

RE-INVENTING THE CORNER STORE

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1 Executive Summary

Corner stores continue to play a critical role in the communities in which they operate. Their value-add goes beyond the convenience of providing goods and groceries. They create vibrant ecosystems that provide jobs to locals and also financially contribute to charity initiatives in the respective communities. Despite the sustained growth demonstrated by big retailers over the past years, many corner stores have failed to achieve any significant growth.

The success of the big retailers can be attributed to the implementation of information technology to streamline their business operations. All business activity is managed using integrated IT systems. These retailers are able to extract valuable insight that informs data-driven decision making and strategies.

The main objective of this initiative is to level the technology playing field. The solution provides mobile technology that will allow small businesses to digitise all their activity. They will access data analytics that will allow them to monitor the key value drivers of their businesses. The concept of predictive analytics can be achieved thus improving inventory and cash management.

In addition to streamlining the operations in their respective businesses, the solution will also facilitate the aggregation of inventory purchasing. Small businesses will be able to form cooperatives and use the solution to facilitate bulk buying. Through this consolidation, they can improve their bargaining power and leverage the benefits associated with the economies of scale.

Beyond the corner store, the solution will facilitate the formation of connected ecosystems. Local suppliers will be connected to corner stores thus giving them access to the market. Local truck owners will be incorporated into the ecosystem where they will be paid for delivery services. Partnerships with manufacturers and wholesalers will enable targeted and location-based marketing/advertising opportunities. The solution's inclusive and technology driven approach will drive the creation of sustainable small businesses.

2 Problem Background

Depending on where you come from, they go by the names Bodegas, Spaza Shops, Dukas, Pulperias, Mom-and-Pop-Stores or Corner Stores. These businesses all have one thing in common - the significance of their contributions to the economic sustainability of the communities in which they operate. Their value-add goes beyond the convenience of providing goods and groceries. They create vibrant ecosystems that provide jobs to locals and also financially contribute to charity initiatives in the respective communities.

Over the past years I have observed a worrying trend where a number of these corner stores have been shutting down. It is for this reason that I engaged several business owners to understand why their businesses were declining in an environment where formal businesses in the retail space have experienced solid growth. Some of the key challenges faced by small businesses are defined below.

- **Manual Management of Business Activities** – in any business, the recording of daily sales plays a critical part in the day-to-day management of the business. Many of the corner stores continue to use old-fashioned methods of recording their sales activities. It is very common to find businesses still using a notebook to write down every sale. The more advanced tend to use the old-school cash register, that is strictly speaking, a big calculator attached to a cash drawer.

Given the manual recording of sales activities, it is very difficult if not impossible for business owners to understand their key value drivers of their businesses. The concept of inventory management and cash flow management becomes difficult to achieve. Data-driven decision-making is almost impossible to implement.

- **Price Competitiveness** – many corner stores are often small family-owned businesses. In purchasing their inventory, it is common for an individual business owner to get supplies from wholesalers. Some of the wholesalers have allowed for the opening of credit accounts whereby business owners can obtain their goods and pay at a later stage. While such arrangements go a long way in easing working capital requirements, they are not necessarily the most cost effective. Given the fragmented nature of the corner stores, they are unable to leverage the economies of scale associated with bulk buying. As a result, they lack the bargaining power to get goods at lower prices that would then allow them to be more competitive.
- **Changing Socio-Economic Factors** – the profile of the customer of the 1980's and 1990's is very different from the customer of today. The corner stores of the 90's had a much less sophisticated customer to deal with. Customers were less mobile and the options for services were also limited. In the South African context, it was common for a township resident to catch a taxi and travel to the city to get his/her supply of groceries. The inconvenience and costs associated with such travelling made it easy for corner stores to be the preferred option for day-to-day purchases.

However, the favourable economic development experienced by many emerging markets has contributed to a significant growth in the middle class. Income levels have increased and consumers have become more mobile and demanding. Travelling to the city centre to buy groceries is no longer such a hassle as people have their own cars. The improved buying power of township residents has also given rise to more accessible shopping malls, with big retailers offering a wider variety of goods at very competitive prices. Today many residents of places like Soweto in South Africa can

literally walk to a shopping mall within their neighbourhood and buy groceries. Twenty years ago these residents had to travel more than 20 kilometres to access the same service.

