



Managed Mobility System (MMS) Impact on Career Advancement

Wharton People Analytics Conference, 2020

Fernando Martinez
McGill University

Executive Summary

45K+

employees



58K+

applications

Up x13



22K+

Grade
increases



Goal



Evaluate whether the UNDP should implement the **MMS** based on the results from the UNICEF

Process



A four step approach including **an experiment design** using the UNDP as control group and the UNICEF as the treatment group

Insights



Gender and hardship location level are some of the most statistically significant predictors explaining the likelihood of being promoted



During the application process, **women are 45% more successful than men**, except for movements from a Hardship location to HQ



Receiving a promotion (grade increase) through an application process, reduces the likelihood of an employee leaving the organization **five times**





From 2016 to 2019, 25% of the employees who left UNDP could have been retained if the Management Mobility System (MMS) had been in place



U N
D P

The four-step process to tackle the challenge



1



Data Exploration

Identify the main variables available and major differences among groups

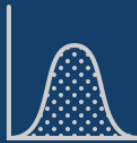
2



Experiment Design

Treatment (UNICEF) and control (UNDP) groups to validate the MMS effect

3



Statistical Analysis

Identify main predictors for promotion and test model performance for training and test datasets

4



Data Deep Dive

Use multiple splits to find further insights, additional hypotheses and provide recommendations

Despite working in locations with higher hardship levels, **men have a lower application success rate than women**



Application
Success Rate (%)

