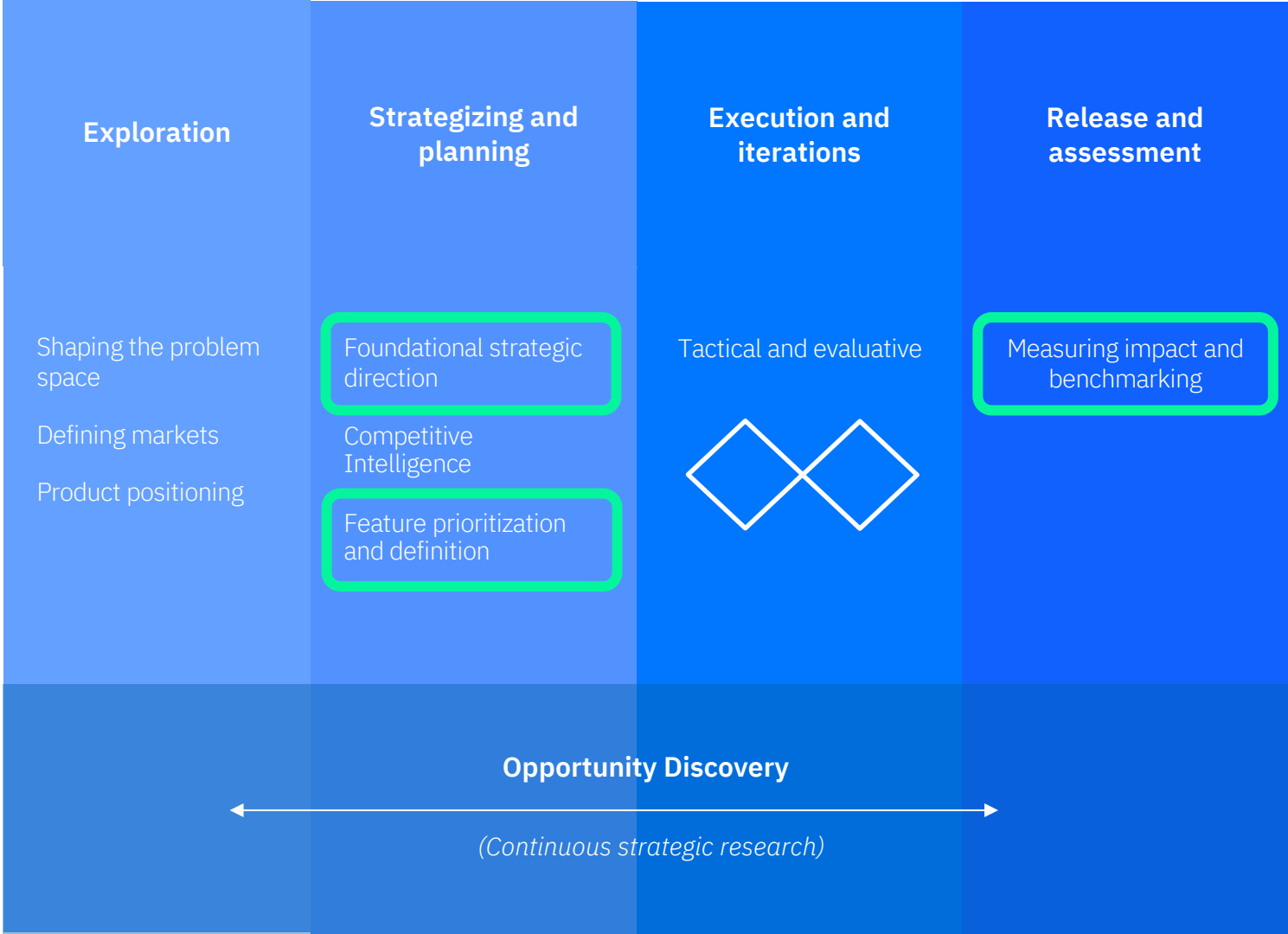


Case Study #4



IBM Research Challenges Portal

Identifying opportunities for enhancement
of an internal tool

**Strategic and
operational study**

Helping the product owner of IBM research internal portfolio management tool (Challenges Portal) define and prioritize their 2019 roadmap.

Background

Challenges Portal is an internal portfolio management tool for IBM Research intended to become a catalyst for enabling transparency, collaboration and shared assets and a central way to manage IBM research transformation.

As this tool moved beyond MVP and was promoted as a tool all IBM research could use, the product team wanted to take a more evidence-based approach and understand what matters the most to the end users of this tool.

