



## FINAL RECOMMENDATIONS

LSE DATA ANALYTICS CAREER ACCELERATOR  
Employer Project - MSF OC Brussels

21st November 2025



# **Today, we will cover...**

- 1 Context** - the problem and our approach
- 2 Findings** - what we learned
- 3 Recommendations** - what next?



# Objective: use insights from the end of assignment (EoA) survey to improve the operational quality of MSF projects

## Our objective

Help MSF use insights from the EOA survey to improve quality of operations

## The problems it addresses



End of Assignment (EoA) survey response rate is low



Feedback from the survey is not used to inform delivery of projects

## Why this matters

MSF has a duty to provide high quality experience to the populations it serves and its staff

# Method: we transformed the data and ran a series of analyses to inform our dashboard design

## 1. Import the data

CompletedDate_EndofAssignment	Coordinator_EndofAssignment	DevelopmentAdvisor_EndofAssignment
06 January 2024	Priya Zuberi	Kofi Qureshi
06 January 2024	Priya Zuberi	Kofi Qureshi
06 January 2024	Priya Zuberi	Kofi Qureshi

## 2. Transform & clean it

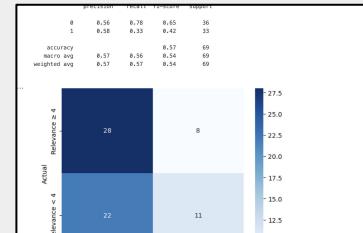
### Section 1: Loading packages and setting functions

#### 1.1 Loading packages

```
# Import the necessary libraries.
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import tensorflow
import warnings
# Import the synthetic datasets
import statsmodels.api as sm
from statsmodels.stats.outliers_influence import variance_inflation_factor
from sklearn.preprocessing import StandardScaler
from sklearn.linear_model import LogisticRegression
from sklearn.tree import DecisionTreeClassifier, plot_tree
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import classification_report, accuracy_score
from imblearn.over_sampling import SMOTE
```

#### 1.2 Set functions

## 3. Run the analysis



## 4. Develop the dashboard



- Python was used to clean and transform the survey data
- Identified issues in the data to inform technical recommendations

- Ran descriptive, exploratory and predictive analysis on the synthetic data

- Analysis was used to inform the design and structure of the dashboard

# Scope: our analysis focused on how well MSF projects meet local needs and mitigate risks

## Objective of our analysis:

1. Understand how high performing MSF projects have delivered impact to local populations
2. Determine what predicts a project's ability to deliver impact to local population

## How did we define success?



**Relevance** - to what extent did projects meet critical needs of the local population



**Do No Harm** - to what extent did projects identify and mitigate risks for local populations



Note: We didn't use Effectiveness in our analysis because of the way the question was structured in the synthetic data

Context

Findings

Recommendations

# Finding 1: Survey response rates are critically low across all projects and countries

## Key Takeaway

- Every single country and project is below MSF's target of 50% response rate

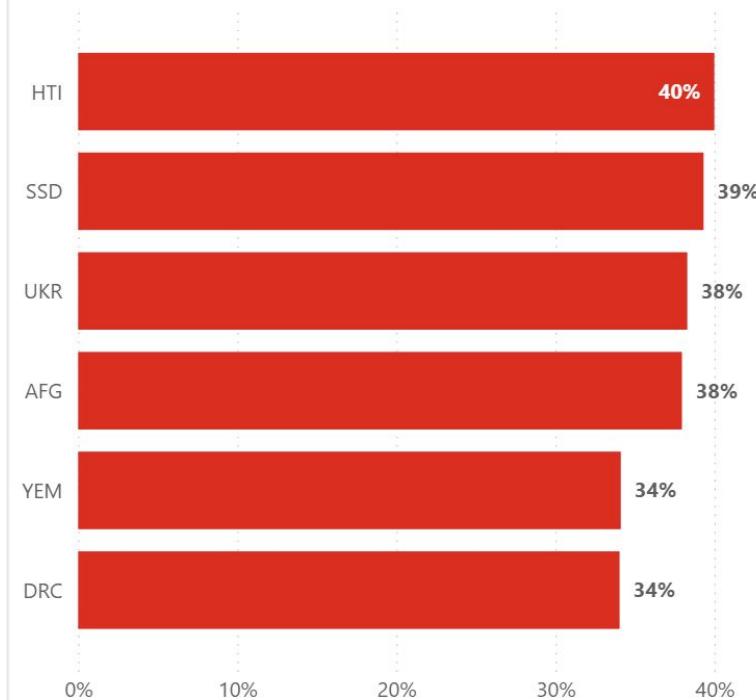
### Survey response rate - project breakdown

