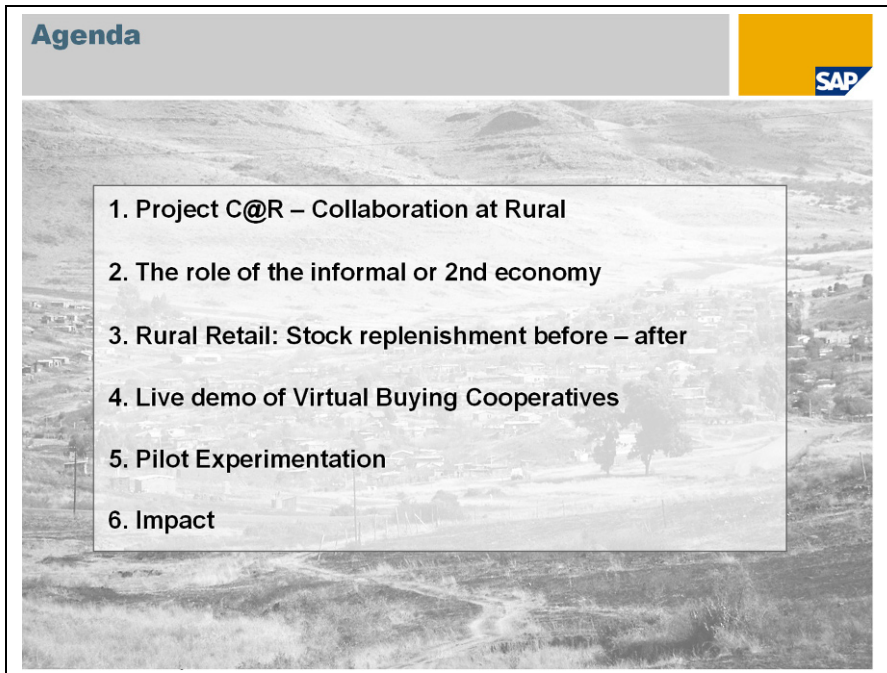# 5 Incubating Micro Enterprises in Rural South Africa – The Use Case of Virtual Buying Cooperatives

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I am representing SAP, the world leader in business software solutions. Typically our customers comprise companies like Coca Cola, McDonald, Nokia, Siemens, the United Nations and so on. They are not typical representatives of the economic bottom of the pyramid.

Today I want to talk about what SAP is doing to tap into the market of such bottom of the pyramid enterprises. At SAP Research we are running an umbrella research field which we call "technologies for emerging economies". Today I would like to present a concrete example of a project dealing with this research field and showcasing how solutions are differing from available products and services.

Agenda

1. Project C@R – Collaboration at Rural

2. The role of the informal or 2nd economy

3. Rural Retail: Stock replenishment before – after

4. Live demo of Virtual Buying Cooperatives

5. Pilot Experimentation

6. Impact

Figure 1

I'm going to talk a little bit on the background of the whole project called 'Collaboration at Rural' or C@R (Fig. 1). Then it is essential to understand the role of the informal or we often call it the 2nd economy. Next we are looking at a specific use case of rural retail regarding stock replenishment. I would like to give you more insight onto the before and after scenario of stock replenishment. Then I will give a live demo of the software that we have developed. Finally I will touch our pilot experimentation 'Lessons learned' and the impact we are creating.

Figure 2

Coming to the background of the project (Fig. 2): our research vision is to compile an economically sustainable business case for SAP to address the bottom of the pyramid market. Of course as a profit-oriented company we're looking for solutions and products where we can make money out of. Nevertheless a sustainable business case for us could also take non-profit consideration into account as I'll explain later in more detail. The project is executed as part of the framework program 6. It is co-funded by the European Commission and we are running a joint partnership locally with the Council for Scientific and Industrial Research and the Meraka Institute in South Africa.

We are looking at software solutions that provide efficiency and effectiveness gains specifically on the small and micro enterprise level. That of course requires – and it has been often mentioned today – a local context view on the needs and require-