My Role:

I was not embedded with this team; however, I was brought in to help the team understand users needs and prioritize and validate some of the team's early improvement ideas. I did not have the bandwidth to conduct interviews, so I had to come up with a less time consuming but efficient way to answer all research questions.

“What do users come to CP for? What do they think of the tool so far? and what should I focus on in 2019?”

Product Manager - IBM Research - Emerging Technology Experiences

“What’s Challenges portal NPS now and what are some opportunities for improvements?”

VP, Emerging Technology Engineering - IBM Research

Note, Although NPS would not have been my recommended choice for benchmarking for an internal tool, this was a request from our VP since IBM CIO office heavily utilizes NPS for all internal tools

Research Design Overview

Research Objective:

- To better understand the top tasks users come to accomplish in Challenges Portal
- Where do active users see the most value in the Challenges Portal and if those values differ between managers, non managers, theme and sub-theme leads.
- To understand if users feel confident in understanding the purpose of using the challenges portal.
- To prioritize features for the product roadmap
- To help define the future product roadmap priorities based on current user need.

Research Design

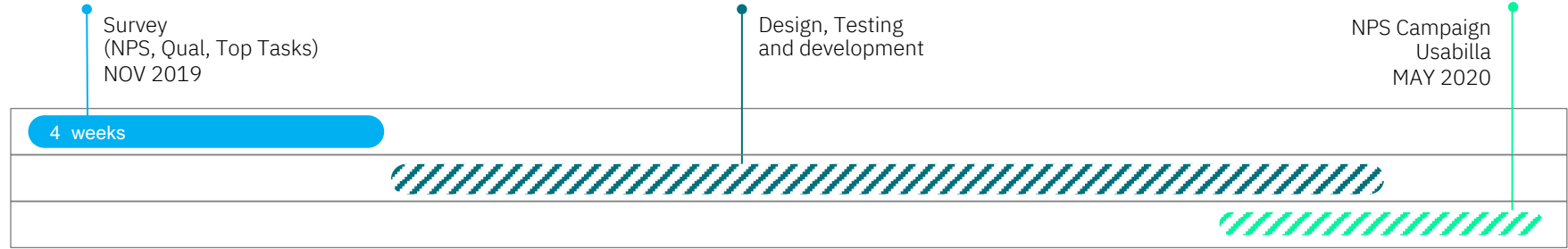
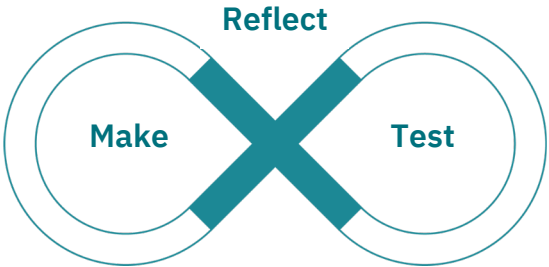
- Survey
- Top Tasks Study
- Usabilla NPS campaign (6 months later)

Survey Participants

- 165 participants
- 61% of the participants were non-manager researchers
- Less than 18% of participants were managers (n =30)

Research Design

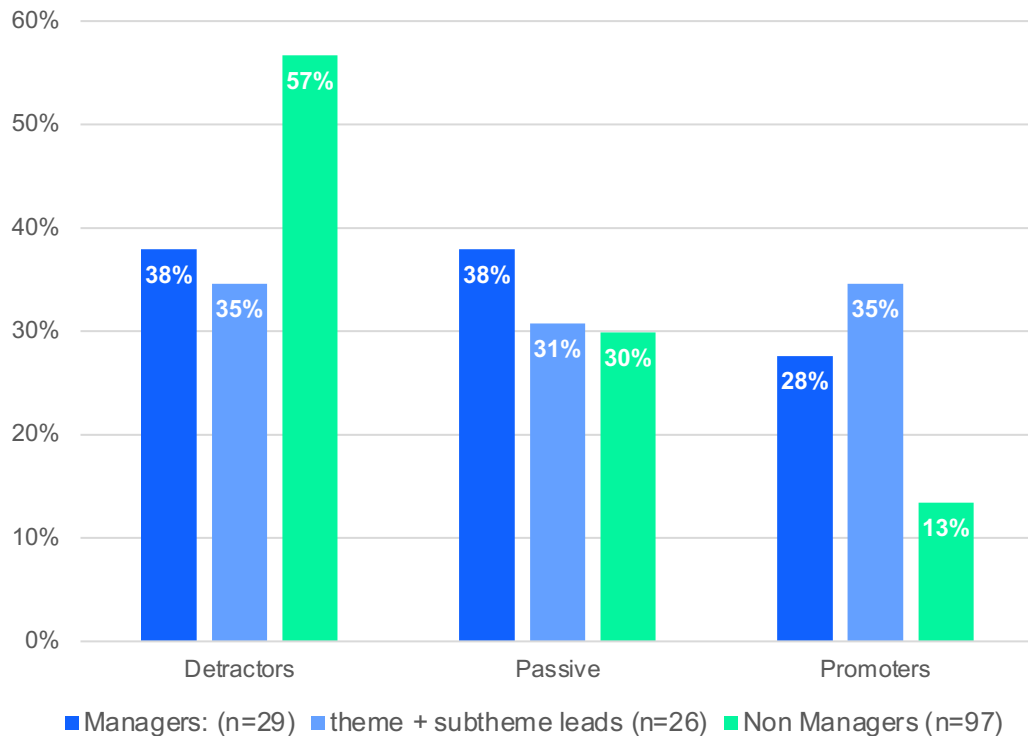
Due to time constraints a survey method was used where the survey had 3 sections, NPS benchmarking, qualitative questions, top tasks



