Learning Journey

Tata AIG General Insurance Co.

Use of mobile technology in enrolment and claim settlement in cattle insurance

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Project Basics

About the project

Cattle insurance in India faces both supply and demand side challenges which have affected the growth of the market. High claims ratios (due to adverse selection and fraud) and operational expenses (for identification and enrolment) affect the profitability of the portfolio. As a result, insurers continue to focus on credit-linked large pools of bank financed cattle to reduce operational expenses involved in acquiring new business. Product innovations have therefore been minimal and voluntary demand continues to be low. These multiple challenges are discussed below:

Supply side challenges

- High operational costs: Due to the need for physical assessment and identification of animals, both at the time of enrolment and claim settlement, high operational costs are experienced in livestock insurance. The cost of identification tags is added to the premium, which is paid by the customer and the insurer has to bear the expenses for capturing and transferring information from remote rural areas. This makes the product unaffordable for the customer and unprofitable for the insurer.
- Inefficient servicing of clients: Like other insurance products, there is a lengthy documentation process for enrolment in cattle insurance programmes which discourages rural cattle owners. Similarly, claim settlement also takes a long time as customers have to collect multiple documents, including the post mortem report in some cases. This delay discourages cattle owners and affects re-enrolments.

Demand side challenges

- The unorganized nature of the livestock sector: Livestock rearing in India is an unorganized market with cattle ownership and management largely pursued as an individual business. These livelihoods are characterized by subsistence and low productivity business and there is little demand for inputs for higher productivity. This is reflected in the risk perception of cattle owners also. They tend to neglect formal risk management solutions like insurance in favor of informal solutions such as borrowing. Risk data is also scarcely available in such an unorganized market, which in turn affects the actuarial pricing of cattle insurance products.
- Moral hazard and adverse selection: Cattle insurance is fraught with bad practices where cattle owners insure sick or weak animals or change their cattle management practices (decreasing the cattle’s feed ration) after the cattle is insured. Besides this, the use of plastic tags for identification and the related claims process is also prone to fraud. Sometimes there is leakage in the distribution channel itself. If the cattle loan is used for a purpose other than to buy cattle, bank staff may retain the tag for this “paper cow” and submit it for a claim in the event of the death of an uninsured animal.

In order to overcome some of these challenges, the project with Tata AIG General Insurance Co. (TAGIC) strives to improve operational efficiency through mobile phones: TAGIC developed a mobile phone-based software application to capture and transfer data and pictures from the field in real time. This aimed at not only reducing policy issuance and claim settlement times but also improving data management and efficiency of cattle insurance operations. The software will also help prevent frauds through photo records.
Project Summary

Project Name: Use of mobile technology in enrolment and claim settlement in cattle insurance
Project Start Date: September 2011
Duration: 40 months
Country: India
Product: Cattle insurance against death of the animal
Project Updates

Key Indicators

The total cattle insurance portfolio in the company declined over the project period. Overall premium reduced from about INR 200 million (US$ 4 million) to about INR 80 million (US$ 1.4 million) in around 3 years. One reason for this is that TAGIC has been reducing its participation in government subsidized livestock insurance over last few years. The government reduced the upper limit of premium rates under this scheme from 4.5 per cent to 3 per cent. The insurer felt this rate was too low to be sustainable and progressively reduced its participation in the scheme, leading to overall decline in portfolio size.

What is happening?

The section summarises the activities of the project over the last three years and the changes in the cattle portfolio of the company. Cattle insurance is a constituent of TAGIC’s rural insurance portfolio. Its product features, total portfolio, distribution channels and various processes are discussed.

Product features

TAGIC offered a standard cattle insurance product which insured the loss of an animal due to death by: accident (including fire, lightning, flood, inundation, storm, hurricane, earthquake, cyclone, tornado, tempest and famine), diseases, surgical operations or riot and strikes. The cover against permanent total disability of livestock was available as an option at a higher premium. The sum assured is either the value of the animal recognized at the time of insurance enrolment or its market value at the time of loss, whichever is less. However, in practice, the former value i.e. full sum assured, recognized at the time of enrolment, is paid back in most cases. Overall, this is a standard product offering for livestock insurance in India.