% of IHS end of contracts that submitted a complete survey

Project Title	Response Rate %
Project 1 in Democratic Republic of the Congo	46%
Project 2 in South Sudan	43%
Project 1 in Afghanistan	42%
Project 1 in Yemen	41%
Project 1 in Haiti	41%
Project 2 in Haiti	39%
Project 2 in Ukraine	39%
Project 1 in Ukraine	38%
Project 1 in South Sudan	35%
Project 2 in Afghanistan	34%
Project 2 in Yemen	27%
Project 2 in Democratic Republic of the Congo	23%
Total	37%

### Survey response rate - country breakdown

% of IHS end of contracts that submitted complete surveys

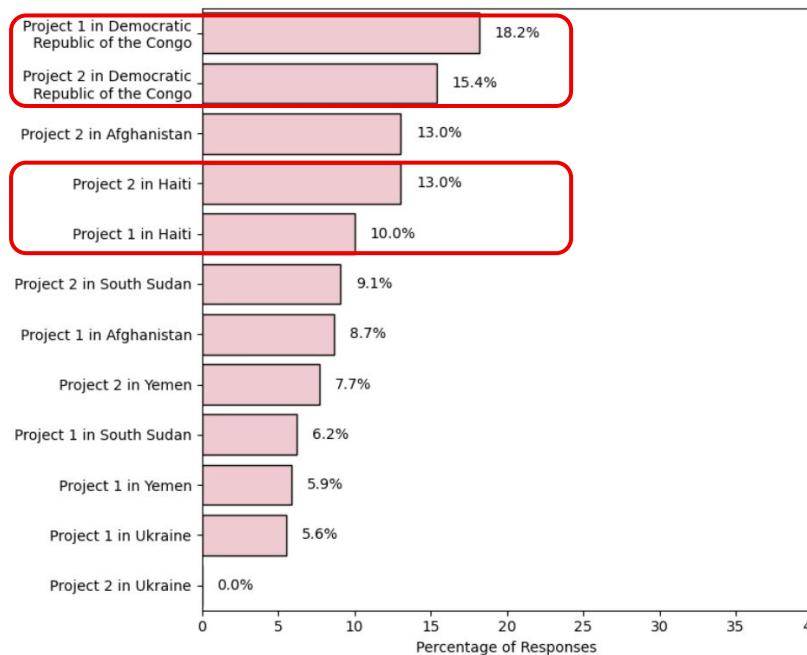


## Finding 2: For each KPI, there are some countries who perform poorly across all projects

### Key Takeaways

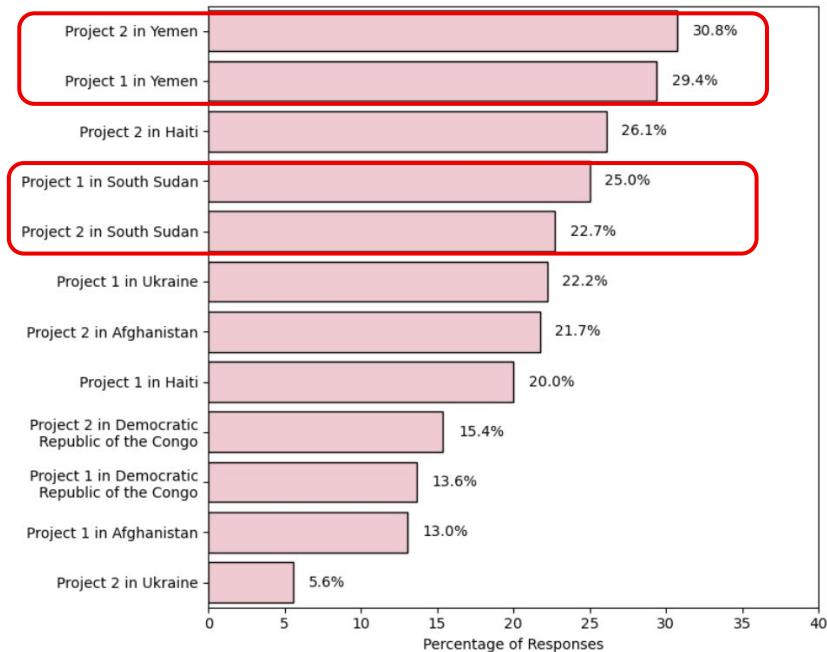
- DRC and Haiti perform poorly across all projects for successfully meeting the needs of the local population