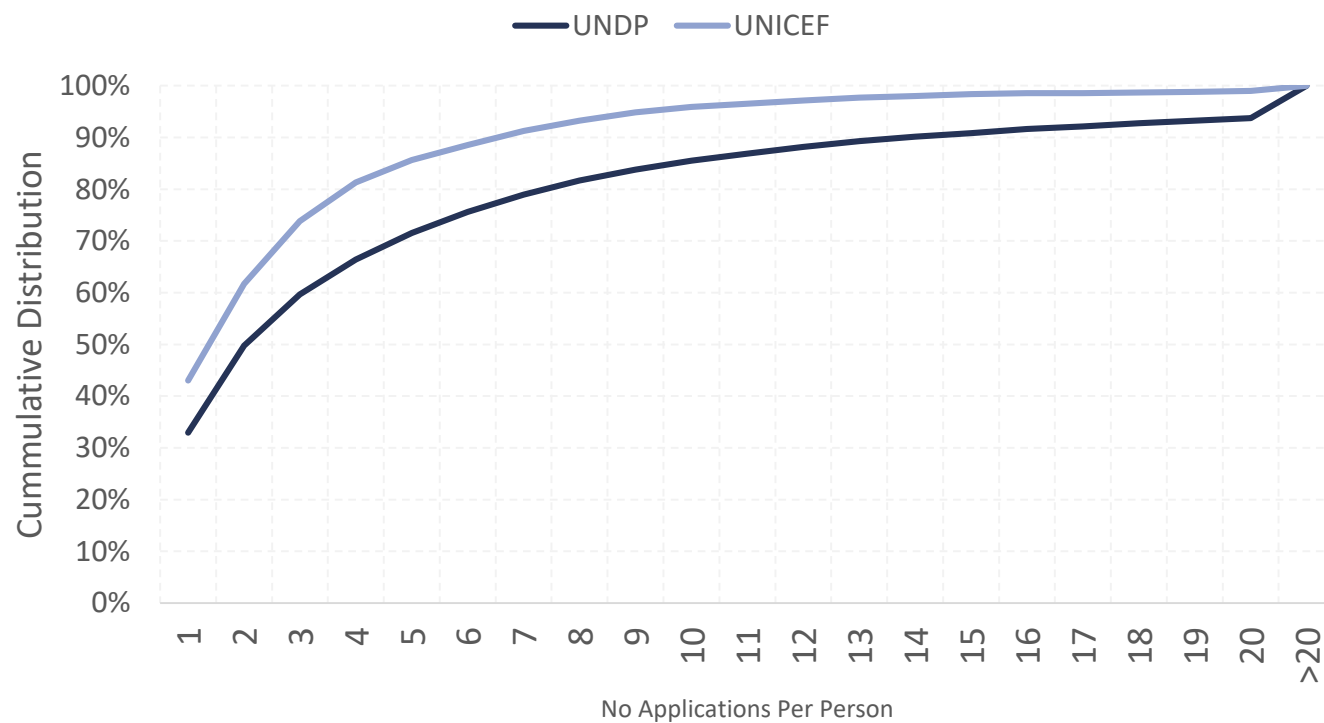
4%

7%

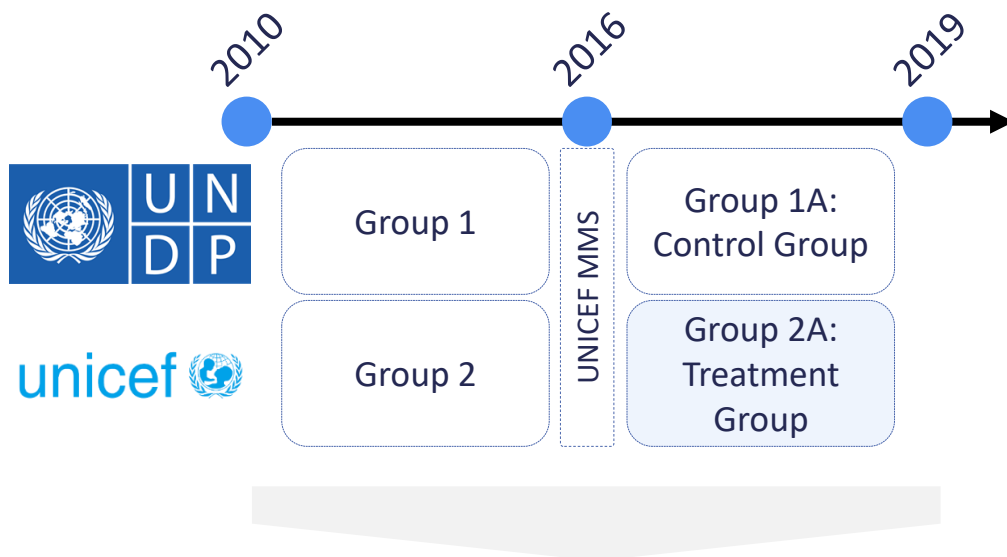
Avg Hardship
Level

2.5

1.9



Analysis Groups



Model 1: Career Advancement Promotion (1 Yes / 0 No)

- A tour of duty in a hardship location increases promotion opportunities
- Hardship location experience as condition for career advancement leaves women at a disadvantage
- Breadth (positions held, countries worked at) and depth (tenure) are key for career advancement



Model 2: Staffing Planning Turnover (1 Yes / 0 No)

- Inability to get promoted increases the likelihood of leaving the organization
- Mobility within the organization decreases the turnover

Models & Hypotheses

The MMS's effectiveness will be measured from **two perspectives**: a) for the individual in terms of **career advancement** and b) for the organization in terms of **turnover**



UNDP and UNICEF follow different statistical models. However, both share **gender** and **level of hardship location** as predictors for promotion which in turn predicts turnover



Predictors & Significance

Logistic Regression (1=Yes, 0=No)				
Predictor	Model 1: Promotion		Model 2: Leaving the Organization	
	UNDP	UNICEF	UNDP	UNICEF
Gender	***	***		
Tenure	***	***	***	
Countries Worked at	***		***	***
Positions Held	***	***	***	
Avg Location Level	*	*	***	
First Loc Hardship Level	**		***	
First Loc Family	***		***	
Promotions			***	***
Total Applications				

Models' Performance

KPI	UNDP	UNICEF	UNDP	UNICEF
AUROC	0.81	0.71	0.53	0.50
Classification Error	0.13	0.18	0.29	0.36
Sensitivity	0.87	0.54	0.80	0.00
Specificity	0.87	0.92	0.59	1.00

Hypotheses

Individuals

A tour of duty in a hardship location provides better promotion opportunities **Yes**

A hardship location as condition for career advancement leaves women at a disadvantage **No**

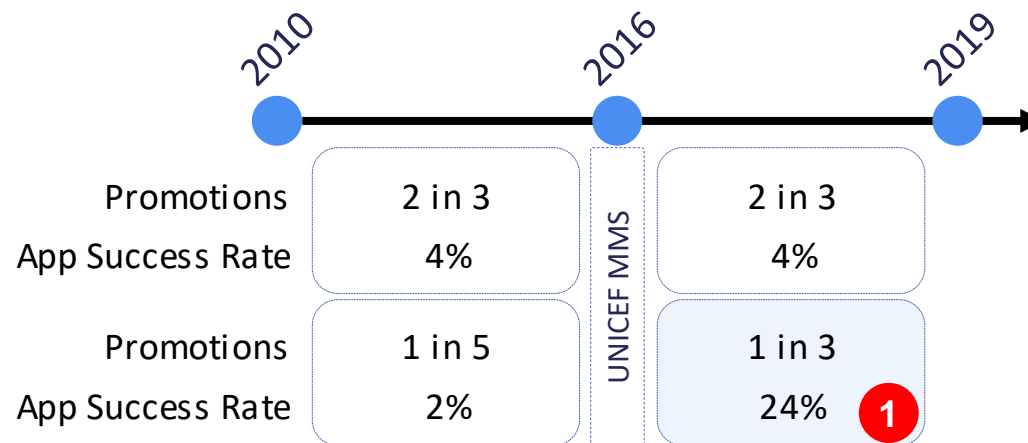
Breadth (positons held, countries worked at) and depth (tenure) are key for career advancement **Yes**