Use of mobile technology in cattle insurance

Rationale: The process of cattle insurance enrolment presents a number of challenges to an insurer. Each animal needs to be tagged and photographed to ensure proper identification. Other information such as cattle species, breed, body colour, shape of the horns and tail end colour also needs to be recorded. Traditionally this was done on paper and the postal services were used to send the information. However, TAGIC found this process inefficient and time consuming. Especially for government subsidized schemes, through which cattle owners tend to insure weak and sick animals, it is important for the underwriter to assess the physical condition of the animal. However, it is impossible to travel to each location. Even usual methods of sharing pictures and data are time consuming. These methods also lead to additional costs in computer memory devices and postal services. Given these factors, the project pilot tested a mobile phone based process. It was hoped that this solution would decrease the cost and time taken to transfer data and pictures from the field and enable quick policy issuance and claim settlement, as well as better data management through central servers.

Description of the pilot project: TAGIC developed and deployed a mobile phone-based software application which could be used to record enrolment and claims data, take pictures at the time of enrolment or claim settlement, and share these with the TAGIC central server. The application works on android mobile phones, which are provided to the tagging vendors.
Finding a suitable vendor to develop the application at a reasonable cost was a challenge. Since it was a first time development in the sector, very high prices were quoted. However, after repeated negotiations, M/s Mobileware was selected as the application development vendor.

Developed at a cost of US$ 20,000, the software and android phones that could use this software were provided to the on ground tagging vendors.

An important advantage of the software was that it was connected to the internet and all the recorded data and pictures were directly transferred to TAGIC central servers. This data could then be accessed by anybody, including the underwriters.

The enrolment and claims processes

Tata AIG agents follow these steps during the enrolment process:

1. Cattle owner details, such as name and address, and cattle details, such as breed, age, horn shape, tail description and colour, are captured on a mobile application.
2. The application provides the premium rates applicable to the location and the subsidy details (if applicable). These data are preloaded on the agent’s phone.
3. Value of the cattle (sum assured) is decided in conjunction with the farmer and local veterinary surgeon and entered into the mobile phone. The premium payable by the farmer is automatically calculated by the mobile application.
4. Five cattle photographs are taken using the phone’s camera. The agent is guided by the mobile application on the details to be captured in each photograph.
5. Details of the payment method (cheque or cash) are captured, providing an auditable trail that can help during reconciliation.
6. Once all the farmer’s cattle are enrolled, data are relayed to a central server.

The enrolment process has been reduced to 30 minutes and the turnaround time for claims from 21 days to 7 days. This has improved trust among cattle owners.

The figure below depicts the process:
TAGIC also uses the mobile phone application to approve and settle claims. Through the application developed especially for claims, the agent sends photographs of the dead animal to the central server. The central server immediately sends an email to the claims team with the on-the-spot survey report. Previously, it used to take up to 20 days for the documentation and survey report to reach the claims team. Claims assessors compare the photographs with those taken at the time of enrolment. Specific features like the distance between the horns, or coloured patches on the skin are compared to verify the identity of the animal. Once the claim is approved, confirmation is sent to the client by SMS. This process has reduced the claims turnaround time from 30 days to 6 days. However, the biggest challenge currently is ensuring that assessors are comfortable with the process. There is a need to have the software in the local language to increase their understanding.