Relevance - % of Low (1-2) Scores



- Yemen and South Sudan perform poorly across all projects for identifying and mitigating risks effectively

Do No Harm - % of Low (1-2) Scores



Context

Findings

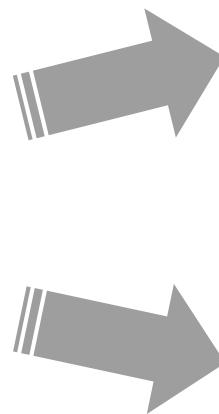
Recommendations

## **Finding 3: There are 'early warning signals' which can be used to identify whether projects will successfully deliver impact (1/2)**

**KPI: Relevance**  
Whether a project successfully meet the needs of the local population.



**KPI: Do No Harm**  
1 point increase in DNH scores has a 56% chance of increasing relevance scores.



**KPI: Staff Support and Care**

**KPI: Coherence with MSF Values**

## Finding 3: There are 'early warning signals' which can be used to identify whether projects will successfully deliver impact (2/2)

### KPI: Do No Harm - Early Warning Signals

A project is more likely to have a 'low' (3 or lower) DNH score if:

KPI: Staff Support  
is 1

KPI: Coherent with MSF values  
is 1

KPI: Agile Decisions  
AND  
is 4 or lower

KPI: Population Centeredness  
is 3 or lower

## **Finding 4: The biggest challenges staff face are psychological support, safety & security, living conditions and workload**

**Increasing staff support scores by 1 point have a 31% chance of increasing Do No Harm scores.**

**What are the challenges staff face?**

**psychological support**  
training and development opportunities  
**living conditions**  
health and medical support  
**safety and security**  
**workload**  
communication with management

**What staff support was effective?**

Regular check-ins helped during surge weeks.

37%

Accommodation improved after early feedback cycles.

35%

Psycho-social support existed but was hard to schedu...

