



USABILITY TESTING

UX RESEARCH

AGENDA

- Planning
- Benchmark Data
- User Needs Met Scoring (SEQ)
- System Usability Scoring
- Task Completion Rates
- Key Takeaways

PLANNING

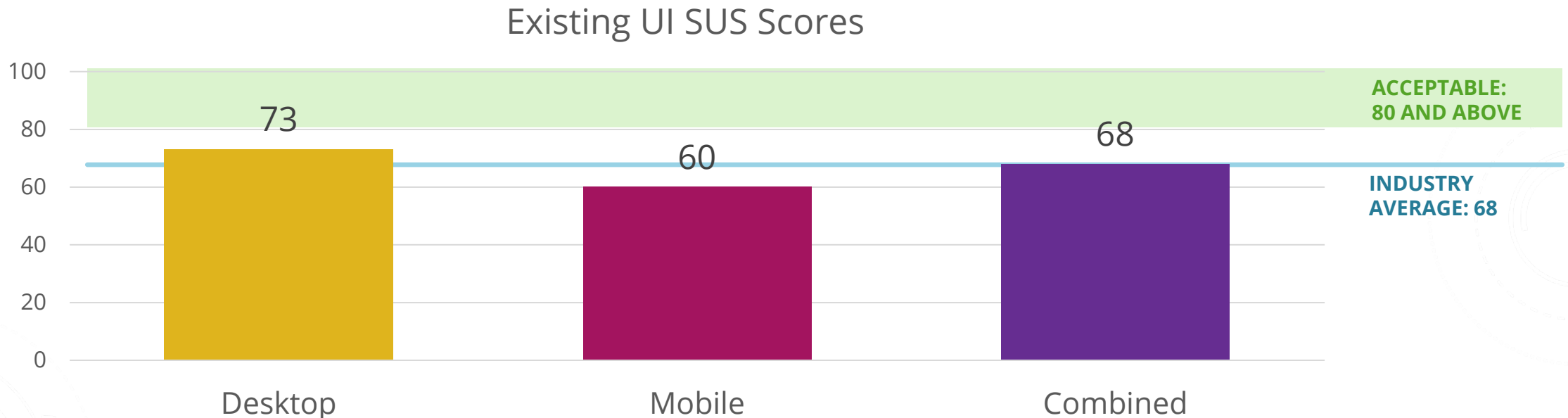
- Over **11 weeks**
- Conducted **30 usability test sessions** with **25 different users** from **3 different generations**
- Recommended **28 changes** to the UI designs based on feedback
- Collected **13 data points** to measure success

PARTICIPANT ROLES & DATA COLLECTED

	Benchmark Data Gathered		Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6
Participant	Operators	Developers	Developers	Developers	Gen Y with Military Experience	Gen Z	Developers	Gen Z
Iteration Tested	Existing UI	Existing UI	Prototype v1	Prototype v1	Prototype v2	Prototype v3	Prototype v4	Prototype v5
System Usability Score	✓	✓			✓	✓	✓	✓
User Needs Met (SEQ)			✓	✓			✓	
Task Completion Rates					✓	✓	✓	✓

