

Using mLearning to improve training retention: lessons from Ethiopia

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Context

Spearheaded by the International Livestock Research Institute (ILRI) and its partners since 2010, Index-Based Livestock Insurance (IBLI) is gaining momentum as an important innovation for protecting the main asset—livestock—of dryland populations against droughts. In Ethiopia, IBLI was launched in the Borana Zone in 2012 and continues to be sold commercially by the Oromia Insurance Company (OIC). As of August 2019, more than 14,000 policies with a total sum-insured of ETB80,780,700 (USD3 million) have been sold in the zone.

OIC leads the product marketing and trains sales agents who are employees of cooperatives at the community level. Over time, the training strategies have evolved from conventional, face to face and classroom-based training at the beginning of the sales season, to a digitally blended learning system during the sales period. We believe that such transitions have helped present IBLI concepts to sales agents and local mobilizers in a systematic, easy and effective way that also takes into account local contexts and adult learning principles. To further understand how such digital learning materials are affecting the understanding of agents on the IBLI products, an android-based mobile application was designed by the ILRI team and tested on IBLI sales agents in Borana. This note provides a brief narrative of lessons learned while

implementing ILRI's mobile learning (mLearning) agent training course in 2018 in the Borana pastoral zone of Ethiopia.

Motivation

IBLI is a forage-based contract designed to protect pastoralists from drought. The insurance policies are sold before each of the two rainy seasons every year and provide coverage for 12 months. Each season, a refresher training is given to all the prime cooperatives working with OIC. The curriculum of these capacity building efforts has evolved from conventional methods to more interactive and blended ones that integrate both classroom and digital learning platforms.

Except for some efforts to assess the performance of local sales agents through conventional tests just after training, capacity building efforts have not been accompanied by a monitoring strategy to track the performance of agents. Specifically, there is no systematic method for assessing and tracking agents' understanding of insurance concepts (risk mitigation strategies at the community level, traditional insurance, IBLI, etc.) or their knowledge retention during the season. This lack of information has left OIC with few tools for assessing and improving training approaches or curriculum. This study describes the first steps in addressing the critical gap.

Here, we study the impact of blended learning methods on sales agents by designing a mobile-based training combined with classroom-based learning.

Objective and methodology

This study aims to understand the impact of both classroom training and a persistent refresher training curriculum on improving the understanding of insurance agents on the IBLI product that they are selling throughout the sales season.

For this specific study, we were examining if, after passing through the same pre-season training that they had gone through multiple times in the past, an mLearning course spanning the duration of the sales period would help sales agents retain IBLI's concepts through the season.

Currently, there are 84 prime cooperatives working with OIC. These cooperatives are established and owned by pastoral communities with a general purpose of providing service for their communities. They also serve as consumer associations for credit and savings within two or three kebeles (lowest administrative boundaries in Ethiopia). OIC has a formal agreement with these cooperatives to provide community outreach services regarding IBLI; they also use them as delivery channels for the IBLI product and each cooperative employs agents that, among other activities, sells IBLI policies on commission.

To conduct this study, OIC provided smartphones to 74 of the 84 cooperatives and arranged logistics and field support.

Agents were then stratified into two groups by their scores on this most recent post-training test (high and low) and by historical sales rates in their regions (high, medium and low)⁵. In each stratum, agents were randomly allocated into one of two treatment groups. Both treatment groups would have access to phones with an mLearning application installed. The application has the content in the same seven modules for both treatment groups. For one treatment group, content in each module was delivered by a set of short videos that each played from start to finish without interruption. For the other treatment group, the interactive treatment arm, the application was adjusted for participants to respond to a set of questions on IBLI's concepts after the concepts were described (see Figure 1). These interactions were hypothesized to improve the understanding of agents and retention of the IBLI concepts.

Figure 1. The IBLI mLearning android app



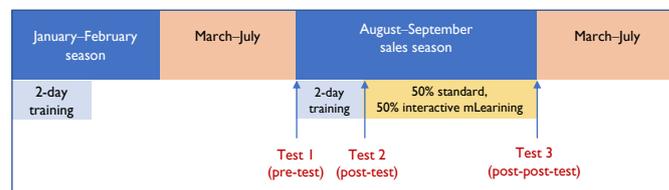
For After the mLearning application was installed on smartphones, agents were required to complete the entire seven modules once every week throughout the eight-week sales season. At the end of that period, the agents were tested again on the IBLI concepts.