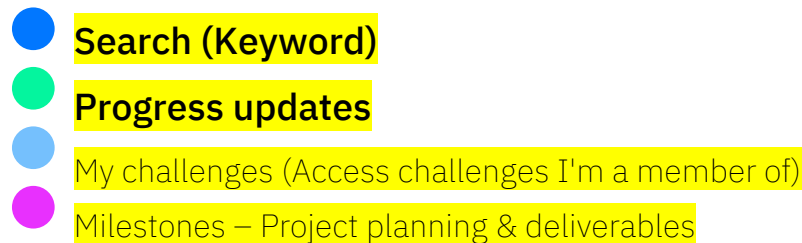
Top Research Findings

Majority of non manager users are detractors

- The challenges portal overall NPS score is **-38**
- ~55% of all users are detractors
- ~60% of non managers are in detractor category
- Only 13% of non managers are promoters
- There are ~ 20% more detractors amongst Non-Managers



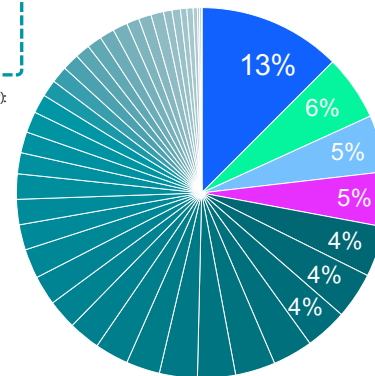
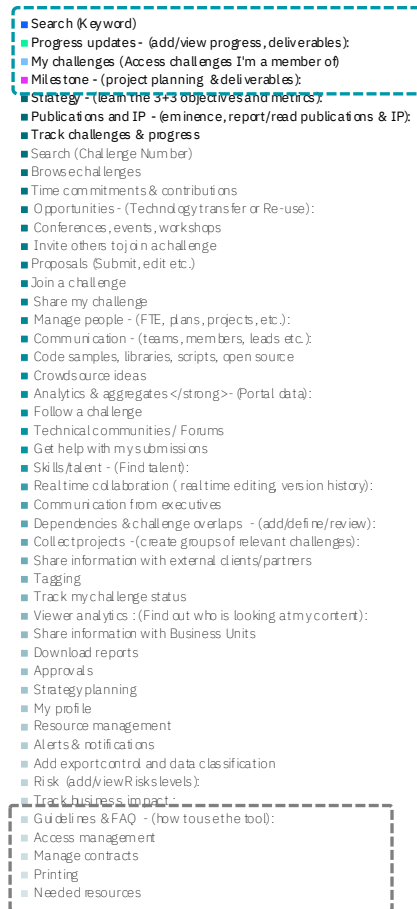
Top Tasks (all) (n=165)



Tiny tasks (no one selected these as top 5):

- Guidelines & FAQ
- Access management
- Manage Contracts
- Printing
- Needed resources