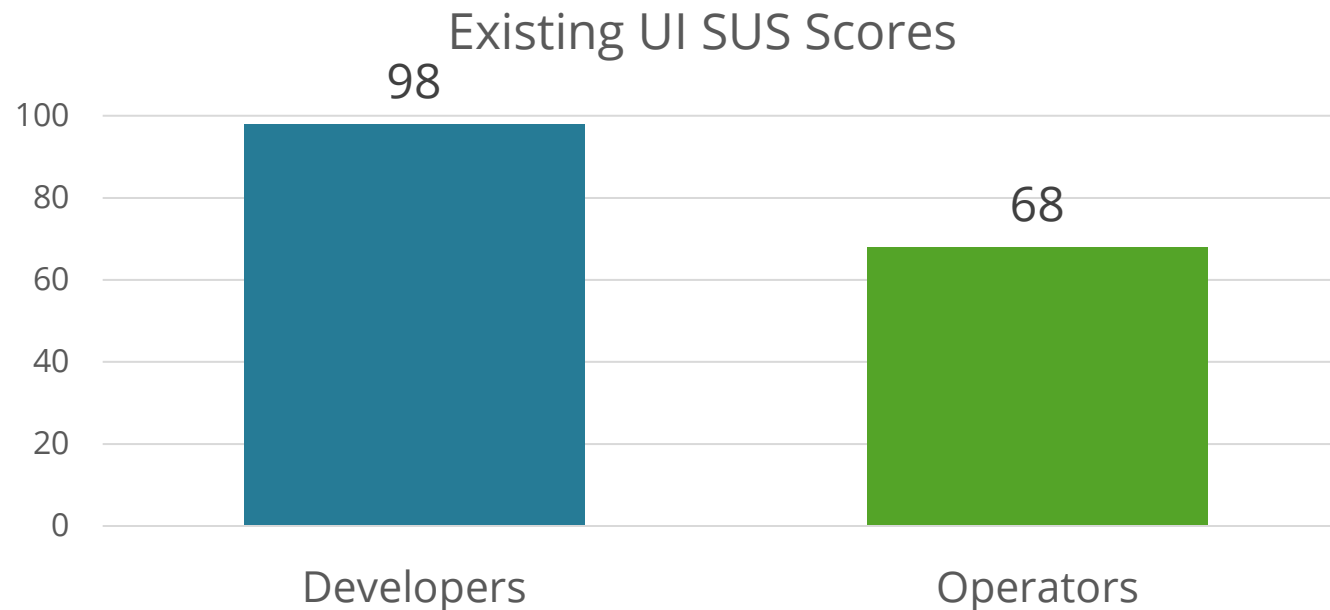
BENCHMARK DATA

- In order to measure how well our iterations have improved the experience for operators, benchmark data was required for the existing UI
- Industry data benchmarks indicate that 68 is industry for System Usability Scores, but 80% is considered good