- **Lack of Business Fundamentals and Market Insight** – a good grasp of the basic business fundamentals is a prerequisite to running a successful business. While many business owners understand the basic concept of profitability, some critical indicators applicable in the retail sector are not measured. Examples include product churn rates, basket analysis, product seasonality and customer spend analysis. Many big retailers have understood and leveraged the power of loyalty programs. In addition to driving customer retention, these go a long way in providing customer insight. Retailers are able to understand the buying patterns of their customers and accordingly adjust their product offering. In addition to monitoring buying patterns of customers in their own businesses, successful retailers also invest a lot of money in market research. They gain access to general buying patterns in the industry and use this information to define their product mix and pricing strategies. Many small businesses cannot afford to purchase into these loyalty programs and market research. Their response to market changes is always reactive, which can result in a variety of negative consequences.

3 Re-Inventing The Corner Store

As reflected in **Figure 1** below, re-inventing the corner store requires a multi-stage journey.

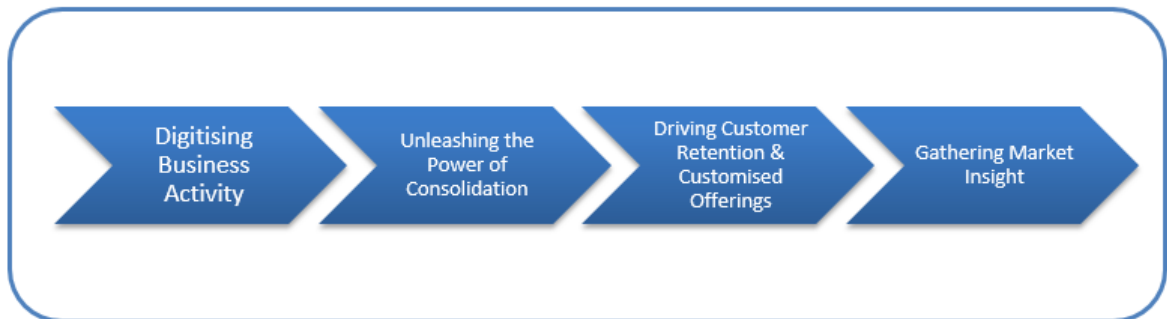


Figure 1: Multi-stage change journey

Like many turnaround strategies, proper implementation of technology can play a significant role in enabling change and improving efficiencies. However, many of the retail management systems available today are unaffordable and difficult to implement in corner stores. Some of these stores are relatively small and the bulky computer hardware needed to run these systems is not practical. In the developing world, many of these businesses operate in areas that do not have a reliable supply of electricity. Some of the businesses have to move around throughout the day to ensure that they maximise access to potential customers.

It is for these reasons that I opted to implement mobile technology to address the challenges faced by small businesses. The continued decline in smartphone prices makes such technology far more accessible and lowers the barriers for the adoption of mobile technologies. In addition to the availability of affordable smartphones, network operators have also invested in the rollout of the mobile data infrastructure. The cost of data bundles is also decreasing and this will open up even more opportunities to reinvent the corner stores.

To enable the first three stages of the turnaround journey shown in **Figure 1**, I developed a mobile App called iShipa that is used by the storeowners. The iGroza App that enables the collection of market insight is available to the consumers.

3.1 Digitising Business Activity

Before we can operationalize any of the subsequent stages in the change journey, we need to capture all activity in the respective small businesses. We need to have a clear idea on each business's product mix, product pricing, churn rates, product seasonality, cashflows, and factors affecting sales, to name a few. The cost drivers and their impact on business profitability must be clearly understood. We must therefore digitise all business activity.

Business owners can download the iShipa App from the App Store. Upon downloading the App, the business owner registers an account using his e-mail address. Some of the key App functionalities designed to digitise business activities are summarised below:

- **Loading Inventory Items** – to load inventory items, the business owner uses the phone camera to scan the product barcode and capture the product quantity, cost price and selling price. For every product the business owner must also capture the product re-order limit. The App uses the re-order limit to warn the business owner when the product stock levels are too low.

A number of small businesses also sell non-barcoded items such as vegetables or cooked meals. The App is designed to load non-barcoded items and the system generates unique codes that can be printed as barcodes. Products sold by weight, for example meat, can also be loaded in the App.

