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USING SENSEMAKER TO ASSESS SYSTEMIC CHANGE IN MARKET SYSTEMS

There is a growing interest in monitoring systemic change. However, a recent literature review ([Fowler & Dunn 2014](#)) found no consensus on how to define a system and no comprehensive framework for evaluating systemic change in market systems interventions. In response, the [BEAM Exchange](#) and the [Leveraging Economic Opportunities](#) (LEO) project identified a list of tools and approaches to monitor systemic change – and set about a series of trials to test these with market systems development programs.

SenseMaker® is a research approach that gathers narratives (qualitative data) and the self-signified meaning of these narratives (quantitative data) to either understand existing perspectives, beliefs, decisions and norms, or the way these are changing in response to interventions and other environmental factors. In 2016, a SenseMaker® consultant led a trial of the tool in Northern Mozambique which focused on assessing changes in behaviors and practices of smallholder farmers (SHFs) following an intervention by the Seed Multiplication Project (SMP), funded by the Dutch Government with support from the Bill and Melinda Gates Foundation. The objective of this research was to assess the suitability and effectiveness of SenseMaker® to understand change in system properties and behaviors, as well as the practical aspects of using this tool. The full report is available at www.microlinks.org/leo; a summary of the findings is presented here.

The Program

TechnoServe initiated SMP in 2013 in Northern Mozambique and initially focused on building the capacity of a network of small commercial farmers (SCFs) to provide goods and services to neighboring SHFs. By increasing knowledge of innovative practices and access to better services and products, the intervention was expected to facilitate SHFs' transition from older and less efficient to innovative and more profitable farming practices. Participating and carefully selected SCFs received training and capital support. Successful SCFs were then 'scaled up' with an \$80,000 investment package (tractor, thresher, irrigation, maize mill) and had a business plan of farming on approximately 15 hectares of land. They were expected to produce and sell goods (seeds and other inputs), and sell services (mechanical land preparation, threshing, maize milling) to approximately 300 neighboring smallholders each. A total of 60 SCFs embarked on a journey to transform their own working practices, as well as the farming techniques of approximately 18,000 SHFs from a 'slash-and-burn' to an 'input intensive' system. These inputs include access and ownership of tractors and threshers, maintenance of equipment, access and usage of loans, access and perceived benefits of training, social networking opportunities, and access to investment partnerships. Both SCFs and SHFs joined the program in three cohorts, spread across three years.

The Tool

The Sensemaker® approach combines methodology and software and is based on the collection and analysis of short narratives which respond to prompting questions or images and which are self-coded by the respondents at the point of sharing. Narrative research allows capturing behaviors and elements of the systems at multiple levels and allows the identification of even seemingly insignificant patterns that can potentially contribute to bigger changes. The approach combines qualitative material (narratives) with a quantitative framework and differs from conventional survey techniques, which assume representative sampling, building probability models and hypothesis testing. Its focus is on common patterns, as well as weak signals of threats and successes. A shift in these patterns and signals indicates a shift in the patterns of individual behaviors, as well as in the structure of the system governing these behaviors and, hence, a transformation in the system. This allows the identification of emerging patterns of perceptions and attitudes and provides insights to adjust an intervention in order to amplify or dampen any emerging patterns.

Trial Findings

Based on an analysis of data patterns (but not transcribed narratives, which were not made available to conduct follow-up analysis), the research found that:

- The program intervention is strongly associated with change in behaviors of affected SHFs – they are more likely to adapt new farming practices than their counterparts not exposed to intervention;
- There is some, though marginal, diffusion of innovative farming practices among non-client smallholder farmers in the communities where SCFs are present;
- Continuous and high frequency of interaction between SCFs and SHFs is strongly associated with high rates of change in farming practices;
- SCFs have strong influence on the way SHFs work and help reduce costs and increase revenue. Machinery services provided by SCFs make the biggest contribution on farming practices; followed by information-based services;
- Information provided by SCFs is viewed as of good quality but not that accessible;
- Trust and listening to others are less influential in how SHFs do their work than to increase earnings.
- The analysis identified small clusters of treatment group respondents that are distinct from all other observations. These respondents are either farther away or closer to expected position of data if a change is taking place. When it is the latter, then these clusters, often referred to as outliers or positive deviants, may serve as early or weak signals of change when they appear following multiple applications of the tool. Some of the outliers identified in this study relate to:
 - The relationships between SCFs and SHF that contribute to diminished workload, increasing revenues, and reduction in cost;
 - The absence of innovative methods of farming and marketing in a specific subset of treatment group respondents;

- The type, provision, availability and increased access to information that is perceived as ‘important’, or to the information that is easy to obtain and of good quality, but not perceived as important;
- The instances where the lack of knowledge and skills is reported as the strongest contributor to making farming work difficult.

Uses and Limitations of SenseMaker®

The findings suggest that SenseMaker® has the potential to provide insights into the ‘how’ and ‘why’ properties and behaviors in a system change, as well as to identify modulators that affect change (e.g. frequency of interactions). Its application to just a single type of entity (smallholder farmers) was helpful at gaining possible insights on norms, but less insightful in terms of network characteristics.

However, there are a number of caveats that need to be taken into account. First, SenseMaker® typically requires supplementation with additional tools in order to inform project interventions. The findings can suggest areas for further investigation, but cannot in themselves indicate how a project should respond. Attempting to do so without additional evidence can be dangerous and can easily lead to non-systemic or counterproductive interventions. Further, SenseMaker® is generally less suited to capturing a project’s contribution to change than other tools, particularly if only applied once. Another finding of the trial was that triads – one of the most distinctive elements of the SenseMaker® analysis suite – are often difficult to interpret. As to the practicalities of using this approach in the field, this trial showed that similarly to many other research tools, SenseMaker® requires time and relies on external support, as well as continuous engagement from the project team in order to generate fruitful evidence. Finally, SenseMaker® is like other tools in that it will not automatically surface systemic changes. Users must have a concept of the types of systemic changes they are interested in understanding during the design phase, so that this can be reflected in the structure of the signification framework.

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