

Encouraging businesses to learn about formal apprenticeship programmes

Project report

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April 2020

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Executive Summary

The Behavioural Insights Team (BIT) and Access to Information (a2i) have been collaborating since March 2017. This report summarizes the findings of our second trial with a2i, funded by the Global Innovation Fund (GIF).

Policy objective

This project, which was conducted by the Future of Work Team of a2i, contributed to the Government of Bangladesh (GoB)'s efforts to promote apprenticeships.

More specifically, this project looked to encourage more businesses to register onto a newly developed National Apprenticeship Management System (apprenticeship.gov.bd) to learn about formal apprenticeship programmes and the support offered by the Bureau of Manpower, Employment and Training (BMET).

Intervention

We first collaborated with a2i to support the development of the National Apprenticeship Management System (apprenticeship.gov.bd), from its initiation through to its launch. We used our experience of behavioural insights to ensure that it was user-friendly, engaging and attractive to businesses.

We then worked together to develop and evaluate direct communications to businesses to encourage them to join the portal. To do so, we developed a behaviourally-informed communication, which was designed to be simple, attractive and to encourage businesses to take action.

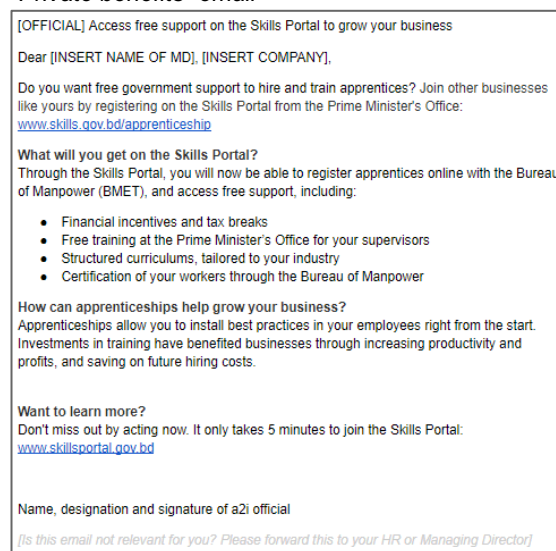
We additionally varied:

- **The framing of benefits:** We do not yet have a good understanding of the best ways to motivate businesses to hire apprentices. The GoB, when promoting apprenticeships, tends to talk about their wider social benefits. We were interested to see whether

framing apprenticeships in terms of private benefits (i.e. for businesses) would be more effective.

- **The communication channel:** This was, to our knowledge, the first direct email or letter communication sent by a2i to businesses. We therefore aimed to compare the effectiveness of both channels.

Figure: example of communication - translated "Private benefits" email



Trial design and implementation

We conducted a four-arm randomised controlled trial to test the effects of communication channel and content on registration rates.

This trial was implemented from August 2018 to March 2019 on a sample of 7,293 formal businesses.