- **Selling Products** – to sell products, business owners have three options. The first option is to search the product from a table view and tap on the respective product to sell. The second option is for the business owner to scan the product barcode using the phone camera. However, these two methods tend to slow down the selling process during peak activity. To alleviate the problem, the App is also designed to integrate with a Bluetooth Scanner. Scanning the product barcode using the Bluetooth scanner automatically triggers the sale on the smartphone. As the user checks out after the sale, inventory levels are automatically updated on the local database.
- **Inventory Management** – when products are loaded onto the App, the business owner is expected to capture the cost and the selling prices. At any point in time the user can access the Pricing module to change the selling price. In addition to this, the user can also do regular stocktaking using the Inventory Management module.
- **Receiving Stock Items** – the Purchasing module is designed to facilitate the capturing of invoices for products purchased from various wholesalers. Given that small businesses tend to get their products from multiple wholesalers, the Purchasing module is designed to detect changes in the product price and accordingly warns the business owner.
- **Cashflow Management** – at the beginning of every day the business owner is expected to capture their float amount. Throughout the day the business might incur expenses such as electricity and rent. The App allows the user to capture all daily expenses of the business. At the end of each business day, the business owner must capture the closing cash that is available. Should there be any shortages the Daily Sales report will reflect the discrepancy.
- **Sales Reporting** – the App provides multiple reports that allow the business owner to monitor sales activity and profitability. The Daily Sales report allows the user to

monitor sales on a day-to-day basis. The user is able to monitor detailed reports with timestamps indicating when sales were done in a particular day. The Monthly Sales report reflects sales on a month-by-month level while the Yearly Sales report rolls up the sales for the current year. There is also functionality to compare current year sales with the previous year. The monthly and yearly sales reports also highlight the profitability contribution of each product. The business owner is therefore able to monitor the biggest contributors to his profitability and thus make the necessary adjustments.

3.2 Unleashing the Power of Consolidation

In the problem background, the basic process in the procurement of store inventory was highlighted. The individual business owner goes to a local wholesaler to buy products. Some business owners club together to form buying groups but the scale is insignificant. The fragmented purchasing approach has major shortcomings. Small businesses immediately lose out on the pricing benefits often associated with bulk buying.

The biggest challenge is to take independently owned businesses and consolidate them to operate as a single unit. Figure 2 below highlights the schematic representation of the proposed solution.

