

# Pre-Analysis Plan: Managerial Narratives and the Demand for Management Training in Public Administration

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## Introduction

### Abstract

What are the determinants of demand for professional development in public administration, and can that demand be changed? This study will assess the ability of an external intervention to influence the demand for management continuous professional development in the public sector. We will measure the willingness to pay for 1) an executive education course, 2) professional coaching and, 3) a shadowing opportunity among professional higher education students at the Civil Service University in Addis Ababa, Ethiopia. We test how narrative-based 'edutainment' videos showcasing the professional success of middle managers can alter demand for professional development, a key element in efforts to improve civil service capabilities.

### Motivation

While training presents a primary way for policymakers to improve management skills and performance of the public sector, the perceived effectiveness of training is uneven (Global Survey of Public Servants, 2023). With training forming a central part of national efforts to raise performance in civil services across the world, understanding the determinants of individual civil-servant level demand can suggest new ways to raise the effectiveness of bureaucracies. In general, adopting new work practices and improving effectiveness may require new knowledge among employees. Theoretical work (such as Aghion and Tirole 1997) shows that the perception of the utility of information affects information acquisition. This project will estimate the demand for management training by civil servants, as measured by willingness to pay. We will experimentally showcase the efficacy of effective management through videos that are educational but entertaining ("edutainment"), and which may change participants' motivation to obtain further development opportunities.

By randomizing exposure to videos showcasing narratives of managerial success operating through different managerial styles, we aim to test whether role model narratives can shift demand for professional development activities. Narrative-based interventions showcasing believable and relatable stories of success have been shown to impact a variety of behavioral outcomes, such as investments among households living in poverty, exam results for high-

school students, and social norms related to gender-roles and health-related decisions (Bernard et al. 2014, 2015; Grady, Iannantuoni, and Winters 2021; Riley 2022). Can this approach increase demand for professional development among civil servants? Other studies have not, that we are aware, used incentive-compatible mechanisms such as Becker-DeGroot-Marschak (BDM, outlined below) to elicit willingness to pay after exposure to narrative interventions. Potential mechanisms by which demand may be changed will be measured, including beliefs about what good management is, beliefs on others' views, and self-assessment of managerial ability. Finally, we conceive professional development to include coaching and shadowing as well as training, to assess whether demand is different for these alternative forms of continuous development, ones that are less common in Ethiopia and many other low- and middle-income countries.

The research will contribute to multiple literatures. We will contribute to knowledge on building state capacity through the improved performance of public administrators, estimation of demand for training and learning in the workplace amongst key mediators of government functioning, and the mechanisms by which managerial style can be changed in administration at large. It will also benefit participants and the Ethiopian Civil Service by offering executive short courses as part of the research activity.

## Research Questions

Our main research question is “can exposure to different management styles change public sector workers beliefs about the utility of management skills and alter their willingness to pay for further management professional development?”

## Research Strategy

We will conduct a randomized controlled trial implemented at the higher education institute for civil servants in Ethiopia (CSU) for an estimated period of three to four weeks. We offer students at CSU the opportunity to take up a program in management at a financial cost to them. These students are professional civil servants taking Winter session degree programs over several years.

## Treatment

We will randomly allocate participants at the individual-level into two groups. The first group will watch a video that showcases a successful middle manager. We have prepared a set of four distinct videos from the same underlying material, all of which showcases the success of a middle manager. To ensure that our results are not limited by the features of a single video, we will randomize across these four videos within treatment. The second group will see a control video, with information on training and consultancy services provided by the Ethiopian management Institute, a provider in Addis Ababa.

The treatment videos expose a student to an ‘edutainment’ video of under 20 mins produced by a professional production company in Ethiopia, that showcases a character solving a work problem. The videos were developed in close collaboration with EMI and the Ethiopian production company, and with professional advice from an award-winning expert in narrative-based behavioral change. The intervention has been piloted in Ethiopia with manipulations checks and to strengthen the survey design. Focus groups were conducted to develop and refine the script.