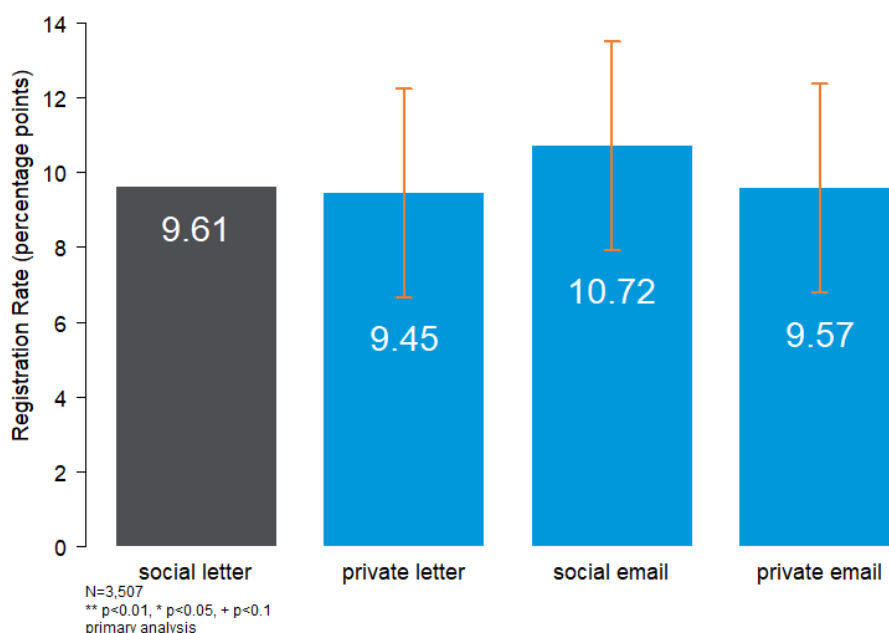
Results

We found no significant difference in the effect of communications sent by email vs. letter, or in the effect of communications framing the benefits of apprenticeships as social vs. private.

Our results did, however, suggest that direct communications could be very effective in encouraging engagement with new government programmes: our communications led to average registration rates close to 7.5% (and closer to 10% for those who had provided an email address). These are very promising results for an un-incentivised new government communication.

Given that emails are significantly cheaper and easier to send out to large volumes of recipients, this also suggests that they might be a more cost-effective way to communicate than letters when trying to reach businesses for whom both means of communications are available.

Figure: Effects of communications on registration rates (restricting to businesses having provided both email and postal addresses)



Recommendations

The work done on this trial, and more broadly to support the development of the National Apprenticeship Management System, has led to several key recommendations:

- **Continue to explore ways to communicate directly via automated channels**, and in particular by email, which seems to be very cost-effective.
- **Build the ability to conduct A/B testing into the design of portals**, so as to be able to conduct simple and rapid randomised controlled trials to assess the impact of presenting different content and/or designs to users.
- **Map out and streamline the user journey before nudging people into action.** The work conducted to build the National Apprenticeship Management System and streamline the registration process has shown the importance of identifying and removing structural barriers, which might otherwise make it difficult or impossible to take the recommended action.
- **Work with businesses to evaluate the demand for, and the impact of apprenticeships.** This trial aimed to help create apprenticeship positions. An important next step will be to work with businesses to robustly quantify the impact of these apprenticeships, by asking questions about the recruitment, training, performance, and retention of apprentices.

01 / Introduction

The Behavioural Insights Team (BIT) and the Government of Bangladesh's Access to Information (a2i) Programme formed a partnership in March 2017 to apply behavioural insights and rigorous evaluation to public innovation in Bangladesh. The purpose of the partnership, which is supported by the Global Innovation Fund, is to: (i) apply behavioural insights to support Government of Bangladesh (GoB) priorities; and (ii) help a2i independently apply behavioural approaches and rigorous impact evaluation through 'learning-by-doing'.

This project, which was conducted with a2i's Future of Work Team, contributed to the Government of Bangladesh (GoB)'s efforts to promote apprenticeships.

More specifically, this project looked to encourage more businesses to learn about formal apprenticeship programmes and the support offered by the Bureau of Manpower, Employment and Training (BMET), and to ultimately register trainees.

This represents the first attempt by a2i to send direct, personalised communications to businesses at scale. Beyond the scope of this trial, we therefore hope that this project will have opened further opportunities for the GoB to directly communicate with businesses and citizens more widely and effectively.

02 / Background

National Apprenticeship Model

Very few businesses run formal apprenticeships in Bangladesh, despite

demonstrated benefits for productivity and growth.¹

To help develop formal apprenticeships, the GoB has developed a 'national apprenticeship model', which is a six-month programme in which businesses run training for apprentices, including: on-the-job training for five days a week; and off-the-job training for 2 - 3 hours a week, within a business or at a nearby training institute.

In return, businesses benefit from training for senior staff who will be in charge of supporting apprentices, as well as tax deductions on material purchased for apprentices.

a2i has been appointed to promote this programme with formal businesses. To do so, it began by organising events for businesses at a2i's Office, inviting select businesses and association representatives to come learn about the programme. While effective for those present, these events remain costly, and impossible to generalise to the full population of businesses. Dissemination of information therefore relied on business associations.

Uptake of the programme initially remained low

Uptake of this programme remained low in its first months of existence. Interviews and focus groups that we conducted with business managers and HR professionals offered several potential explanations:

- **Businesses still lacked awareness of the available support.** Few businesses had heard about the support available to hire apprentices, e.g. the free curriculums and 'train the trainer' workshops. The absence of a centralised source of information and the lack of direct communication channels with businesses aside from the PMO-organised events meant that information failed to reach the majority of businesses.