From highest to lowest score



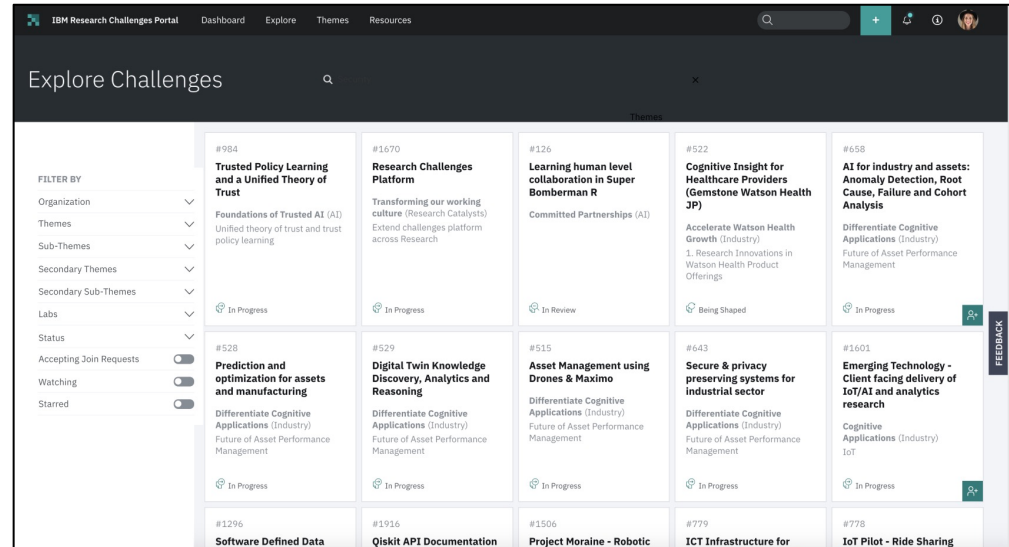
Percentage of all accumulated scores

Lack of “functional **search**” (Poor discoverability) was the top issue for all users with two key themes emerging

“It’s hard to find a specific person to see what challenges that they are working on, or finding a challenge that you don’t know the exact name of”

Challenge Lead
Austin

- **Lack of ability to search for specific people**
Users often search for a researchers name only to find out that our search does not support people search.
- **Search Result Page is not easily scannable** There are too many results that are not sorted based on relevancy and are not easy to scan quickly
- **The search results are often considered irrelevant** or sorted based on recent updates rather than relevancy



Users do want to use the portal to learn about other researchers, but lack of enough information renders the researcher **profile page** useless


- Researchers are not motivated to update their user profiles often

This is due to redundant information they must add and not enough options to accurately show their skills or past contributions

“I don’t want to have to add my skills in CP manually, we already add them in 3 other portals, why not integrate with those, also profiles don’t show previous challenges, or role or department, etc. so we still have to go into BluePages to figure out who this person is”

Challenge Lead
Japan

Your profile [Edit](#)

 **Maral Tabrizi**

Skills


☒ UX ☒ HCI ☒ Interaction Design ☒ Ethnography ☒ User Studies

Active challenges Total commitment 100%

#1684

Discover opportunities to disrupt the way Materials Science research gets done, leveraging IBM Research tech

User and Market Research and Concept Prototyping (Future of Computing)


 In Progress

Expected date completed: Nov 16, 2019
Time committed: 5%

#1670

Research Challenges Platform

Transforming our working culture (Research Catalysts)
Extend challenges platform across Research

 In Progress

Expected date completed: Jan 16, 2020
Time committed: 95%

Researchers are unable to easily manage (Add, review or update) Challenge milestones and progress made against them

- Today in order to add or update milestones researchers must leave the challenge page and go back to their original submission form. This is considered very disruptive, and inconvenient and many don't know that they can achieve this.
- Today in order to add or read progress updates, researchers must leave the milestone sections and navigate to a different tab users find this confusing and frustrating and avoid keeping their challenge pages up to date at all costs
- This means that the **quality and accuracy of the data on challenge pages is considered unreliable**

“The process of keeping a challenge up to date with new milestones or progress updates is so frustrating and time consuming that everyone is avoiding it at all costs. It all falls on the challenge lead which is sometimes not fully qualified to add updates about every milestone.

This means that the data quality and accuracy of challenge pages is really low, which also means that we can't rely on what we see on challenge pages and have to directly reach out to challenge teams for more accurate information”

Challenge member
India

Recommendations

If we intend to improve our NPS score within the next 6 months, we must improve the experience of non manager Research Staff:

We need to shift our short-term focus to **the individual contributors, their work and their progress** rather than the IBM Research pillars strategies, approval and review etc.

There are **7 recommendations for actions** we can take to make the experience more tolerable for non managers using Challenges Portal for their specific usecases



Recommended actions

Severity legend

High

Frequently effects users and critical to success of their work.