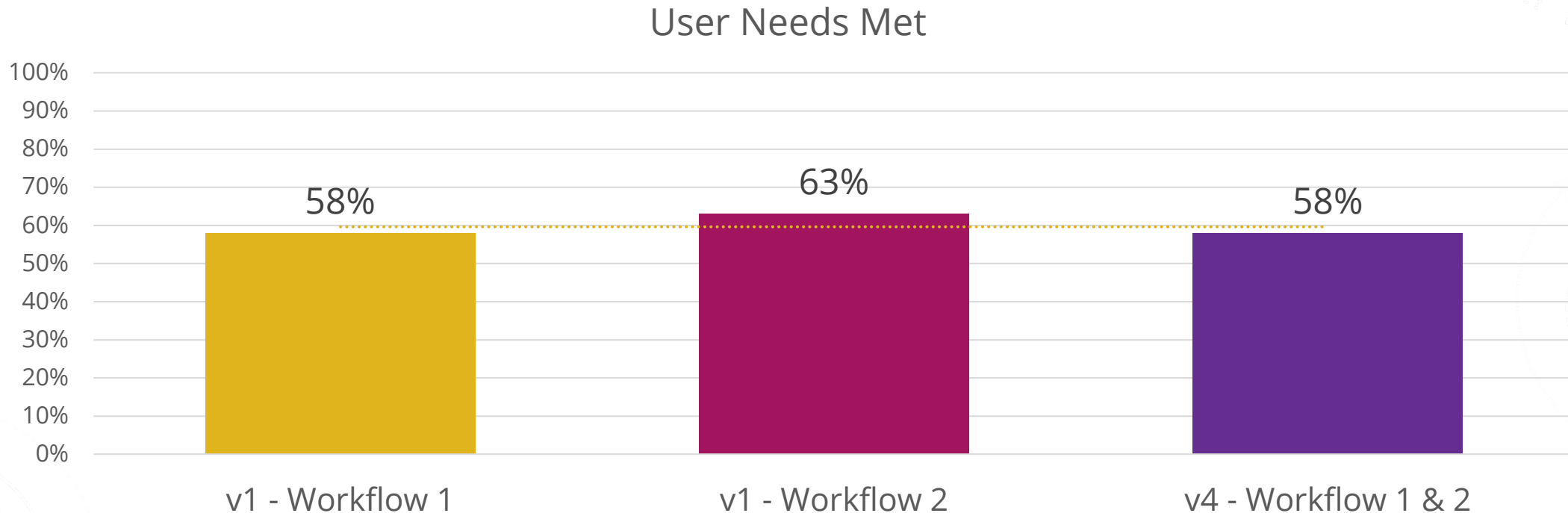
DEVELOPERS VS. OPERATORS PERCEPTION

- Initially the benchmark data was collected from developers of the existing system to measure their perception of the UI as benchmark data
- Actual operators were polled in replacement of the data collected due to a clear bias in the data collected from developers



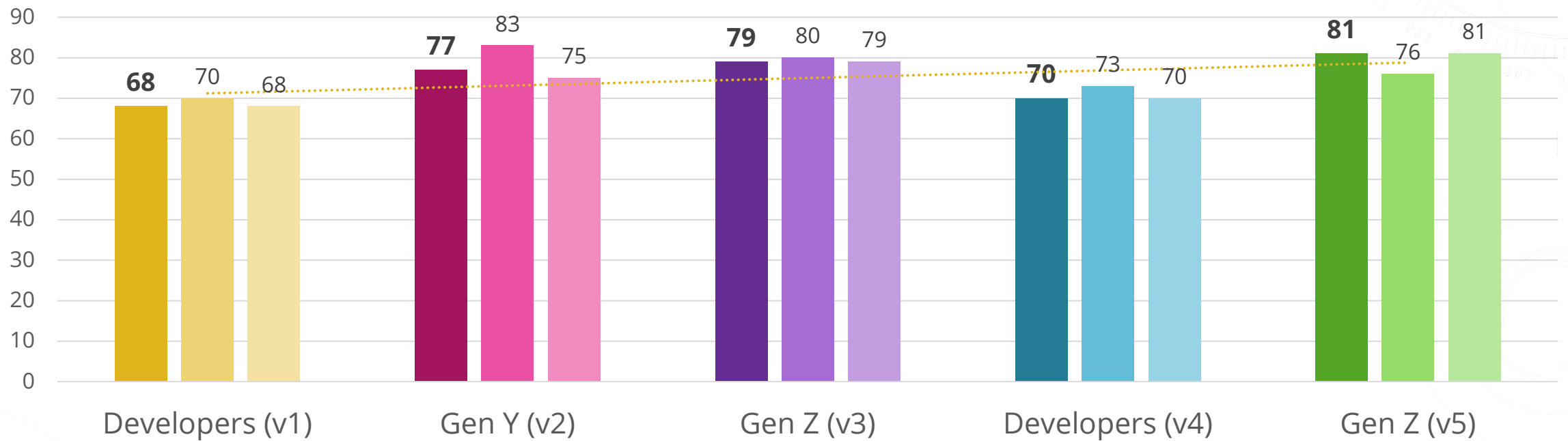
USER NEEDS MET (SEQ)

- Developers of the existing system were asked “On a scale of 1 to 7, how well does this concept design meet the needs of operators? (1= did not meet the needs, 7= met all their needs)



SUS SCORES

SUS Scores Iterations 1-5



V1-V5 WORKFLOW TASK COMPLETION RATE

1. Workflow 1

Mean Completion Rate: 50%

Most users will be able to complete this task between 30% and 70% of the time.

2. Workflow 1

Mean Completion Rate: 63%

Most users will be able to complete this task between 43% and 82% of the time.