¹ See for example:

https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_715099.pdf

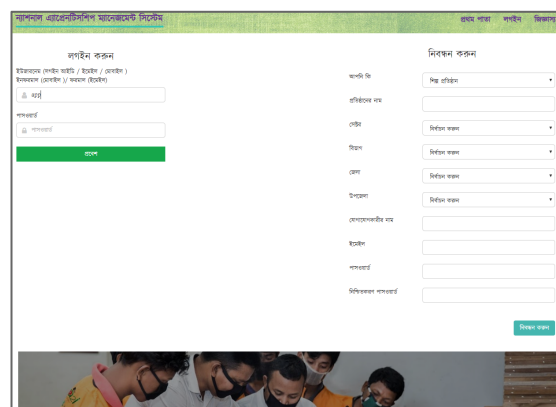
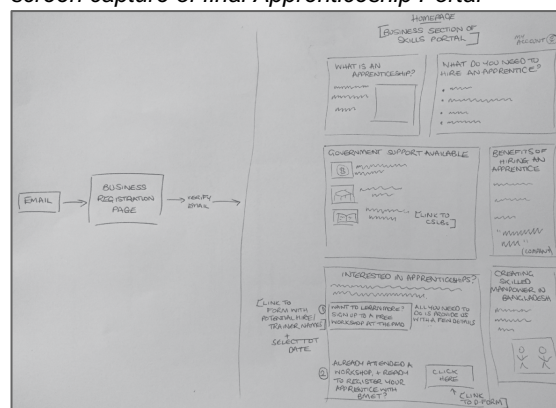
- **Hiring apprentices was seen as a burdensome process.** The process for registering apprentices in Bangladesh at the time of our research was complex, requiring many steps such as visiting BMET’s offices in Dhaka to submit forms and collect the apprentice certificates.
- **Businesses already ran their own informal apprenticeship programmes.** Some businesses already ran their own informal programmes, for example, hiring and training future workers, but not registering them with BMET for certification.
- **Businesses didn’t feel that they had the necessary knowledge or facilities to take up the formal programme.** Some businesses felt poorly equipped to hire apprentices, because they lack “trained trainers” or knowledge on the required curriculums.
- **Businesses struggled to see the potential return on investment.** There was no immediately available local evidence of the financial benefits from apprenticeships.

- requirements, and the available support;
- The ability to sign-up to a free ‘training the trainer’ workshop run by a2i; and
- The ability to register their apprentices online with the BMET.

We jointly chose to develop this section first, as it seemed important to help grow demand for apprentices before encouraging prospective apprentices to seek trainee positions.

We worked closely with a2i to support the development of the apprenticeships page of the Skills Portal, from its initiation through to it going live. We used our experience of behavioural insights to ensure that it was user-friendly, engaging and attractive to businesses. The illustrations below show examples of design sessions we conducted with members of the Future of Work Team..

Figure 1: example of design session conducted and screen capture of final Apprenticeship Portal



Development of the “Skills Portal” to promote apprenticeship

To address these barriers, a2i developed an online “Skills Portal” (www.skills.gov.bd), which aims to 1) provide essential information to businesses and job seekers about skills development, and 2) offer matchmaking solutions for businesses and potential trainees.

During this project, we worked with a2i on the first stage of this portal’s development - the “Apprenticeship” portal (www.apprenticeship.gov.bd).

This page provides businesses with:

- Information on apprenticeships, including the benefits, the

This trial: encouraging businesses to sign up to the Skills Portal

As a complement to the development of the portal, we then worked with a2i on ways to [encourage formal businesses to register onto the Skills Portal and learn more about apprenticeships](#). While our main focus will be registrations onto the portal, we also monitor secondary effects on registrations to the “training of the trainer” workshops, and ultimately on trainee registrations.

03 / Intervention

Despite their being a common information tool for governments around the world, a2i and the GoB rarely use direct communications to citizens and businesses, preferring to either organise large conferences or in-person events, or to communicate using national above-the-line media.