Thus, each participating agent took three tests: Test 1, just before the August training; Test 2, just after the August training; and Test 3 after the sales season in October. This setup offers two interesting comparisons (see Table 1 for timeline).

The difference between Test 3 and Test 1 provides insight on the average improvement in retention of IBLI concepts by the end of the sales period assisted by the mLearning application. The validity of the comparison rests on the fact that the agents had received the same training just before the insurance windows many times and there is no reason to believe that their post-sales season retention in October would have been different than their post-sales season retention in August, in the absence of the mLearning application.

The second comparison is to examine the differences between Test 2 and Test 1 to test for additional effects of the interactive application over the non-interactive application. To do so, we used a difference-in-differences empirical approach, which provides some control for differences between the samples before the intervention. While the intervention was randomized, small differences are expected due to the relatively small sample size.

Table 1. Refresher training timeline



Findings

As measured by the quizzes, the two-day classroom-based refresher training increased the product understanding of agents by an average of 12.0 points, which represents a 21.9 percent increase from the pre-retraining average score of 56.0 percent. The two-day training caused such a substantial increase in product understanding by agents that have completed multiple rounds of the same training during previous sales windows. This highlights the high degree and rate of information loss and the need for tools that can help agents maintain their knowledge, especially during the sales season.

The mLearning application successfully helped agents maintain, and even grow, their knowledge of the IBLI product during the sales window. The average test score after the sales period was 72.8, which is 4.8 percentage points higher than the average score just after the retraining. While this increase could be due to several factors during the season, such as revisiting materials during sales events, discussions with prospective clients and

interactions with more knowledgeable agents, we argue that this preservation of knowledge was most likely due to the mLearning application because those other options were available to the sales agent during the previous season as well. As the low scores during the pre-test show (see Table 2), agents usually forget a great deal of material by quiz period, which was two months after the sales season closed for both the pre-test and the post-post-test.

The average change in scores over the mLearning treatment period for the interactive group was 2.8 percentage points and 3.3 for the non-interactive treatment. The difference is small and not statistically significant.

Table 2. Test results/scores (% age)

Test	Combined	Interactive	Non-interactive
Pre-retraining	56.0	57.8	62.9
Post-retraining	68.0	69.5	69.9
Post-post retraining	72.8	72.3	73.2

Conclusion

The scope of this study was to understand the extent to which retraining methods can increase the understanding of agents on the IBLI product and the retention of that knowledge. The low scores on the pre-retraining test, which took place six months after the previous round of retraining, demonstrated that the agents forget much of the information they learn during these retraining activities. Indeed, OIC's recognition of the high rate of information loss is the main reason that they invest considerable funds in retraining agents before each sales season.

While the seasonal retraining sessions successfully improve product understanding of agents at the beginning of each sales season, the recognition that information loss is likely to take place during the sales season is a crucial motivation for the development of the mLearning application. This provides an avenue for continued training throughout the sales period.

Assessment of post-sales season quiz scores shows that those with the mLearning application maintained or increased product understanding during the season. While there was no counterfactual evidence available in that specific season, the earlier findings on the high rate of knowledge loss provide circumstantial evidence that the mLearning application helped the agents retain their knowledge through the sales period although the difference between interactive and non-interactive learning materials is not statistically significant.

Moving forward, ILRI and OIC will continue to research in this area to improve the cost-effectiveness of agent training. Our next step will be to use the lessons from this study to develop a single promising training curriculum and test it against OIC's existing method, paying close attention to both cost and effectiveness in the analysis.



Introduction

In this Lesson you will get a brief introduction about index based livestock insurance.



Completed

Traditional Coping mechanism

In this Lesson you will get a brief introduction about index based livestock insurance.



Estimated 20 minutes

Conventional Insurance

In this Lesson you will get a brief introduction about index based livestock insurance.



Estimated 10 minutes

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