Medium

Lower frequency or criticality to their work

Low

Quality of life nuisance, not mission critical

Recommendations	Estimated severity	Estimated time to fix (sizing from dev and design)
Add people search	HIGH	2 months
Add SERP highlights	HIGH	3 weeks Immediate
Enhance SERP relevancy (Exact > AND > OR results)	HIGH	3 weeks Immediate
Integrate with BluePages to import skills, title, department, slack & email	MEDIUM	1 month
Allow for users to update their contributions from their profiles page	MEDIUM	1 month
Improve milestones usability (Edit/add/view directly from challenge page)	MEDIUM	2 months
Include past and pending challenges on the profile page	LOW	1 month

Impact

IBM Research Challenges Portal

Joey Schwarz
Front-End Developer
MIT Lab, Cambridge MA
Business Profile

JOEY SCHWARTZ
Front-End Developer
MIT Lab, Cambridge MA
Business Profile

SKILLS
Applied Computing
Artificial Intelligence
Internet of Things
Machine & Model Making
Security Solutions
Service Analytics
Service Technology
Storage Technology & Systems

IBM CHAIR LEAD
Understand IBM Research community and culture to improve the way we work, Transform and Modernize IBM Research IT

CHALLENGE LEAD
#400 Business Reading Comprehension

Active challenges 0

Challenge Lead

#400
Blomimetry Reading Comprehension

#1514
Carbon Component Figma Library

#1515
Exception amet aliquip ad consequent pariatum cillum

#401
Sunt ad dolore sint proident aute volupiate

Pending challenge invitations

Completed challenges

IBM Research Challenges Portal

mark

Search Tips

Challenges People

FILTER BY

Location

Job Roles

Specialties

Mark Ritter
Chair, Physical Sciences Council
Yorktown Heights

CHALLENGE PORTAL ROLES

• Theme Lead

• Challenge Lead (1 challenge)

• Active Member (2 challenges)

SPECIALTIES

Quantum Computing Technologies

Artificial Intelligence

MARK PURCELL
Research Manager - Security & Privacy of AI
Khalidhaddad

CHALLENGE PORTAL ROLES

• Challenge Lead (1 challenge)

• Active Member (2 challenges)

SPECIALTIES

Universal

Custom Development

Server Management Distributed Services

Analytics (+1 more)

Mark Febowitz
Streams and Scenario Planning Research Executive, AI First - Automated Machine Learning and Planning
Cambridge

CHALLENGE PORTAL ROLES

• Challenge Lead (1 challenge)

Mark Squillante
Distinguished Research Staff Member and Manager, Foundations of Probability and Dynamics, Math Sciences
Yorktown Heights

CHALLENGE PORTAL ROLES

• Sub-Theme Lead

• Challenge Lead (6 challenges)

• Active Member (8 challenges)

SPECIALTIES

Artificial Intelligence

Computer Science

Statistics & Mathematical Sciences

Mark Weber
Senior Lead of Business Innovation
Cambridge

CHALLENGE PORTAL ROLES

• Challenge Lead (2 challenges)

• Active Member (3 challenges)

SPECIALTIES

Artificial Intelligence

MARK KUNITOMI
Manager, Project Gemini
San Francisco

CHALLENGE PORTAL ROLES

• Challenge Lead (1 challenge)

IBM Research Challenges Portal

artificial

Search Tips

Challenges People

FILTER BY

Organization

Themes

Sub-Themes

Secondary Themes

Secondary Sub-Themes

Location

Status

2020 IBM Research Accomplishments

Accepting Join Requests

Watching

Starred

#1942
Artificial Intelligence that understands

Exploratory Science

Artificial Intelligence has received significant attention due to recent advances in deep learning that... sets but not due to radically new algorithms. Artificial neural networks and Stochastic Gradient Descent...

#2020
General Artificial Intelligence

Exploratory Science

material for artificial general intelligence," in Proceedings of the 2008 Conference on Artificial General Intelligence, and W. W. Wilkie, "Synaptic plasticity in an artificial Hebbian network exhibiting continuous, unsupervised..."

#315
Differential Equations and Artificial Intelligence

AI

Special Notice, DARPA-SN-18-65: The Physics of Artificial Intelligence (PAI), <https://www.darpa.gov/index...problems in the areas of machine learning and artificial intelligence is an active and very dynamic field...>

#812
CERTAIN: Cancer transformed with Artificial Intelligence

Impact Science

provide translatable and commercially available artificial intelligence (AI) tools that will shape the future...