Looking to open new channels of communication, we worked with a2i to develop and evaluate direct communications to businesses to encourage them to join the Skills portal.

We focused on answering two questions:

1. Which channel, of letter or email, is most effective? This was, to our knowledge, the first direct email or letter communication sent by a2i. We therefore aimed to compare the effectiveness of both channels.

2. How should the benefits of apprenticeships be framed? We do not yet have a good understanding of the best ways to motivate businesses to hire apprentices. The GoB, when promoting apprenticeships, tends to talk about their wider social benefits. For example, they include in their ‘Vision 2021’

strategy: “in order to develop Bangladesh into a middle-income country by 2021 and a developed country by 2041, there is no alternative to [...] apprenticeship programmes”. We were interested to see whether framing apprenticeships in terms of private benefits for businesses (e.g. on productivity and growth) would be more effective.

Behaviourally-informed letters and emails

To answer these questions, we created a behaviourally-informed basis for communication following the “EAST” and “MINDSPACE” framework developed by BIT.^{2,3}

This communication was designed to be:

- **Easy:** The language was chosen to be simple, and to include clear actions for businesses to take. We also included the direct link to the apprenticeship portal, as previous work has shown that just one additional click can discourage action;⁴
- **Attractive:** We addressed letters directly to business managers, using the fact that personalised communications tend to be more effective;
- **Social:** Letters were signed by an authority figure from a2i, lending both authority and legitimacy to the communication, and exploiting what we call the ‘messenger effect’; and
- **Timely:** We attempted to create a sense of urgency by encouraging businesses to “not miss this opportunity” and “sign up now”.

The communications’ main purpose was to encourage businesses to learn more about apprenticeships. We therefore also made sure to clearly list out potential benefits from signing up, varying whether to present these as:

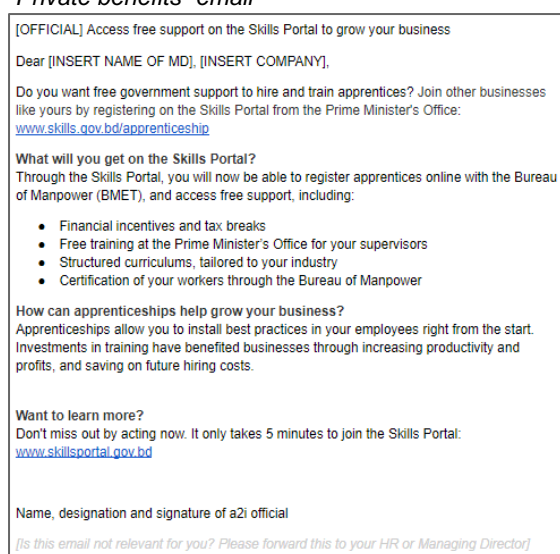
² [EAST: Four Simple Ways to Apply Behavioural Insights](#)

³ [Going with the grain: influencing behaviour through public policy](#)

⁴ BIT, Update report 2013-2015, available at: <https://www.bi.team/publications/the-behavioural-insights-team-update-report-2013-2015/>

- **“Social benefits”**: This is based on the standard messaging that a2i typically uses when communicating with businesses. It highlights in particular the need to “serve the country” and hire apprentices for “the good of Bangladesh”.
- **“Private benefits”**: This communication highlights the advantages to the business of hiring apprentices, encouraging them to “do this for themselves”. It is worth noting though that given the lack of data on formal apprenticeships in Bangladesh, we could not include specific statistics (e.g. “hiring an apprentice can increase your productivity by 20%”) which could have made this intervention more effective.

Figure 2: example of communication - translated “Private benefits” email



Full translations of the “Private benefits” and “Social benefits” communications are included in appendix.

04 / Trial design and implementation

This trial was conducted between August 2018 and February 2019.

Sample

Upon starting this project, there was no up-to-date, combined database of formal businesses that would include postal or email addresses. We therefore had to work with a2i to create this database. To do so, a2i invited trade associations to a2i’s Office, and asked them to share contact details for their members. Contact details were then compiled and categorised by a2i.⁵

This process allowed us to collect data from a varied list of sectors, including construction, textiles and garments, and electronics and software.