3. Workflow 1

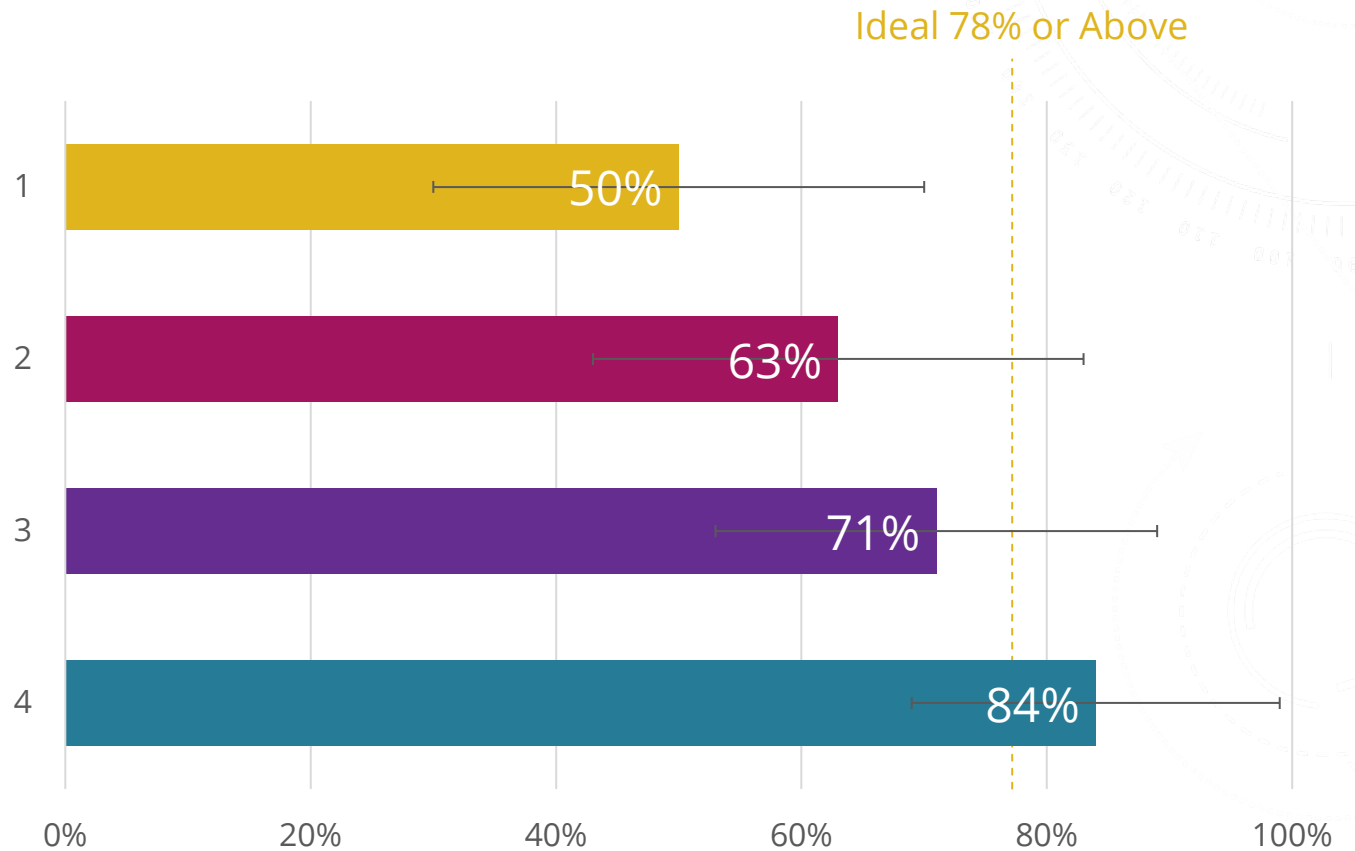
Mean Completion Rate: 71%

Most users will be able to complete this task between 53% and 89% of the time.

3. Workflow 1

Mean Completion Rate: 84%

Most users will be able to complete this task between 69% and 98% of the time.



V1-V5 WORKFLOW TASK COMPLETION RATE BY USER

1. Gen Y (Millennial's) v2

Mean Completion Rate: 58%

Most users will be able to complete this task between 39% and 78% of the time.

2. Gen Z Iteration v3

Mean Completion Rate: 77%

Most users will be able to complete this task between 60% and 95% of the time.