## Demand for professional development

We will present three kinds of opportunities for executive education to professional students at the Civil Service University, enabling us to discriminate between demand for different modalities. While the final wording is to be developed, the opportunities will be described similar to the below:

- a. **Training:** “Learn about some of the biggest new ideas in working in public service from specialists in the field. Over an intensive one-day course, you will be taught key insights from research on the Ethiopian Government and hear about best-practice from some of the most successful managers in Federal Government.”
- b. **Coaching:** “Would you like a personal assessment of your approach to work with a group of public sector specialists and successful managers? You will be supported to outline key components of your approach to work and then reflect on these with a group of trained experts in the field. This activity gives you tailored feedback on how you might strengthen your professional performance.”
- c. **Work shadowing:** “Shadow an effective member of service staff to see exactly what it takes to be successful in the Ethiopian public service. You will have the opportunity to observe real-world examples of how to operate successfully within the service and discuss your observations with a small group of other trainees. This activity gives you practical examples of how to strengthen your professional performance within the Ethiopian public service.”

## Measuring willingness-to-pay

A bespoke BDM design will be used to elicit willingness to pay, adapted from existing frontier approaches (Berry, Fischer, and Guiteras 2020).<sup>1</sup> Tests of competing measures of willingness to pay have found that BDM performs well against benchmarks, especially and in contexts of higher literacy (as in our case), and with careful consideration of design, such as including practice runs and demanding payment on the same day (Berry, Fischer, and Guiteras 2020; Cole et al. 2020). Recent papers also demonstrate that some tradeoffs are not as important as might be thought, with implementation using a computer similar to visible randomization devices,

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<sup>1</sup> See Annex A for the protocol.

and describing the price distribution to participants not being necessary (Burchardi et al. 2021). Indeed, limiting the discussion of risk may help the interpretation of BDM among participants, especially risk-averse individuals. We utilize these findings in our design.

The BDM design that we use operates by asking participants the highest amount they are willing to pay for all three opportunities, the order of which will be randomized. The computer draws a random price from our distribution, and if this is lower than the stated maximum willingness to pay, the participant purchases the opportunity at the randomized price. Consequently, we obtain an individualized willingness to pay for every participant, enabling us to create curves describing the distribution of demand.

Since this is a complicated procurement mechanism, we will first run a practice with participants using either a snack or pen, drawn randomly.

**Price distribution.** The distribution of prices that will be selected will include negative prices, such that participants would be paid to attend the training. This follows common practice where civil servants obtain *per diems* when attending training. Participants will be informed they may state a negative price, but will otherwise not be informed about the price distribution.

## Sampling

### Sampling Frame

Existing civil servants in Ethiopia are the eligible population. We anticipate a sample size of 500 drawn from those taking professional courses at the Civil Service University, recruited through collaborating with deans of schools at the campus. We anticipate that most students at our collaborating schools will participate. The participants will be core government administrators, temporarily taking a program at Civil Service University before returning to civil service positions.

### Assignment to Treatment

Assignment to treatment will be based on a pre-assigned randomization. Participants will be linked to this randomization with their survey ID. Randomization is blocked (of size 8) to ensure balance in small samples.

Video	Probability	Condition
1	0.125	Treatment
2	0.125	Treatment
3	0.125	Treatment
4	0.125	Treatment
5	0.500	Control

## Attrition from the Sample

We do not expect meaningful attrition among participants once recruited as most research activities require no follow-up, such as viewing the video, conducting the BDM mechanism, and answering the survey questions. These are all conducted in one session. However, there may be refusal to pay, and some participants may not attend the training opportunity even if they purchased it. Our study does not depend on the second type of attrition – indeed, this is an outcome variable in itself.

Non-payment interferes with establishing the willingness to pay in a real situation, and if participants anticipate they need not actually pay, may not reveal their true demand. We have followed best practice in implementing the willingness-to-pay mechanism in an attempt to reduce the risks of non-payment. Existing studies have wide variation in the extent of non-payment. Maffioli, McKenzie, and Ubfal (2022) experienced a high degree of non-payment, with over half refusing to pay the full amount assigned to them for the training. Studies that have requested payment at the same time, or on the same day, as eliciting willingness to pay experienced much less default (Berry, Fischer, and Guiteras 2020; Burchardi et al. 2021). Maffioli, McKenzie, and Ubfal (2022) review non-payment and find that most studies report single-digit percentages of renegeing. By requesting payment upfront, we anticipate reducing the amount of non-payment. Messaging the need to pay may itself reduce the possible expectation that non-payment is an option.