All formal businesses in Bangladesh are eligible to join the Skills Portal, and to hire apprentices. We therefore did not apply any particular eligibility criteria when selecting businesses to include in our trial sample. As a result, this sample includes both big and small firms.

However, when building the sample for this trial, we only included businesses who provided at least a valid postal address.

Our initial sample counted a total of 7,848 businesses. Appendix Table 1 summarises the number of businesses per sector.

A little over half (4,019) of the businesses for whom we collected contact details did not report valid email addresses (as can be seen in Columns B and C of appendix Table 1). Because it is likely that businesses who have an email address will be systematically different from those who do not (e.g. they might be more used to technology and therefore more likely to appreciate an online portal), we designed this trial as if running two separate, smaller trials:

⁵ This process had to be done manually and was therefore very time-consuming and we hope that the registration process is automated going forward

so that the database can be maintained and enriched on a regular basis.

“**Trial A**”: For businesses who only provided a postal address, in which we compare only:

- The “Social benefits” letter, to
- The “Private benefits” letter.

“**Trial B**”: For businesses who provided both a postal and email address, in which we compare:

- The “Social benefits” letter,
- The “Private benefits” letter,
- The “Social benefits” email, and
- The “Private benefits” email.

Outcome measures

To measure the effects of our communications, we extracted data directly from the Apprenticeship Portal, 6 months after the communications were sent.

We focus on one primary outcome measure: the **likelihood to register onto the Apprenticeship Portal**, as measured by an indicator variable equal to 1 if a business registered within 6 months of the communications being sent, and 0 otherwise.

We also look at effects on two key secondary variables:

- registrations to “training of trainer” workshops; and
- registrations of apprentices.

Randomisation

This trial is randomised at the level of the individual business. As mentioned above, businesses were first divided into two main groups (trials A and B), depending on whether they had reported a valid email address.

Within the two groups, we then randomly assign businesses:

- In Trial A, to receive one of 2 treatment arms;
- In Trial B, to receive one of 4 treatment arms.

When doing the assignment, we controlled for sectors, as it is likely that some sectors will either be more likely to use technology-based

solutions like the Skills Portal (e.g. software development) or be more familiar with apprenticeships (e.g. manufacturing).

Randomisation was conducted ex-ante, and yielded the following assignment:

	Trial A	Trial B
“Social benefits” letter	2,010	957
“Private benefits” letter	2,009	959
“Social benefits” letter + email		956
“Private benefits” letter + email		957

It is important to note that we opted to send communications to all businesses in the sample, rather than to keep a control group which would not receive any direct communication. This implies that we are not able to measure the effect of “any direct communication” vs. “no direct communication”. This decision was made because 1) the effectiveness of communicating over not communicating had been shown many times, 2) our sample size was too small to allow more groups, and we wanted to test communication channels and content, and 3) registration rates before our communications were sent out could be used as a comparison point for “natural registration rates” without direct communications. This comparison would of course not be causal, but already offers insights.

Implementation

We sent letters and emails to businesses inviting them to join the Skills Portal in early August 2018.

More than 95% of emails were delivered, and 19% of emails were opened (a very high open rate compared to similar public emailing campaigns, which often see less than 5% open rates).

While we know that all letters were sent, we do not know how many reached their intended

recipient or were opened. This implies that our analysis will focus on intention-to-treat estimates, or in other words on estimating the effect of sending rather than receiving or reading letters. We do not see this as an issue, as these effects correspond to the effect of a potential policy, which would also depend on delivery and open rates.

We extracted data from the Apprenticeship Portal in March 2019 for the period going from August 2018 to February 2019.

Several features of the data impose limitations on our analysis:

- We uncovered that some businesses were duplicated in our original database, and as a result had been assigned to multiple treatment groups. After removing these duplicate businesses, our sample was reduced to 7,293. Omitting these businesses means losing some statistical power and the ability to estimate the effects on our full sample. However, given that only a small number of businesses were duplicated (under 3%), we do not believe that this will undermine the relevance of the results;
- Only a handful of business registered apprentices and/or trainers within our trial period (respectively 5 and 2 firms). This does not constitute enough variation to conduct an estimation of treatment effects. We therefore only report summary statistics;
- We were unable to measure whether individual businesses clicked on the link in the email and could only obtain data at an aggregate level. We will therefore not be able to compare effects on businesses having opened the email or not.