3. Developers v4

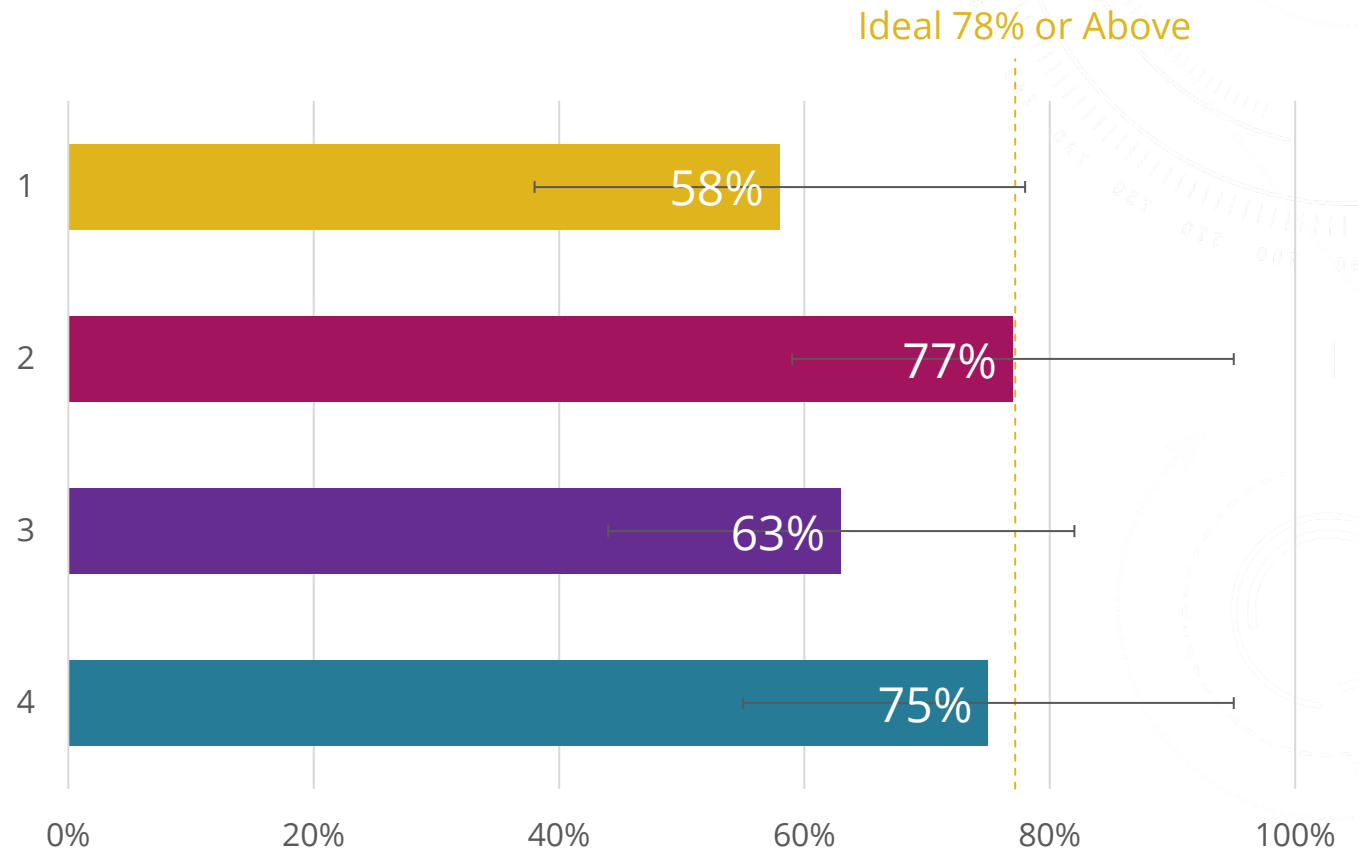
Mean Completion Rate: 63%

Most users will be able to complete this task between 43% and 82% of the time.

3. Gen Z v5

Mean Completion Rate: 75%

Most users will be able to complete this task between 30% and 95% of the time.



FUTURE RESEARCH RECOMMENDATIONS

The UX research plan was heavily impacted by the short timeline and lack of access to end users of the existing system

All data was calculated using the Adjust Wald Method for statistical evaluation of small sample sets

- Plan and execute longer more rigorous usability test sessions (This might mean less frequency of the testing, but higher fidelity in the data collected)
- Test the design with actual operators of the system
- SUS Scores should not be relied upon as the only measure of usability