## Empirical Analysis

### Variables

#### Independent Variables

**Treatment.** Defined as 1 if videos 1 to 4 were shown, and 0 if video 5 was shown.

#### Outcome Variables

**Primary outcome:** The key outcome of interest is the elicited measure of demand for professional development opportunities. These are drawn from the BDM mechanism, discussed above and in Annex A. In addition to the variable *WTP*, a demand function can be estimated by the fraction of participants who would have bought opportunity  $o$  for price  $p$  (that is, their final bid was above the price). This can be done using data for each opportunity for each subject, and separate graphs plotted for treatment and control groups.

**WTP.** An individual level score of stated maximum willingness to pay, defined in Ethiopian Birr.

We will undertake treatment analysis of WTP where we pool across the three activities, as well as look at sub-samples analysis for each activity separately (training, coaching, shadowing).

**Secondary outcomes:** We will test whether treatment changes the probability of eliciting a positive willingness to pay for any professional activity using an indicator variable (equal to 1 if the individual elicited a positive WTP and zero otherwise), and separately look at each of the three activities.

## Mechanism Variables

We will test for mechanisms in two ways. Firstly, we ask participants to select whether any of a list of beliefs about the value of continuous professional development apply to them.

	What is your expectation about the continuous professional development activity offered? That it would...
	enhance your individual performance
	enhance your team performance
	motivate you
	be useful for future positions in the public sector
	be useful for future position outside of the public sector

Secondly, we elicit text from the respondents, following the prompt to reflect on what value they see in continuous professional development for their own career. We plan to use BERT analysis to inductively generate mechanisms from participant text responses.

## Treatment Effects

Given the BDM mechanism, we will run the following specification to identify the impact of the experimental treatment on willingness to pay for average demand using ordinary least squares:

$$(1) \quad Y_i = a + b_1 T + e_i$$

$Y$  refers to our main outcomes, willingness to pay for each of training, shadowing and coaching.

We will estimate equation (1) without controls; with the full set of controls collected; and a post-double LASSO model for control variable selection. Standard errors will be robust.

The set of controls included in the post-double LASSO selection will include: age, sex of the respondent, indicators for the region in which the respondent, indicators for which tier of the administration, the years of experience in the civil service, number of organizations that the respondent has worked in, indicators for monthly income brackets before starting the course at CSU.

## Ethics and IRB

Ethics has been approved by the University of Oxford under ECONCIA22-23-21.

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## Annex A: BDM Protocol

### Intro

1. Assign participant ID.
2. Discuss info sheet and explain mechanism. Read out the following:
  - a. We would like to offer you professional development opportunities. We want to get a sense of its value to you and others, so we are not going to tell you the price yet.
  - b. We are going to do an activity to get a sense of your interest and then we'll tell you the cost. To make it concrete, you will only be able to buy the professional development opportunities if you've already given a high enough price.
  - c. The price you pay will be determined by this computer. You will pay the amount on the computer and the amount you tell us you are willing to pay will only determine if you can buy these things, not the amount you pay.
  - d. We understand this is an unusual way to sell an item or a service, but recording your answer in this way helps us understand how much people value the service.
  - e. We will offer training, coaching, and shadowing as professional development opportunities. We will ask you about all three at the same time.
  - f. You will not have to spend any more than you really want to.
  - g. You may even be able to buy them for less.
  - h. You will only buy one opportunity at most.
  - i. Here is how the promotion works:
    - i. I will ask you to tell me the maximum price you are willing to pay for each of training, coaching, and shadowing.
    - ii. You will decide how much you will be willing to pay for them at the same time.
    - iii. The computer will randomly draw one of the three opportunities, and then the computer will draw a random number for that opportunity.
    - iv. This number will be the price for the development opportunity.
    - v. The number may be positive, meaning that you pay for the opportunity, or negative, meaning we pay you for attending.
    - vi. If your bid is lower than the numbers shown on the computer, then you cannot buy the development opportunities.
    - vii. If your bid is greater than or equal to the number the computer generates for an opportunity, you will purchase the professional development opportunity and you will pay the price shown on the computer.
    - viii. You will pay for and receive only one opportunity.
    - ix. You will only have one chance to play for the opportunities.
    - x. You cannot change your bid after you draw from the computer.