Organization

Inability to get promoted increases the likelihood of leaving the organizations **Yes**

Mobility within the organization decreases the turnover **Yes**

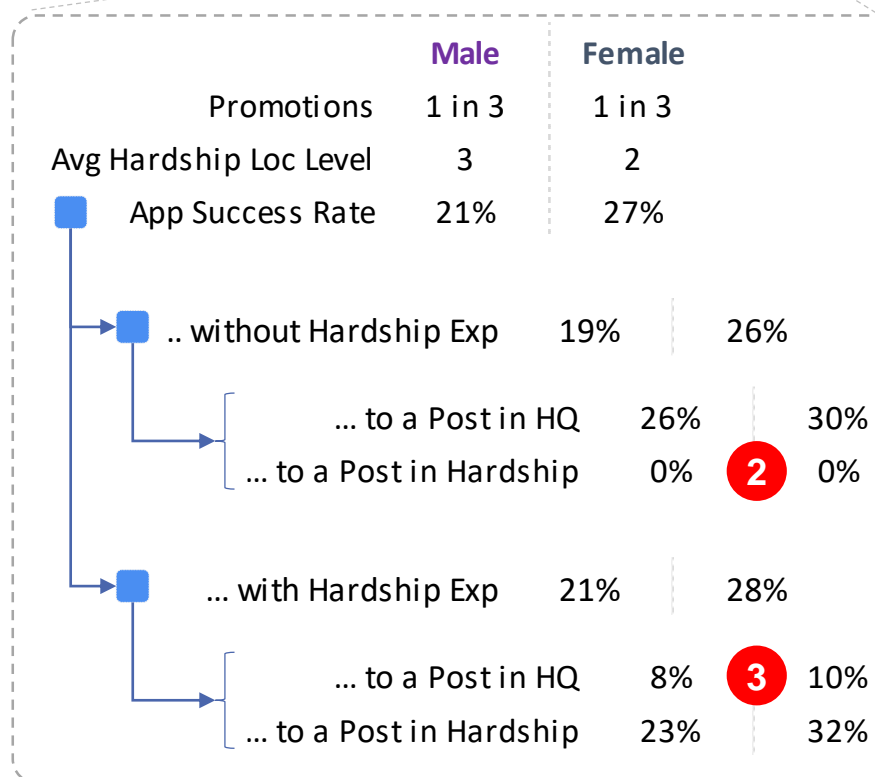
Analysis Groups



1 **Appointments' expiration** drove applications up, many of which were turned into promotions

2 Experience in hardship locations as a pre-requisite does not favor anyone and **vacancies might be won by external candidates**