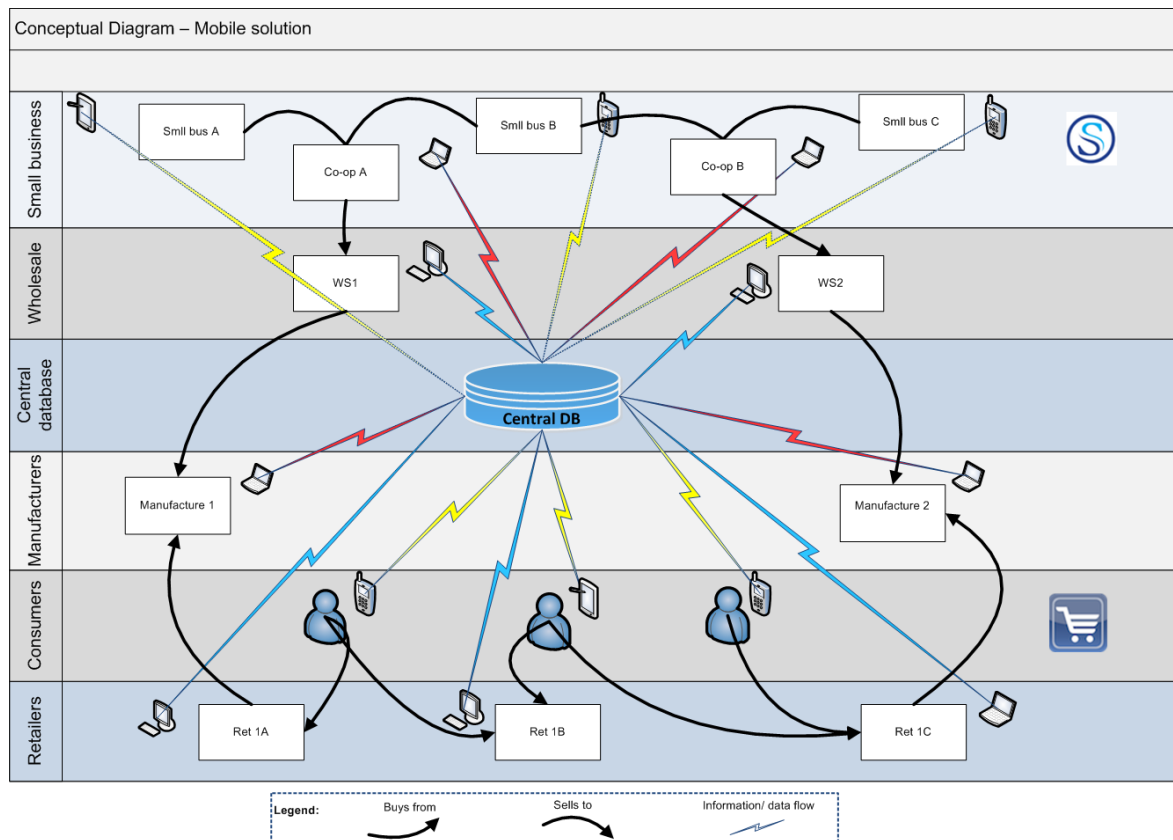


Figure 2: Schematic Diagram of proposed solution

The proposed solution is based on the design notion of “software above the level of a single device”. As highlighted in Figure 2 above, each business will have a smartphone running the iShipa App explained in Section 3.1. All the individual smartphones are then connected to a central cloud service using the mobile data network. The cloud service is responsible for the consolidation and connection of the individual businesses.

3.2.1 *Centralising Sales Data*

To enable consolidation, the first step is to get sales activities and inventory levels of all businesses into a single database.

As each business owner checks out after capturing a sale, the data is firstly stored in the local database of the phone. The smartphone then establishes a connection to the cloud database and sends the information using the mobile data network. The two-step approach ensures that the App will continue to work even if there is no network connection. Whenever the connection is re-established, the smartphone will synchronise with the central cloud database.

Synchronising the smartphone with the cloud database has two distinct benefits. Firstly, it automatically ensures availability of backup data should the business owner lose his/her smartphone. The data can be easily downloaded to a new phone. However, the most powerful benefit of synchronising all smartphones with the central database is that the activities of all stores reside in a single database. The inventory levels in each of the participating stores can now be collated in a central place. The individual businesses can now be viewed as a single entity.

3.2.2 *Enabling the creation of cooperatives and bulk buying groups*

One of the key advantages of using smartphones is their location capability. As each sale is captured in the individual businesses, the GPS coordinates are also harvested. Combining sales data and GPS location allows for an understanding of business activity in a particular area.

To unleash the power of consolidation, businesses in a specific area are encouraged to form cooperatives and establish bulk buying groups. Each buying group must nominate their own distributor. To join a buying group, the App allows users to submit the e-mail address of the group distributor. As new businesses download the App in a particular neighbourhood, they will be notified of existing buying groups in their vicinity. They will be connected with the group distributor in their respective area. It is worth noting that new businesses can decide to form a new bulk-buying group if they wish. There are no restrictions on joining existing groups.

3.2.3 *Streamlining the Supply Chain*

Each group distributor will have visibility of the inventory levels and sales volumes of all the businesses that are affiliated to his/her bulk-buying group. At any point in time the distributor can liaise with businesses that have low stock levels and trigger the ordering process.

To support the ordering process, the App is designed to provide Shopping List functionality. Business owners can create their own shopping lists or use the system recommendation derived from the re-order limits that are captured when each product is loaded into the system. To submit an order, the business owner will select a shopping list and send it to the central database. The central database will generate a unique order number that is sent back to the business owner. The created order is then sent to the affiliated distributor. The distributor will receive all orders from his affiliated businesses.

As opposed to the individual businesses buying from the wholesalers, the distributor will buy in bulk for all his affiliated businesses. The ultimate goal is to connect the respective distributors and establish a single entity that will then purchase on behalf of all the affiliated businesses. The planned consolidation will further strengthen the buying power and ability to negotiate better pricing. To minimise costs, the distributors will not hold any inventory. Partnerships with specific wholesalers will be key as orders can be sent directly to the wholesaler. If App users are encouraged to buy their inventory from partnering wholesalers, better pricing can be negotiated. Their orders can be submitted directly to the wholesalers thus eliminating the process of making phone calls to place orders. Businesses in sparsely populated areas can also benefit as all App subscribers will be treated as a single unit by the partnering wholesalers.