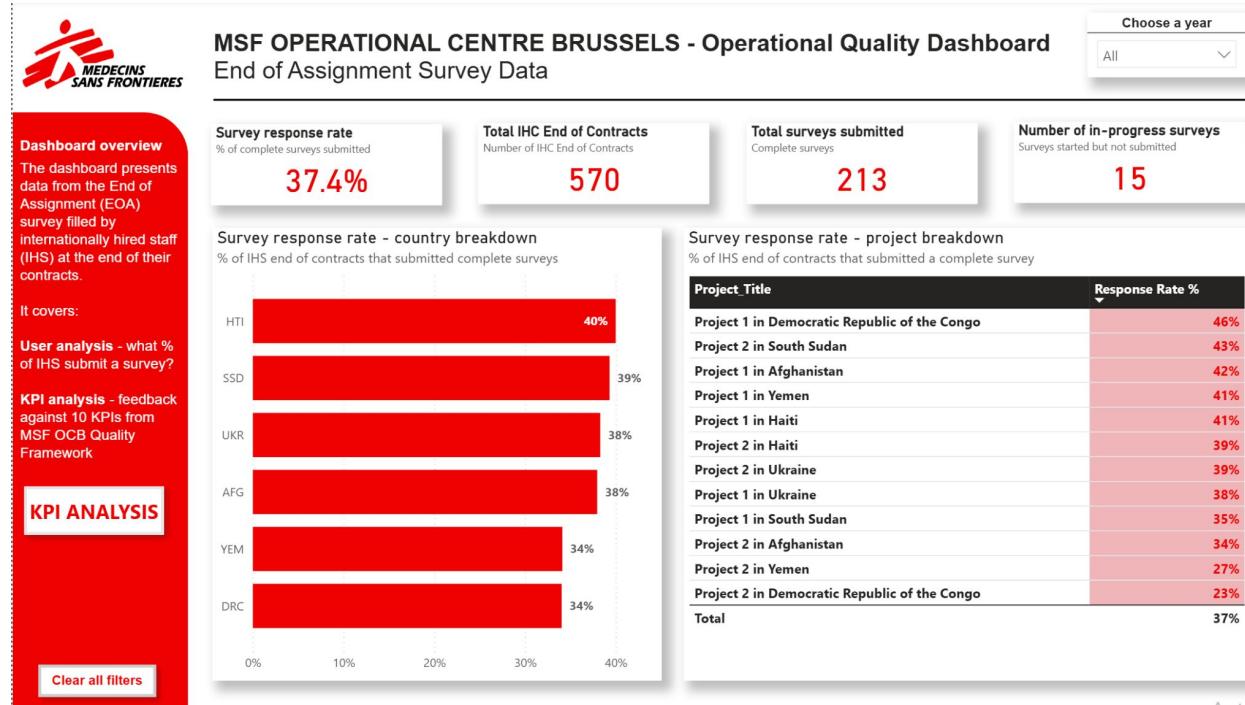
28%

## Recommendation 1: Improve survey response by using the dashboard and incentivising submissions

**Insight:** Survey response rates are critically low across all projects and countries.

We recommend:

- **Flag low response countries** and ensure management drive completion.
- **Consider incentivising** survey completion or adding penalties for non-compliance.



Source: MSF KPI dashboard developed by our team

Context

Findings

Recommendations

## Recommendation 2: Use our dashboard warning system to flag ‘at risk’ projects and intervene early

**MSF OPERATIONAL CENTRE BRUSSELS - Operational Quality Dashboard**  
End of Assignment Survey data - KPI Analysis

[Main page](#)

**At Risk Tracker - Projects that are at risk of poor performance**

Our analysis revealed that the best predictor of whether a project meets the most critical needs of a local population is whether the project identifies and mitigates risk. And the best predictor of whether a project successfully identifies and mitigates risk is whether the project is coherent with MSF values and if staff are supported and cared for. We have created this tracker as an early warning sign that projects are at risk when these three KPIs fall below certain ‘thresholds’. Project leads can use this tracker to provide targeted support to projects and proactively improve performance.

Note: The data has been altered to depict the at risk icons.

**At risk projects - projects below threshold for critical KPIs**

Title_Projects	Do No Harm	Coherent with MSF Values	Staff is supported and cared for
Project 1 in Afghanistan	✗	2	2
Project 1 in Democratic Republic of the Congo	✗	2	2
Project 1 in Haiti	✗	2	2
Project 1 in South Sudan	✗	2	2
Project 1 in Ukraine	✗	2	2
Project 1 in Yemen	✗	2	2
Project 2 in Afghanistan	✗	2	2
Project 2 in Democratic Republic of the Congo	✗	2	2
Project 2 in Haiti	✗	2	2
Project 2 in South Sudan	✗	2	2
Project 2 in Ukraine	✗	2	2
Project 2 in Yemen	✗	2	2

*When projects fall below these thresholds, a red icon appears on the dashboard flagging that the project is at risk*

**Thresholds for a project to be considered at risk:**

Do no Harm <2.5  
Coherent with MSF values < 2.5  
Staff is supported and cared for <1.5

**Insight:** Process KPIs act as an early warning system for poor project performance.

We recommend:

- **Use our risk tracker** in the dashboard where projects that fall below ‘thresholds’ can be identified early.
- **Investigate flagged projects** to understand design and implementation issues.