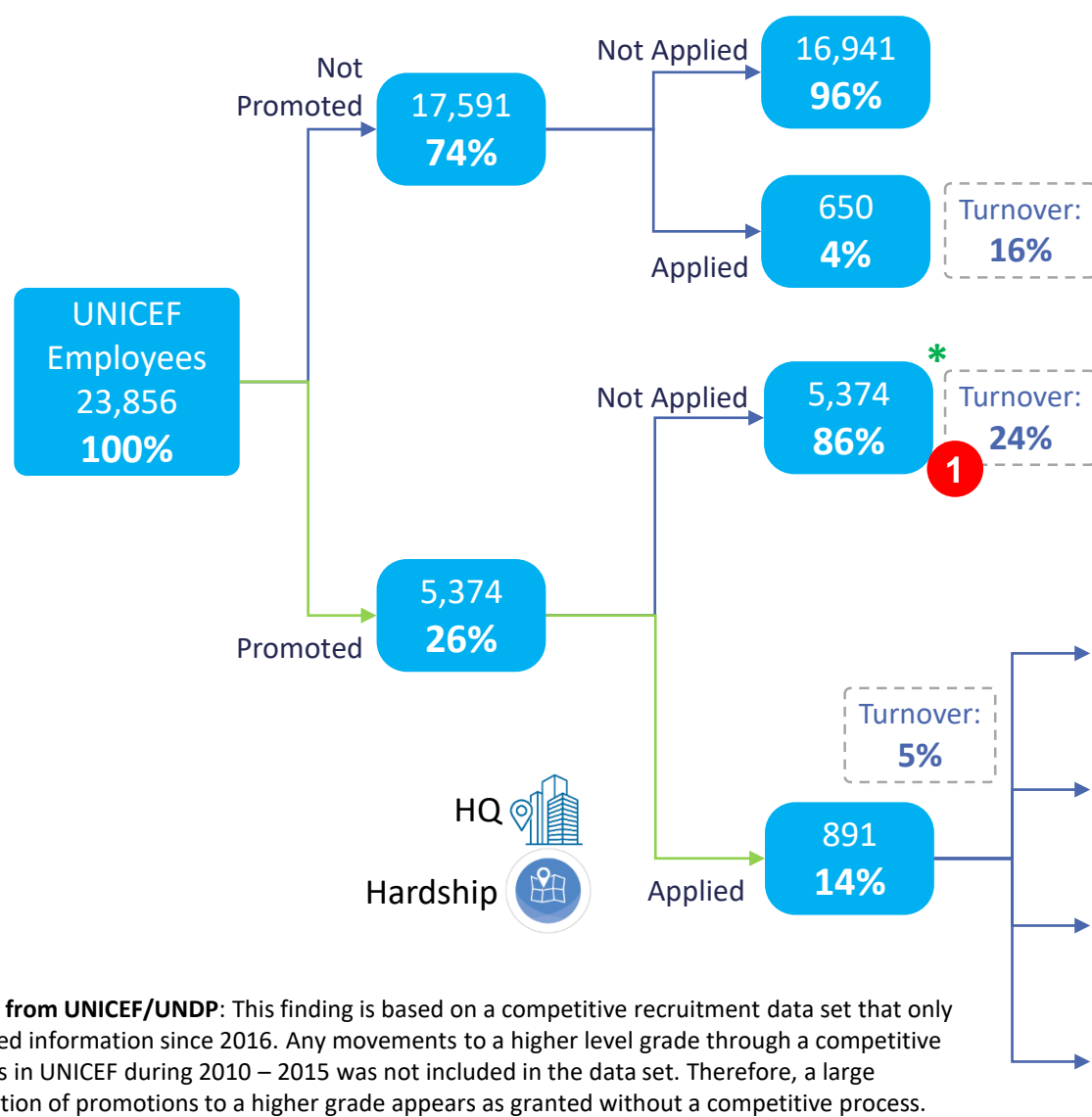
3 A candidate with hardship location experience has a **lower success rate when applying to vacancies at HQ**



In UNICEF's MMS, women are more successful than men, especially when they have experience in hardship locations and apply to posts in hardship locations



Around 86% of grade increases are granted without an application process, making it **5 times more likely** for an employee to leave



- 1 Employees promoted through an application process **have lower turnover rate** (5%) than those granted salary increases (24%)
- 2 **Men's** success rate is almost 10 pp lower than women's, with the exception of applying to HQ
- 3 Women that keep rotating across hardship locations are **twice as likely** to leave the organization than men

	Woman	Man
App Succ Rate (%)	28%	18%
Apps # Per Person	3	4
Turnover (%)	6% 3	3%
App Succ Rate (%)	20%	25% 2
Apps # Per Person	3.5	2.7
Turnover (%)	4%	4%
App Succ Rate (%)	28%	16%
Apps # Per Person	2.6	3.6
Turnover (%)	5%	5%
App Succ Rate (%)	28%	20%
Apps # Per Person	2.6	3.8
Turnover (%)	0%	17%

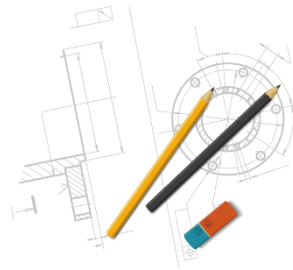
*Note from UNICEF/UNDP: This finding is based on a competitive recruitment data set that only captured information since 2016. Any movements to a higher level grade through a competitive process in UNICEF during 2010 – 2015 was not included in the data set. Therefore, a large proportion of promotions to a higher grade appears as granted without a competitive process. This also has implications on the estimated turnover rate presented on this slide.

UNDP **should** implement the Managed Mobility System while improving the application processing mechanisms for both entities

APPROVED



Women have a higher application success rate especially when applying to a role in hardship location, further analysis should be done to **eliminate potential biases** during the process



Promotion lowers the turnover rate, especially when granted through an application process. **A career plan with scheduled grade increases** should be designed and put in place to prevent high potential employees leaving the organization



A candidate whose only experience is in hardship locations, finds it more difficult to move to HQ. A special mechanism should be implemented to process this applicants and **ease the transition of potential candidates coming from hardship locations**

More Ideas to Explore



Analyze the effect of a performance reviews over time. How they change depending on the Hardship location level? **Do performance reviews predict career advancement?**



Study how employees move across the world and the comparison between locations where family is allowed vs when it is not. **Which countries are more likely to serve as an important talent pool?**



The majority of promotions (grade increases) were granted without an application process. **The mechanisms in place for grade increases** should be reviewed and an analysis performed on how to incorporate them into the MMS schema



Thank You



unicef 



Backup