05 / Main findings

Summary statistics: Registrations onto the Apprenticeship Portal

The table below describes registration rates onto the Portal during the trial.

Overall 7.7% of targeted businesses (565 firms) joined the Apprenticeship Portal during the duration of the trial. Only 46 businesses had joined prior to direct communications being sent. While this is not a causal comparison, this result strongly suggests that direct communications can be very effective in encouraging uptake of information.

Table 2: Summary statistics

	During trial (Aug 18 - Feb 19)
Portal registrations (# of firms)	565 registration rate = 7.7%
Workshop registrations (# of trainers)	65 (over 5 firms) registration rate = <1%
Apprentices registrations (# of apprentices)	70 (over 2 firms) registration rate = <1%

Effects of communication content: Social benefits vs. Private benefits

We use a linear probability model to test the effects of the communication content on registrations onto the Apprenticeship Platform. We present these results successively for Trials A and B in Figures 4a and 4b.

We do not observe any significant effect of the communication content on registration rates in either trial, thus suggesting that in this context the framing given to the letter did not seem to make a difference.

There could be several explanations to this lack of effect here, linked to either i) the design of the letter, and the fact that benefits were detailed towards the bottom of the email/letter, or ii) the fact that we could not give specific statistics about the expected benefits for a business. It could also of course be that

collective and private incentives work in the same way here. Further research would therefore be needed to disentangle these potential explanations.

Figure 4a: “Trial A” - social benefits vs. private benefits letter

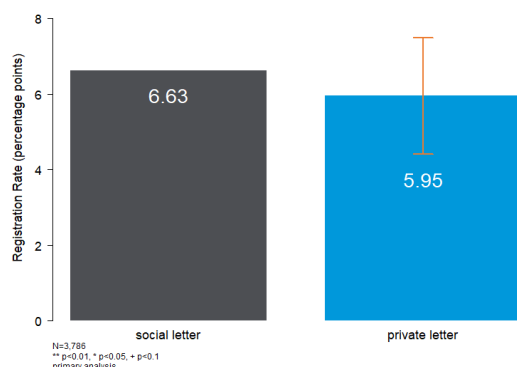
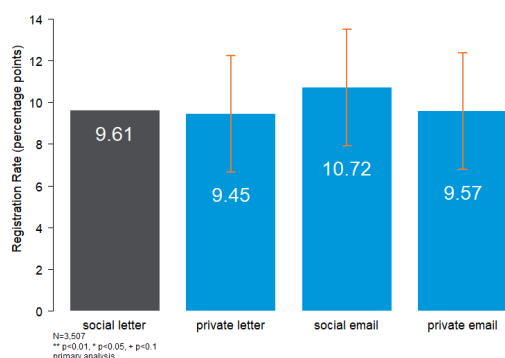


Figure 4b: “Trial B” - social benefits vs. private benefits emails and letters



Effects of communication channel: Email vs. Letter

We use the same method to estimate effects of the communication channel. As shown in Figure 4b above, we do not observe any significant difference between communications received by email or letter on businesses who had provided both an email and postal address.

Given that emails are significantly cheaper and easier to send out to large volumes of recipients, this suggests that they might be a more cost-effective way to communicate than letters when trying to reach businesses for whom both means are available.

06 / Additional results

Effects on workshops and apprentices’ registrations

As shown in Table 2, registrations to the train-the-trainer workshops and registrations of apprentices were overall very low (below 1%) - which is too low for us to estimate the effects of the letters on these outcomes.

This may be because businesses were not observed long enough to engage with the apprenticeship programme, that the information provided on the portal was insufficient and/or that the programme wasn’t seen as attractive enough by businesses. More recent numbers, which report large uptakes in registrations, suggest that this trend might now have been reversed.

Differences between businesses in Trials A and B

As can be seen from the differences between Figures 4a and 4b, average registration rates were lower in Trial A (6.3% overall) than in Trial B (9.8% overall).