3.3 Driving Customer Retention and Customised Offerings

In any business, the cost associated with capturing a new customer always exceeds the costs of servicing an existing customer. In an era of increased competition and more sophisticated consumers, corner stores cannot afford to do nothing and still expect their customers to return for the next purchase. They need to understand their best customers. Their product or service offerings must be customised to talk to the needs of these customers.

Loyalty programmes have proved to be one of the most effective tools in achieving the above goals. Today some corner stores run some form of very basic loyalty programme. The most common is where a business owner will issue a card that is then stamped every time a customer purchases a particular product.

While this basic solution goes some way towards improving customer retention, it is hopeless when a business is trying to introduce multiple products to its loyalty program. The business owner is also not able to gather valuable insight on the buying patterns of specific individuals that are part of their loyalty programmes.

Without this information, the small business owners are unable to understand their best customers. They are unable to segment their customers and customise their offerings based on the spending patterns. They are missing out on data that would allow them to

differentiate their offerings. Future iterations of the iShipa App will also include loyalty programme functionality.

3.4 Market Intelligence and Customer Convenience

Digitising business activity using the iShipa App will go a long way in the drive to reinvent corner stores. Business owners will have the necessary data that can be used to drive their strategy and product mix. They will have a good understanding of the key value drivers for their businesses. Joining bulk-buying groups will allow them to improve their price competitiveness as they benefit from the associated economies of scale. While the solution will add value to the businesses, it has its own limitations. One of the key limitations is that the solution will only have insight on the activities in the businesses that are running the App.

In defining the problem background, one of the issues highlighted was that small businesses tend to be reactive to market changes due to lack of proper insight and market intelligence. The reality of the matter is that consumers will continue to buy their monthly groceries at the big retailers. Other than price competitiveness, corner stores will not always have all the items that are needed by the various households. A holistic solution should therefore capture the buying patterns of consumers beyond the corner stores.

The second component of the solution is the iGroza App that consumers can download from the App Store. The App is designed to allow consumers to maintain multiple shopping lists. The data captured in the multiple shopping lists will give insight on the products that customers purchase. The anonymised insight will be shared with business owners so they can update their product offering.

In addition to capturing customer insight, future iterations of the iGroza App will also include ordering functionality. Customers will have the convenience of submitting their orders to small businesses and collect without wasting time on queues. Where required, small businesses can also provide a delivery service thus improving customer satisfaction and differentiating their offering.

4 Establishing Community-Based Ecosystems

In the introduction, it was also highlighted that small businesses contribute to the economic sustainability of the communities in which they operate. It was emphasised that their value-add that goes beyond the convenience of providing goods and groceries. They create vibrant ecosystems that provide jobs to locals. The vision of the solution is to enable these community-based ecosystems that revolve around the corner stores. Some of the ideas being considered are explained below.

- **Integrating small producers** – corner stores are normally well known landmarks in their respective communities. People visit these places on an almost daily basis to purchase small items. Let us consider a scenario where a corner store also has a butchery. In rural communities it is very common to find a cattle farmer within the same vicinity. The cattle farmer will often not have enough capacity to supply big retailers with meat and milk. They often go through a middleman that consolidates meat supplies from all the small farmers and then supply it to the big retailers. These farmers are often squeezed on price and their margins are razor thin. The same scenario is applicable to small crop producers.

To integrate small producers to the corner store, each business owner will load the local producers under his business. As their products are sold, the local producers will get SMS notification when the supplies reach certain thresholds. They can then replenish their products at the corner store. These businesses will then be integrated into the corner store and the store owner ends up just providing space as opposed to deploying working capital to buy the produce. To ensure fairness, local producers will publish their products and prices on the platform. Corner Store owners will be able to select from the published products.

- **Enabling logistics services** – depending on the product, some wholesalers/manufacturers provide a delivery service to small businesses. However, in some instances, business owners are expected to make their own transport arrangements to collect their inventory.