- xi. You must state a price that you are actually able to pay today. Can you access TeleBirr?
  - 1. *Answer yes, move on*
  - 2. *Answer no, ask:* Do you have cash available now or are you able to get it today?
- xii. We will practice in one moment, but for now, do you have any questions?

### **Video treatment**

- 1. Play treatment video according to participant ID randomisation.
- 2. Survey questions related to the videos.

### **Practice sale**

- 1. Randomize (independently) and draw either BL-themed pencil or inexpensive snack.
- 2. Conduct practice with either snack or pencil. Read / do the following:
  - a. *Show [snack/pencil].*
  - b. What is the maximum you are willing to pay for this?
    - i. *They say an amount X.*
  - c. If we draw a number that is smaller than (or equal to) X, you will pay the amount drawn by the computer and receive the *[snack/pencil]*.
  - d. If we draw a number that is greater than X, you will not be able to purchase the item, even if you later decide you would be willing to pay the greater number.  
You cannot change your bid after you pick a price. Do you understand?
  - e. Please tell me, if you bid X as the amount that you are willing to pay and we draw *[X+20 Birr]*, what happens?
    - i. *Repeat explanation if incorrect.*
  - f. And if you bid X as the amount that you are willing to pay and we draw *[X-20 Birr]*, what happens?
    - i. *Repeat explanation if incorrect.*
  - g. If we actually drew *[X+20 Birr]*, would you still want to purchase the item?
    - i. *If yes, repeat this step.*
    - ii. *If no, move on.*
  - h. So, is X truly the most you would want to pay?
    - i. If you pick X, you must be able to pay X. Are you able to pay X today?
      - i. *If no, ask for maximum they are willing and able to pay now.*
  - j. *Record maximum amount X.*
  - k. Do you have access to TeleBirr, and are you able to pay the amount you have stated you are willing to pay using TeleBirr?
    - i. *If they do not have access to TeleBirr, ask:*
    - ii. Do you have enough cash to pay the amount you have stated you are willing to pay? Could you show it to me?

- iii. *If they cannot present the cash, ask:*
- iv. Will you be able to fetch the cash by the end of today?
- v. *If they cannot, confirm that they must say the highest amount they are willing and able to pay.*
- I. Please enter the maximum amount in the response form.
- m. Now you will draw a price using the computer's random number generator. If you have picked a price larger than the one drawn, you will buy the item at the price the computer draws. If you have picked a price smaller than the amount drawn, you will not be able to buy the item. Are you ready to draw the number?
- n. *Respondent clicks button and price is recorded.*
- o. *Whether price drawn > X (no sale) or price drawn <= X (sale) is displayed. If sale, exchange item for cash.*
- p. Do you have any questions about the game?

### **Professional Development Opportunities**

- 1. Show advert for professional development opportunities. The advert will be based on the following information:

*Table on next page*

### Opportunities for Executive Education from International Partners

Would you like to accelerate your executive learning? In collaboration with university leadership, staff from the Universities of Oxford and Cornell and the World Bank are collaborating to provide a set of executive education opportunities to Civil Service University students over the next few weeks.

d. **Training:** Learn about some of the biggest new ideas in working in public service from specialists in the field. Over an intensive one-day course, you will be taught key insights from research on the Ethiopian Government and hear about best-practice from some of the most successful managers in Federal Government.