ments of the people affected. We are doing that in a living lab fashion which means that we are engaging with the end-user very closely and that we let the end user drive development. So, we carefully listen and co-design solutions together with the end user to an extent that is far beyond common practice.
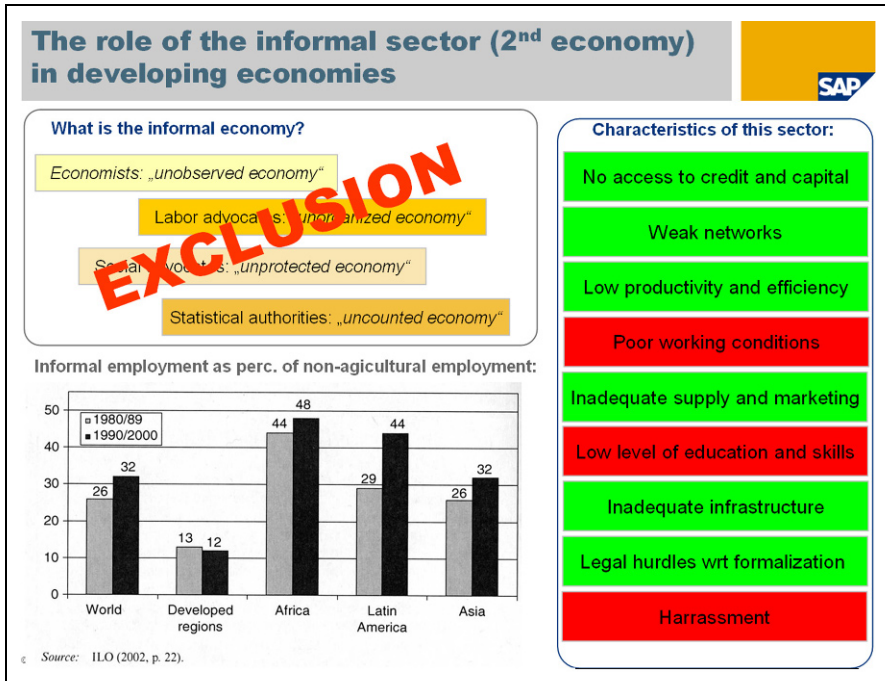

Figure 3

If you look at the world of the informal sector or the 2nd economy you get different views on how to define that sector (Fig. 3). An economist would certainly say this is an unobserved economy. A social advocate might say this is an unprotected economy. And a statistical authority would say it is an uncounted economy. In common to all definitions is exclusion. This is certainly a sector which is not properly represented in product and service delivery from the private sector. Nevertheless, if you look at the contributions in terms of employment and also in GDP the informal sector has a major impact that we have to take into account, especially in Africa, Asia and Latin America. If you look at the characteristics of such a sector you will discover that most of the informal companies, small and micro enterprises are struggling with the same kind of problems. What we do in this specific use case of virtual buying cooperatives – I am talking about today – is to tackle most of these issues like low productivity and efficiency, like inadequate supply and marketing change, like inadequate infrastructure, legal hurdles with regards to formalization and of course no access to credit and capital.

Figure 4

Looking into stock replenishment of rural retail stores so called Spaza shops (Fig. 4). We have about 100.000 Spaza Shops in South Africa. "Spaza" means hidden and stems from the former Apartheid era when these shops had to operate illegally in the townships. And still up to today they are a major backbone in terms of retail services to the local communities, in particular in rural areas. What happens is that in the rural areas in South Africa often there is a shortage of stock. The buying power on Spaza customer side is there but not met at many instances. Customers come into the shop, see the empty shells and have no chance to get the daily goods they need. This is mainly caused by infrastructure problems of rural areas as you have to overcome long distances, bad infrastructure, roads etc. So, people like the owners of these shops sometimes have to close down their shops, share a car with a neighbor or use public transport to get their stock from a retailer in the next town which is often about 60, 70 km away. You can imagine that transaction costs are very high which also results in high prices for end consumers. Dr. von Braun has already mentioned in his keynote that time is an issue to poor people. It is in fact a competitive factor that these people have to close their shop, have these high transaction costs. And they actually have no economic or bargaining power to change their situation.
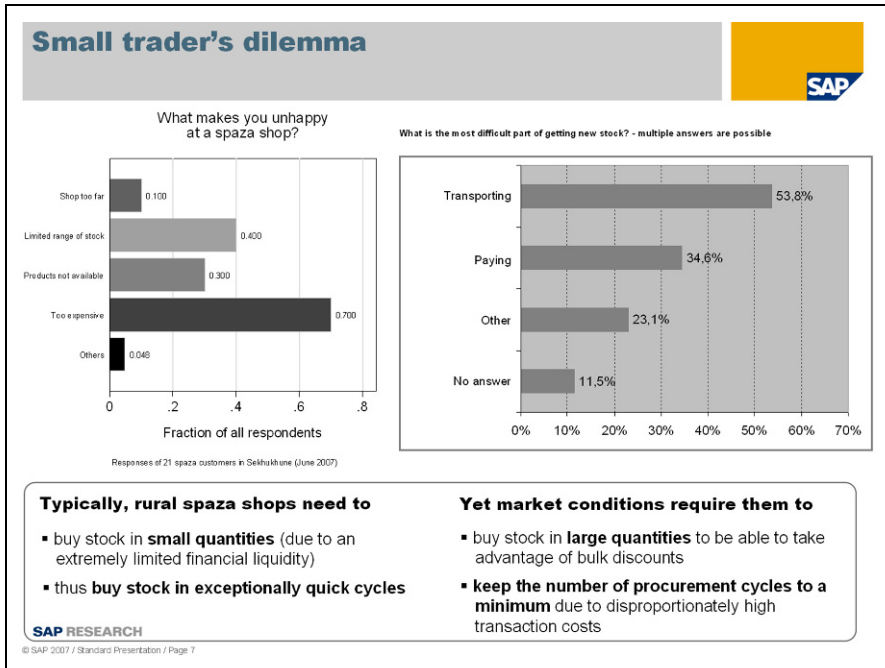
Figure 5