This comes in support of our hypothesis that businesses providing an email address might differ from those providing only a postal address and suggests that targeting direct communications to those businesses most likely to engage with a specific medium could help increase their effectiveness. Here, for example, targeting businesses with email addresses seems to lead to higher registration rates. Other, more expensive means of communications could then be reserved for businesses that cannot be reached via email.

07 / Recommendations

While this trial did not show any significant impact of the communication content or channel on registration rates onto the portal, the work done on this trial, and more broadly to support the development of the

Apprenticeship Portal, led to several key recommendations.

Specifically, this project has highlighted the potential impact of:

- **Continuing to explore ways to communicate directly via automated channels.** This trial has shown that direct communication can be cost-effective, in particular when targeting communications to those most likely to respond well to it.
- **Building the ability to conduct A/B testing into the design of portals.** This project has shown that simple trials could allow a2i to test the relative effects of different communication contents and features. Building the ability to conduct A/B testing directly on online platforms would allow a2i to conduct simple and rapid randomised controlled trials to assess the impact of presenting different content and/or designs to users. a2i could then learn, iteratively, what is most effective to promote uptake or usage of a specific programme.
- **Mapping out and streamlining the user journey before nudging people into action.** The work conducted to build the Apprenticeship Portal and streamline the registration process has shown the importance of identifying and removing structural barriers which otherwise might make it difficult or impossible to take the recommended action. Trying to further streamline the process (for example by removing the need to name apprentices *before* registering for a training-of-the-trainer workshop) could further improve uptake of the programme.
- **Working with businesses to evaluate the demand for, and the impact of apprenticeships.** This trial aimed to help create apprenticeships positions. An important next step will therefore be to work with businesses who have hired apprentices to robustly quantify the impact of these apprenticeships,

including by asking questions about the recruitment, training, performance, and retention of apprentices.

08 / Capacity building

This project was conducted in close collaboration with the Future of Work Team of a2i, without whom it could not have been implemented. We present below insights from several key members of the team.



Asad-Uz-Zaman, Head of Future of Work Lab, a2i Programme

“This project pushed us to really think about the people we are targeting and how best to design policy for them. It also opened channels of communications which mean we are now much closer to a very large number of businesses”

Asad leads a2i’s work on Skills, supporting the GoB’s strategy for skills development, as well as helping other countries through a2i’s South-South cooperation programmes.



Kawsar Hossain Sojib, Associate Economist , a2i Programme

“Before working with BIT, we did baseline studies and needs assessments, but not randomised controlled trials.”

Sojib led the design and implementation of the project from a2i’s perspective. He used his deep understanding of the policy context and connections with industry leaders to facilitate the Explore work and fed into the intervention design.



Fahim Bin Momen, Programme Assistant, a2i Programme

“This project opens our minds to the best way to utilize Digitalization in the apprenticeship program through Apprenticeship Management System”.

Mr. Md Fahim Bin Momen designed and developed the infrastructure of the Apprenticeship Management System. He is working closely with different ministries of the Government of Bangladesh to introduce the Apprenticeship Management System into an AI-based system to keep pace with time.

09 / Conclusion

This project provided a new opportunity to work with a2i on key aspects of behavioural trials, from identifying behavioural issues to rigorously testing different interventions. Three elements stand out as particularly important take-aways from this project:

1 - Through this project, we collaborated closely with a2i on the development of the Apprenticeship portal. While a2i is very familiar with web development, we focused here on ensuring that the platform would be designed for its intended users, relying for this purpose on principles of prioritisation, design, and ergonomics. These are elements that a2i is now using on other platforms.

2- Beyond the design of the platform, we also worked with a2i on mapping the full user journey, identifying and addressing as many structural barriers as possible before the platform was launched. Indeed, behavioural techniques can only be effective if structural barriers have been attenuated or removed; this trial provided an opportunity to discuss once more the limits of behaviour change methods and their interaction with more structural aspects of programme design.

3- This project was a2i’s first direct, personalised, large-scale communication campaign to businesses. The demonstrated effectiveness of this type of direct communications yielded an important lesson for future government campaigns. This also brought to light the crucial need to invest in building databases and systems to be able to communicate directly with citizens. We are therefore particularly enthusiastic about the fact that a2i has continued to enrich and use the database we built together, and is looking to build and use additional databases, for example for teachers, or local officials.