#1971
Creating An Artificial General Intelligence (AGI)

Exploratory Science

game-playing (for open-ended games such as Go); an artificial even (a species known to exhibit remarkable...

#1483
SUNY-IBM Artificial Intelligence Collaborative Research

AI

technology) in joint research with a specific focus on Artificial Intelligence (AI) aimed to drive to joint investment...

#171
MasterPlan - Learning to Reason About Artificial Reasoners

#3056
Measuring Progress Towards Reasoning General Artificial Intelligence

Exploratory Science



Dashboard Browse Pillars Resources / FAQ

Metrics of Success

See Key Results

Milestones ⓘ

Download list

Month Year

2021

May June July August Sept

Milestone	Progress	Status
O2.KR1: ECC in Linux Kernel	See Progress (2)	Done
O2.KR1: Security requirements for all suppliers...	See Progress (1)	Done
O1.KR1: Demo signature enforcement of an installed F...	See Progress (2)	Done
O1.KR1: Generate OSTree of representative platform	See Progress (2)	Done
O4. Submit scalability proposals to Keytime enhancem...	See Progress (2)	Done
O1.KR1: Demo	See Progress (0)	Not Started
O2. Measure Linux kernel's critical data	See Progress (0)	Not Started
O4. Survey of Allowed Lists	See Progress (0)	Not Started

Add Milestone + Report Progress + See All Challenge Progress (9)

Publications Plan

ACSAC : Computer Security Applications Conference |

Targets

- talk: Open Compute Project Global Summit 2021, Nov 9-10, San Jose, CA
- talk: Linux Security Summit, Sep 20, Oct 1, Seattle, WA

Comments (1)

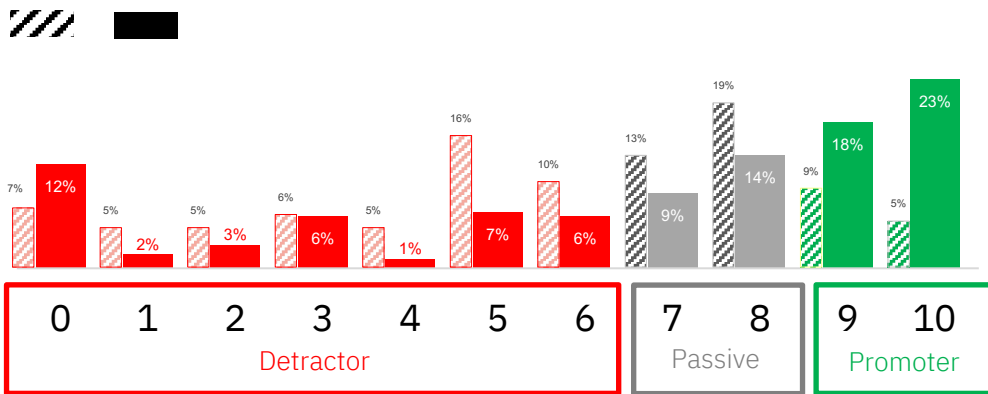
Edit Challenge Mark as complete Add Progress Report

Impact

Actions taken:

- Team tackled the immediate actions
- 6 months of design, testing and development went into enhancing the individual researcher experience

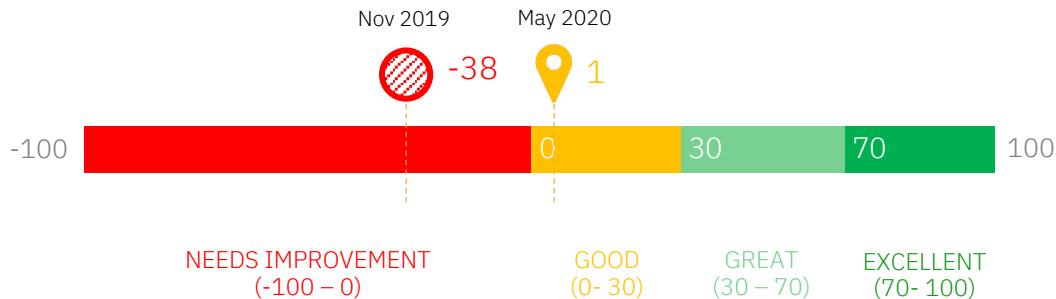
2019 vs 2020 NPS distribution



Outcomes

Addition of recommended functionalities yielded a **40 point increase in NPS** within 6 months

The enhancements increased user engagement with the Challenges Portal which led to reported higher quality of data





Thank you