## Recommendation 3: Create a holistic system to manage performance and improve the delivery of projects.

### Insights

**Insight:** Projects show clear 'high' and 'low' performance against impact KPIs

**Insight:** Staff report major challenges around psychological support, safety, and conditions.



### Recommendation: A holistic performance management system

#### Features of a holistic monitoring system:

- 1 A small number of KPIs that are tracked regularly
- 2 Staff that understand the KPIs their performance is being measured against
- 3 A forum where performance is discussed, best practices are shared and learning takes place
- 4 Incentives and penalties that form a robust accountability mechanism

## Summary & Conclusion

The EOA survey is a **powerful insight source**, but success doesn't depend on a high quality dashboard **but on how well MSF teams utilise the data to act.**

To strengthen evidence-driven impact, we recommend:

1. **Increase survey completion rates** to improve quality of data
2. **Act early** by using our risk tracker
3. Build a **holistic performance management system**



THANK YOU FOR YOUR TIME

## QUESTIONS AND FEEDBACK

LSE DATA ANALYTICS CAREER ACCELERATOR

Employer Project - MSF OC Brussels

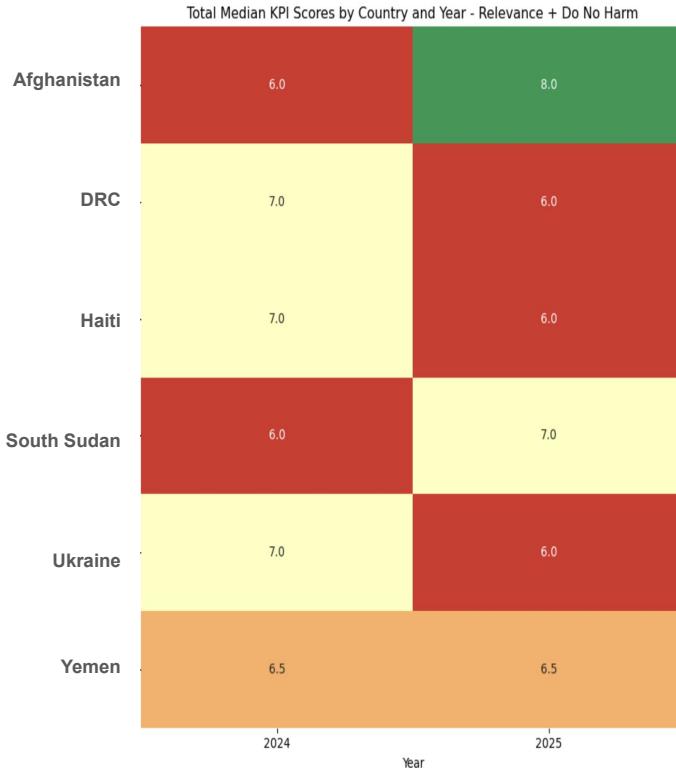
14 November 2025



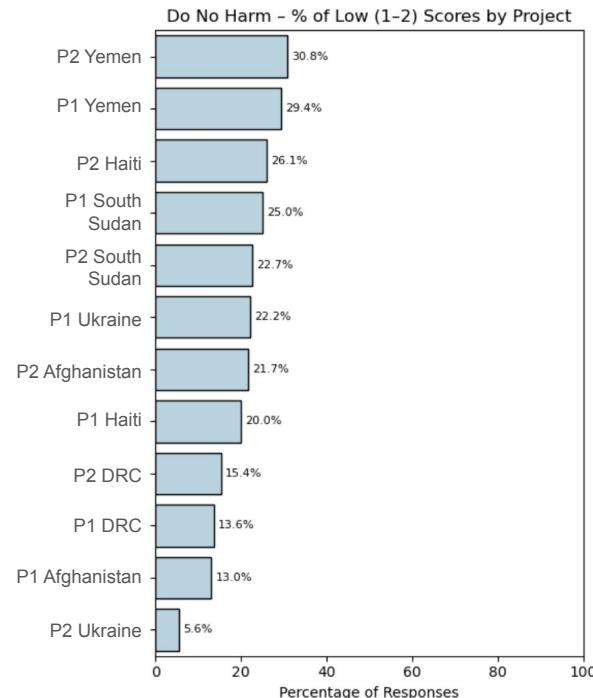
# Appendix

# We found that the EOA survey provides rich insights that can improve project operations

## Afghanistan had the best over all performance



Projects 1 & 2 in Yemen had the highest % of negative scores in DNH



Countries that performed well had a combination of best practices

- 1 Regular check-ins
- 2 Feedback cycles
- 3 Psycho-support
- 4 Community dialogue