We have carefully looked into how we can change the situation and existing business processes. We got in contact with all people along the supply chain, listening to all stakeholders from the shop owners, the shop customers to the suppliers. We came up with identifying the key problem which we call the small trader's dilemma (Fig. 5). On the one hand side you have these rural Spaza shops that typically need to buy their stock in small quantities because they simply have a limited financial credit. Consequently they need to buy the stock in exceptional quick cycles. Often they go replenishing stock every second week. On the other side if you look on the first economy players, e.g. the big suppliers where they get their stuff from, they request market conditions to buy in large quantities and to keep the number of procurement cycles to a minimum in order to reduce transactional costs. So, there is a gap between the needs of the informal and the established economy where we as SAP for instance have a large customer base (on the established economy).

Figure 6

What have we done to change that? On the left side you have the Spaza shop
owners owning a cell phone (Fig. 6). That is their only computing device. We
enabled them to place an order with their mobile phone. By purpose we are using a
simple, structured SMS for submitting the order – no browser based applications,
no Java based applications, simply because we have to be compliant with the low
end devices that are common in rural areas.

An entrepreneur acts as an intermediate service agent. We call her or him an infor-
mation entrepreneur or Infopreneur. These guys are tracking the incoming orders,
process them, e.g. analyze and validate and submit them as a bulk order to the sup-
pliers. By the bulk order submission we create economies of scale that allow the
2nd economy participants to benefit from favorable business conditions granted by
the 1st economy players.

Of course such business conditions need to be negotiated and we are currently
doing that. Although currently not fully established we intend to run a micro fran-
chise organization to act as a mediator between the first and second economy, e.g.
taking over negotiations of business conditions. The Infopreneurs then act as micro
franchisees.

Eventually the cycle is closed and the Spaza Shops get their orders delivered. This process is fully supported by the system we have developed. The system certainly does not look like the standard SAP software for those of you who have been already exposed to it. Instead we are using a geographical interface mainly because of improved usability.
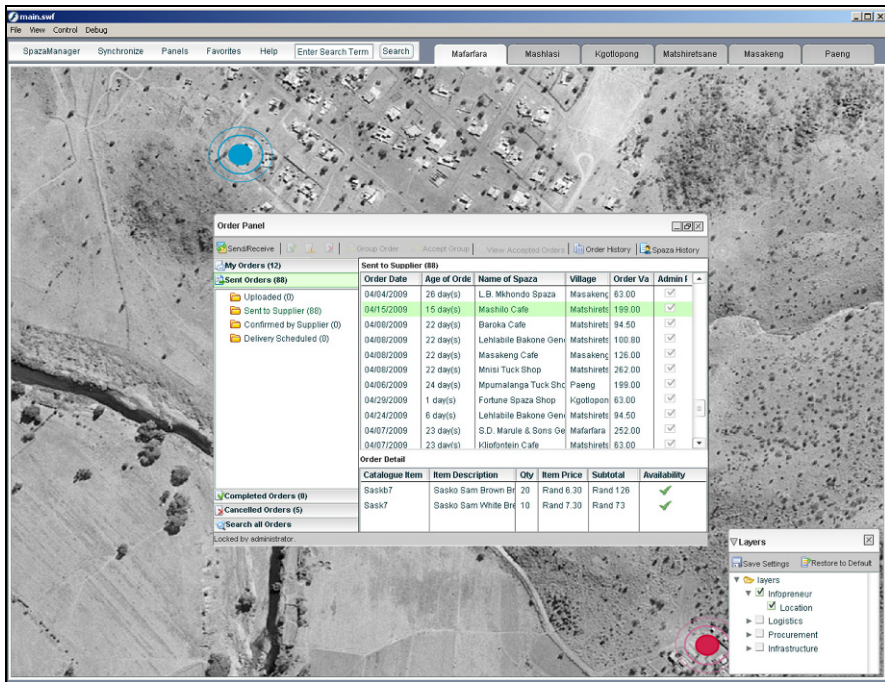