**Experience with mobile technology in cattle insurance**

*Table 1 Experience with the mobile technology for enrolment and claim settlement*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Change</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data transfer</td>
<td>Quick data transfer enabled between field and central servers</td>
<td>Policy issuance time decreased by more than 50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Additional costs to train field staff in using mobile application</td>
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<tr>
<td></td>
<td></td>
<td>Claim settlement time decreased by 40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Data entry fields need to be developed in vernacular language</td>
</tr>
<tr>
<td>Underwriting</td>
<td>Full data including cattle and owner details, live animal photographs and payment instrument details available in one place, within few hours</td>
<td>Underwriter can review all the uploaded images to prevent adverse selection, especially in government schemes.</td>
</tr>
<tr>
<td>Cost</td>
<td>Approximately US$ 20,000 spent on initial software development</td>
<td>One-time costs to enable enrolment and claim settlement on mobile phones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Livestock portfolio will have to be increased to justify the additional costs</td>
</tr>
<tr>
<td></td>
<td>Livestock software hosted on existing central servers of TAGIC</td>
<td>No new costs for hosting and running the application</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internet connection is needed to send or access information, which is an additional monthly cost</td>
</tr>
<tr>
<td></td>
<td>Shift at the front end, from paper-based to mobile-based data and photo capture by the tagging vendor</td>
<td>No costs in data entry, photo storage, sharing, and camera for the enrolment/tagging vendor</td>
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</table>
The mobile phone-based processes for enrolment and claim settlement were pilot tested in two locations. The experience was positive with a decrease of more than 40 per cent in both policy issuance and claims settlement times. This helped in increasing the surveillance of the cattle insurance portfolio as the underwriter could view images on the same day as enrolment and also compare them at the time of claim settlement. Anecdotal evidence provided during interviews with the insurer suggests that this has also marginally reduced the impact of adverse selection and moral hazard. Back-end data management has also become more organized and efficient. Similarly, various costs such as photo storage, sharing and camera have been removed for the tagging vendor.

On the other hand, the software development and purchase of mobile devices are additional costs\(^1\), which were funded by the ILO in this pilot but will have to be paid for by the insurer in future. TAGIC has also learned that data entry fields need to be developed in vernacular languages to facilitate use by tagging vendors. This will lead to additional expenses when the software is scaled-up to other geographies. Costs are also involved in training the field staff to use the software application. However, TAGIC believes that the additional expenses are worthwhile as the software will bring efficiency (in both time and costs) in the management of their cattle insurance portfolio over time.

**Current challenges for scaling up the mobile technology**

TAGIC faces the following challenges as it looks to scale-up the mobile technology:

1. Device management will become important as each additional device will add further expenses to the loss ratio. Therefore, TAGIC needs to figure out the optimum number of devices required in one geographical unit to prevent excessive purchases.
2. The tagging vendor currently has to fill in a policy schedule and give it to the cattle owner as proof of insurance. This is the only remaining paper-based component of the enrolment process at the front end and requires extra effort from the vendor who has to fill in the details twice, once in software and once in the policy schedule. TAGIC is exploring the option of attaching a Bluetooth-enabled external printer, which could print out the policy schedule and make the data entry process even more efficient.

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\(^1\) The mobile phones able to run this software cost approximately US$ 100 per device.
**Project Lessons**

**On vendor selection**

Explaining user requirements to vendors for new interventions is a time consuming process. As this was a new kind of initiative, software vendors took additional time. Furthermore, the prices quoted by vendors were high compared to the budget and TAGIC had to launch a second call for proposals. Negotiations with the vendors were lengthy and finally an agreement was reached with a smaller vendor, Mobileware, which specialized in mobile phone application development.

**On technology**

Technology implementation has to be combined with training and adapted to local conditions to ensure proper understanding and use. Considering the target audience (the local sales teams and tagging vendors) of this application and their difficulties working in English, Tata AIG decided to re-launch the application in vernacular languages. The Marathi version has been launched and used in Maharashtra. Insurers need to consider field realities while developing new applications and processes, end user should be kept in mind while designing any new platform or application.

Technology cannot solve all problems. Despite reductions in enrolment and claims settlement times and costs for the vendors, the technology was not able to help with all the insurer’s difficulties. Loss ratios did not come down and remained particularly high in one location.
Next Actions

TAGIC will continue to use the mobile-based applications in additional areas. The application is being developed in more languages (Gujarati and Hindi) and more agents and tagging vendors are being trained on its use.