# Business recommendations - holistic monitoring to drive change

- 1** **Importance of data quality** - Introduce incentives or integrate survey in routine processes to encourage high participation.
- 2** **Dashboard accessibility** - Consider staff training to understand indicators and its importance in decision making.
- 3** **Conduct routine meetings with stakeholders** - Review dashboard regularly and discuss specific challenges in projects to drive improvement.
- 4** **Culture of learning and accountability** - Develop case studies and best practices from projects that perform well to drive improvement.

## Types of descriptive and exploratory analyses executed

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**Country level** - which countries are high and low performers in relevance and DNH and why?



**Project level** - which projects are high and low performers in relevance and DNH and why?



**Staff level** - how does staff respond in different countries and projects?



**Qualitative** - what can we uncover from people's qualitative responses about relevance and do no harm?

# Technical recommendations - survey & KPI improvements

**1 Clarify scoring method** - Current KPI calculation treats Likert scale data as a continuous variable.

*Proposal: Convert survey to continuous scoring method or revise KPI calculation to % of respondents rating 4–5.*

**2 Use median score over mean** - Current KPI score is calculated using mean.

*Proposal: Use median to represent average choice as it is not susceptible to extreme values.*

**3 Consider a mid-point survey** - Current data is submitted only at EOA to inform future assignments.

*Proposal: Implement a mid-point check-in or survey to tackle conditions in active projects.*

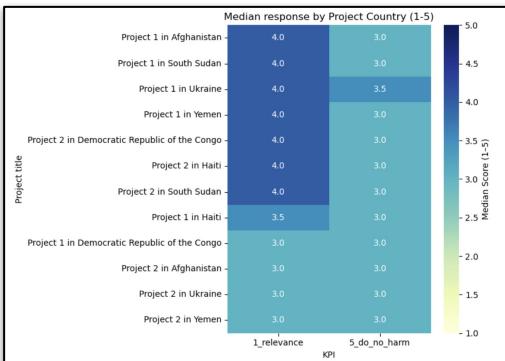
**4 Launch a project scorecard** - This will allow project leads to easily identify gaps.

*Proposal: Implement a scorecard to depict all project performance KPIs and provide insights for improvement.*

