrease	Improve quality based on static quality scan	Manual tickets	Offshore	Incident	P1	L2	% Decrease	8,0	3	4	No
Chatbot L1 support	Chatbot to answer frequently asked questions	Manual tickets	Onshore	Service Request	P3	L1	% Decrease	19,0	1	6	Yes
Test automation	Test automation of solved problems	Effort manual tickets	Offshore	Problem		L3	% Decrease	17,8	6	3	Yes

Efficiency lever example

Application Maintenance Calculation

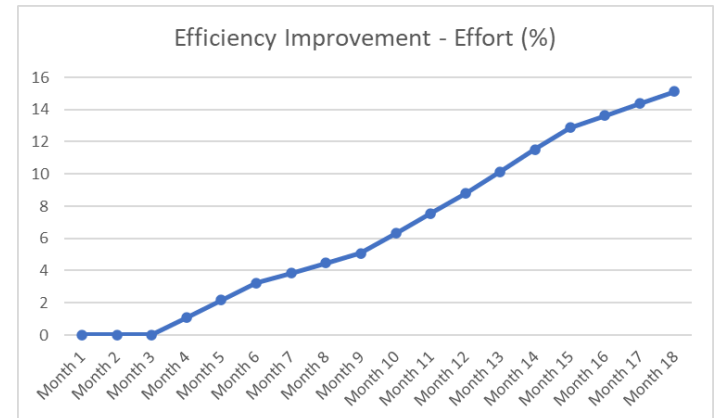
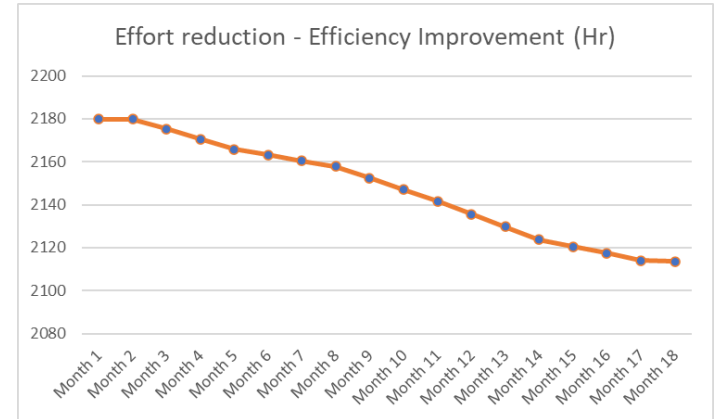
- The monthly Efficiency Lever impact is calculated for
 - Effort
 - Cost
 - FTE
 - Tickets
- The calculation must combine multiple Efficiency Levers per month
- For efficiency improvements, costs to realize efficiency levers must be considered

Improvement (Effort)																			
	Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18
Monthly Improvement (%)	0.00	0.00	0.00	1.08	1.08	1.08	0.62	0.62	0.62	1.23	1.23	1.23	1.36	1.36	1.36	0.75	0.75	0.75	0.13
Cumulative Improvement (%)	0.00	0.00	0.00	1.08	2.16	3.23	3.85	4.47	5.09	6.32	7.55	8.78	10.15	11.51	12.88	13.62	14.37	15.11	15.25

Conclusions

Conclusions

- Efficiency Improvements should not be calculated on a high level
- Detailed insight in what efficiency levers to apply is required
- Efficiency levers must be identified month by month
- Determine the impact of combining efficiency levers
- Cost to implement the efficiency levers must be considered
- Use historical data to determine the actual impact of the levers
- Use a calculator to support the complexity of the calculations



Questions?



Thank you

Eric van der Vliet

E-mail: eric.vander.Vliet@cgi.com

Tel: +31612872259

Linked-in: [linkedin.com/in/ericvdvliet](https://www.linkedin.com/in/ericvdvliet)

Twitter: [@ericvdvliet](https://twitter.com/ericvdvliet)

The CGI logo is displayed in a bold, red, sans-serif font.