*Logistics:*

- [DATE]
- Full day training course at CSU
- Topics: Overcoming the biggest obstacles in Ethiopia's public service; building your ability to contribute to Ethiopia's national priorities; becoming a better executive and manager

e. **Coaching:** Would you like a personal assessment of your approach to work with a group of public sector specialists and successful managers? You will be supported to outline key components of your approach to work and then reflect on these with a group of trained experts in the field. This activity gives you tailored feedback on how you might strengthen your professional performance.

*Logistics:*

- [DATE]
- Sign up for any 3-hour session split between reflection, group talk, and individual action planning
- Opportunity for follow-up check-ins with effective members of the service

f. **Work shadowing:** Shadow an effective member of service staff to see exactly what it takes to be successful in the Ethiopian public service. You will have the opportunity to observe real-world examples of how to operate successfully within the service and discuss your observations with a small group of other trainees. This activity gives you practical examples of how to strengthen your professional performance within the Ethiopian public service.

*Logistics:*

- Elect an afternoon in the week of X that you would be available to undertake the work shadowing
- Small groups of 5 trainees shadowing a successful officer at the Ethiopian Management Institute
- A combination of observation and small-group discussion of key strengths observed

## Professional Development sale

1. The tablet displays three icons with response fields for all three opportunities on tablet.
2. Conduct mechanism for training, coaching, and shadowing. Order is (independently) randomised. Read / do the following:
  - a. Now you will play to purchase the training opportunities you heard about at the start of the session.
  - b. Have you thought about how much you are willing to pay for them?
  - c. Do you have funds available today?
  - d. Let's begin.
  - e. What is the maximum you are willing to pay for [first opportunity]?
    - i. *They say an amount X.*
  - f. If we draw a number that is smaller than (or equal to) X, you will pay the amount drawn by the computer and participate in this professional development opportunity.
  - g. If we draw a number that is greater than X, you will not be able to pay (or receive money) to participate in this professional development opportunity, even if you later decide you would be willing to pay the greater number. You cannot change your bid after you pick a price. Do you understand?
  - h. Please tell me, if we draw the number  $[X+20 \text{ Birr}]$ , what happens?
    - i. *Repeat explanation if incorrect.*
  - i. And if we draw the number  $[X-20 \text{ Birr}]$ , what happens?
    - i. *Repeat explanation if incorrect.*
  - j. If we drew the number  $[X+20 \text{ Birr}]$ , would you still want to purchase the opportunity?
    - i. *If yes, repeat this step.*
    - ii. *If no, move on.*
  - k. So, is X truly the most you would want to pay?
  - l. If you pick X, you must be able to pay X. Are you able to pay X today?
    - i. *If no, ask for maximum they are willing and able to pay now.*
  - m. *Record maximum amount X.*
  - n. Now, let us move on to the next opportunity.
    - i. *Repeat steps e to n until all three have recorded maximum amounts.*
  - o. Looking at all three opportunities, are you happy with the maximum amounts? Remember, you will only need to pay for at most one of them.
  - p. Could you please fetch the highest amount you have stated you are willing to pay and show it to me?
  - q. Do you have access to TeleBirr, and are you able to pay the highest amount you have stated you are willing to pay, using TeleBirr?
    - i. *If they do not have access to TeleBirr, ask:*

- ii. Do you have enough cash to pay the amount you have stated you are willing to pay? Could you show it to me?
- iii. *If they cannot present the cash, ask:*
  - iv. Will you be able to fetch the cash by the end of today?
  - v. *If they cannot, confirm that they must say the highest amount they are willing and able to pay.*
- r. Please enter the maximum amounts in the response form.
- s. Now you will draw a price using the computer's random number generator. First, we will randomly draw one of the three opportunities.
- t. If the price you are willing to pay is below the one randomly drawn by the computer for this opportunity, you will buy the opportunity at the price the computer draws.
- u. If you have picked a price smaller than the amount drawn, you will not be able to buy the opportunity. Are you ready to draw the number?
- v. *Respondent clicks button and i) opportunity is selected; then ii) price is recorded.*
- w. *Receive payment for the opportunity if price <= X.*

#### **Remaining survey questions**

1. Respondent complete remaining questions on tablets.