Figure 7

The process starts with the Infopreneur registering new customers, i.e. a Spaza shop (Fig. 7). The blue ones displayed are the ones who have been pre-registered but still missing some document or data to be captured. You may recognize that the Infopreneur only captures a very limited amount of data. By the way they don't store a postal address because there is no address with a street name and house number in rural South Africa. Now how do you keep track of your customers' location if there is no address? We are using geo-referenced map data to identify the GPS coordinates once the location have been picked by the Infopreneur. Then a supplier using trucks with GPS navigation systems on board knows how to find the customer. This is a very illustrative example of different requirements for software addressing the needs of emerging economies.

By the way what you see are live data. You can navigate similar to Google earth, navigate from a bird's eye viewpoint, zoom in and get the details of your customer base. What happens next? We are using a very robust solution for the shop owners for placing an order. These guys use a paper based catalogue with the products they are offered. These products have codes and of course a price and the consumption size. The structured SMS that has to be submitted for an order contains a username with a PIN and then the amount and product codes, e.g. 20 times a loaf of 700g white bread, ten times a washing powder and so on. The SMS submitted is then converted and gets into the order inbox of the Infopreneur. This is pretty much the same than checking your email inbox. The Infopreneur has different folders according to the processing stage along the supply chain. The incoming orders are listed, checked and most probably accepted according to specific criteria, e.g. taking into account granted discounts per volume, delivery duration and so on. Finally the Infopreneur synchronizes the data. This is typically an application that doesn't run according to the "always online" paradigm. It is mostly used offline and only occasionally used online. The amount of data to be synchronizes is limited to a few Kbytes per day. As the Infopreneur typically have only GPRS connectivity at its best he or she goes online once or twice a day, submit the data and the job is done. Finally after synchronization a PDF document attached to an email is sent to the supplier that gets the order listed for next day's delivery. By the way we are collaborating with the existing SAP customer Pioneer Foods in South Africa during the pilot phase.
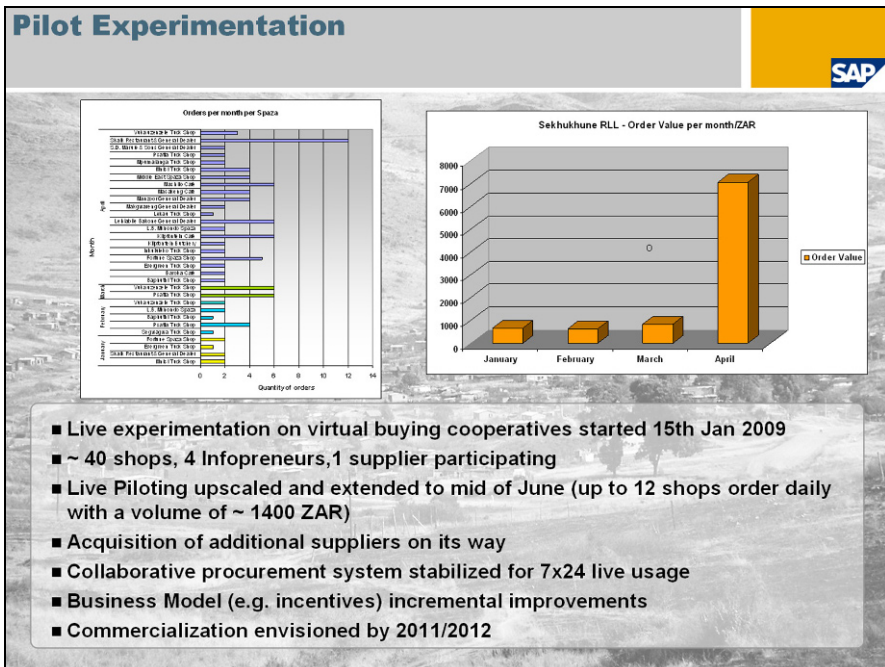