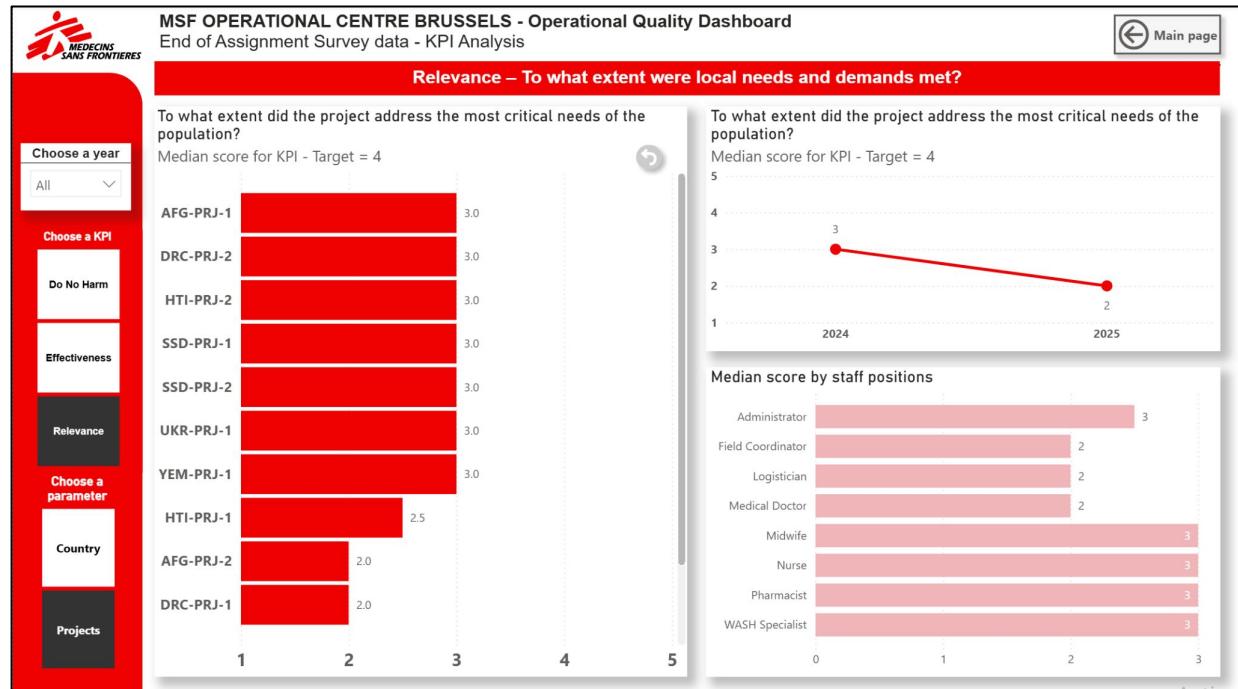
# This also allowed us to test various indicators and visuals for our dashboard

Exploration of different KPI indicators like median scores and percentage of respondents that chose high scores (4 & 5) and low scores (1 & 2).

## Sample from our analysis



## Dashboard extract



# Our Deliverables

**Jupyter file** - Python code demonstrating data transformation process and analysis to generate insights.

1

## Importance:

- Spot data quality issues to improve EOA survey structure
- Inspiration from the predictive analysis to run similar models to uncover insights

2

**Interactive Power BI dashboard** - depicts survey response % and all KPIs by project, country and by year.

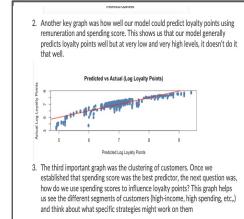
3

**PowerPoint Presentation** - Provides high level insights, key takeaways and recommendations for MSF

4

**Technical Report** - Explains technical aspects of analysis, the thought process and analytical decisions taken to design dashboard

```
Section 1: Loading packages and setting functions  
1.1 Loading packages  
# Import the necessary libraries:  
import numpy as np  
import pandas as pd  
import matplotlib.pyplot as plt  
import seaborn as sns  
import warnings  
# Prediction analysis libraries  
from sklearn.linear_model import LinearRegression  
from sklearn.model_selection import train_test_split  
from sklearn.metrics import mean_squared_error  
from sklearn.preprocessing import StandardScaler  
from sklearn.ensemble import RandomForestRegressor  
from sklearn.ensemble import ExtraTreesRegressor  
from sklearn.ensemble import GradientBoostingRegressor  
from sklearn.ensemble import AdaBoostRegressor  
from sklearn.ensemble import BaggingRegressor  
# Always show all options (if need)  
pd.set_option('display.max_rows', None)  
pd.set_option('display.max_columns', None)
```



## Recommendation 1: Improve the design of the EoA survey and enforce completion through the dashboard.

**Insight:** Survey response rates are critically low across all projects and countries.

We recommend:

- Flag low response countries and ensure Seniors drive completion.
- Introduce a mid-assignment survey to detect low-performing projects earlier.



## Recommendation 2: Create a holistic monitoring system to improve the delivery of projects.

**Insight:** Projects show clear 'high' and 'low' performance against impact KPIs.

We recommend:

- Produce case studies on performers.
- Turn lessons into practical guidelines for project design and delivery.

**Insight:** Staff report major challenges around psychological support, safety, and conditions.

We recommend:

- Flag repeated issues by country and address them proactively.
- Provide more psychological and emotional support in high-risk contexts.
- Improve safety procedures and living conditions for high-risk assignments.