Figure 8

I am now talking about the pilot experimentation that is currently on its way (Fig. 8). We have introduced and rolled out the system in January. Since then we have gained more interest and scaled up a bit attracting more participating shops. The right chart indicates the orders' value in South African Rand as it has evolved since January. The first three months have not been too successful but now orders are gaining momentum after a few more interactive sessions with end users. I have to emphasize that the change management aspect is as important as technology solution development. You have to speak to the people. You have to provide immediate value and you have to explain the added value and train the people. Typically up to twelve shops order daily with a volume of about 120 Euro. Currently we are talking to other suppliers – also from the SAP customer base – to bring them on board and to provide delivery services to these shop owners. We are also experimenting of course with the underlying business model. A sustainable business model behind is of vital importance and we are sort of simulating incentives, e.g. for the Infopreneurs during the pilot phase. Their income for providing this kind of service is threefold. They get paid by one percentage of the order value they are processing. They get paid for newly registered customers and they get paid for proposals to improve the system usage. So, it is a highly variable incentive model behind. Another typical income stream of their current service portfolio stems from videos they are editing e.g. at weddings. This is one of their major service delivery, i.e. editing these videos and burn a DVD with some music behind and so on. What we are introducing is a sort of next level ICT service. Simply by experimenting with about 40 shops we have been enabled the Infopreneurs to make an extra earning per month of about 30 to 40 Euros.
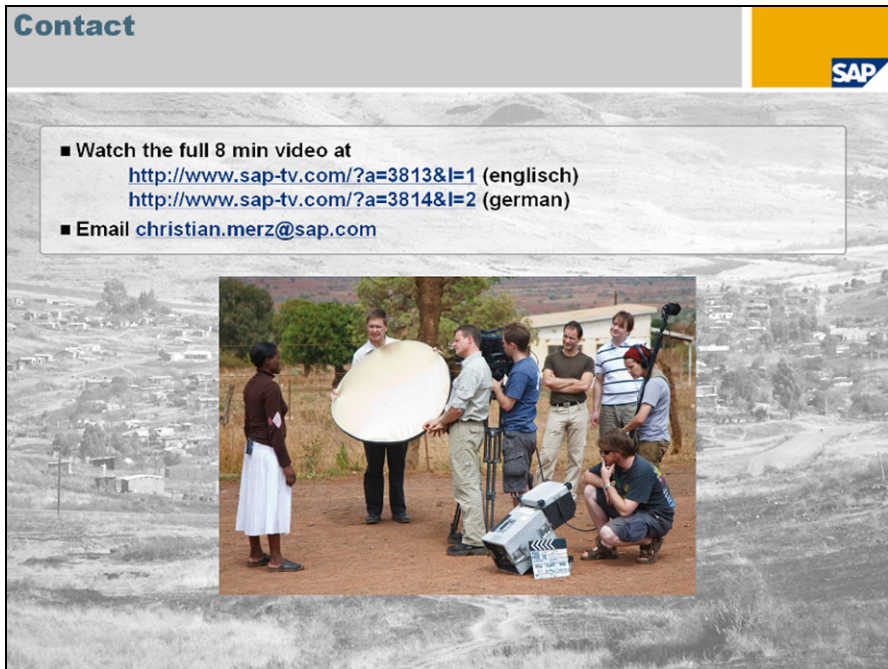
Figure 9

Now let's talk about the impact we are creating (Fig. 9). I would like to play a few videos with statements of the stakeholders that are involved, from the shop owners to the Infopreneur and to the supplier SASKO Bakery which is a branch of their holding company Pioneer Foods. We are currently working on an impact monitoring framework that we would like to apply during the experimentation period. You can imagine that reducing transactional costs improves the operational excellence of these micro-enterprises very much. Their business processes become less time consuming. Getting stock delivered significantly reduces costs compared to getting on their own and buys the stock on their own. We offer a mechanism to establish economies of scale. Micro-enterprises in rural areas simply have a problem because of scale. They have no economic power. If you bring them together and form this kind of economies of scale you achieve a sustainable bridging between the 1st economy and 2nd economy. We also experienced that the established economy has a certain interest to get more into business with the informal economy. Through the reduction of transactional costs one can even afford to introduce an entrepreneur into the supply chain who on his own wants to make some money.

We are running some other projects in South Africa. The idea is of course to extend our engagement to comparable countries like Mexico, Indonesia, countries in Latin America or Asia that have similar problems and to prove that such models can work and that there is a profitable market for the private industry.

Let us listen now what the different stakeholders say. *Interviews*

Figure 10

Finally I would like to invite you to watch the full 8 minute video that we have shot last November and that is available on the internet (Fig. 10). It gives you the whole story in a condensed movie. For more informations please send an email to me. I am happy to provide you with more material. I hope I could give you an example of how we believe we can make things differently and introduce sustainable change. Thanks a lot.