To introduce efficiencies, local truck owners will be allowed to subscribe to the platform and indicate their availability. Their services will also be published to partnering wholesalers that provide a delivery service. As business owners submit their orders using the iShipa App, subscribed truck owners in the respective neighbourhood will be allocated the delivery task. Their income will be based on the number of deliveries. In this scenario, business owners or connected farmers just focus on running their businesses without worrying about the logistics of getting their inventory or supplying small businesses. They can track their orders on the App and get estimate delivery times.

- **Connected loyalty programmes** – in Section 3.3 we highlighted the importance of loyalty programmes in driving customer retention and providing insight on customer buying patterns. To further strengthen the power of these programmes, businesses often form partnerships that allow customers from one business to cash their loyalty points in other businesses. In this scenario, a corner store can allow his/her customers to cash their points at a hair salon within the same community. The business owner will then pay the hair salon which will in turn encourage the salon owner to refer all his/her customers to the respective corner store. This closed loop approach can benefit

all the businesses in the community. Future iterations of the App will incorporate this functionality.

5 Value beyond the corner store

While the primary objective of the solution is to improve the efficiency of the corner stores, its benefits go beyond the corner stores. These benefits can allow the small businesses to extend their role beyond retail thus diversifying their revenue streams. Some of the potential options are highlighted below.

- **Location-based marketing and advertising** – in the retail space, product manufacturers tend to have a limited direct relationship with the consumers of their products. The retailers who also happen to have direct access to the buying patterns of consumers often own the relationship. For manufacturers, the data on buying patterns is key for their marketing strategy and advertising campaigns. The richness of the data can be further enhanced if it is linked to location. Today, the closest the manufacturers can get to location-based buying patterns is the data captured by big retailers who are often located in cities. This makes access to such information cumbersome at best, as the manufacturer is dependent on the retailer for the disclosure of such information.

Many consumers from various neighbourhoods travel to the cities to buy their products. On the other hand, corner stores are often embedded in these neighbourhoods. Given that the App harvests the GPS coordinates for every sale, they offer a better view on the buying patterns in a particular neighbourhood. Their anonymised location-based data can be sold to manufacturers who want to drive more targeted advertising campaigns. As opposed to driving adverts in an entire city, product manufacturers can rather distribute their marketing material in areas where it will have the most impact. This will not only reduce marketing costs but will also allow marketers to measure the effectiveness of their campaigns by comparing buying patterns before and after their campaigns.

By studying the inventories of the various businesses and their respective product churn rates, manufacturers can extract a lot of insight. They can understand the performance of their products versus the competitors. They will also be able to determine areas where their products are not being included as part of the store inventories. When introducing new products, manufacturers can send the marketing information using the platform. They can also induce demand in specific areas by publishing specials on the platform.

- **Access to government services** – for many communities, especially in rural areas, access to government services still requires travelling over long distances. Armed with the right technology, these corner stores can serve as access points to government services. Instead of travelling long distances to apply for services, the App can be

integrated with government systems and be used as an additional channel to apply for services. For example, registrations for unemployment benefits can be captured by the store owner and then submitted to the government unemployment database.

- **Extended touch-points for big corporates** – many corporates continue to struggle with the challenges associated with the last mile to their customers. In many cases the limited size of the market does not justify a business case for big corporates to invest their resources in building the last mile infrastructure. If we look at banks as an example, rolling out an ATM network to some rural areas is not worth the investment. In the remittance space, it is common for banks to partner with retailers as distribution channels. With the right technology, these small businesses can easily form partnerships with banks. For some businesses such as insurance, corner stores can also be a channel for the origination of business leads. Municipalities that sell pre-paid services such as electricity can be easily integrated into the App and these small businesses can derive extra revenue.

6 Implementing the Solution

The development of the two Apps and the central cloud database address the major requirements to implement the solution. Additional requirements to ensure the successful implementation of the solution are summarised below:

- **Affordable subscription fees** – many of the available solutions in the market are unaffordable to small businesses. To ensure affordability and sustainability of the solution, the business model is designed to have multiple revenue streams. The anonymised market data and intelligence derived from the central database will be another revenue stream for the platform. Advertising opportunities embedded in the solution design will also contribute to the revenue streams. These diversified revenue streams will be used to offset the subscription fees that the small business owners have to pay.
- **Access to smartphones** – to use the solution, business owners must have access to smartphones. The continued decline in the smartphone prices will drive adoption of the solution.
- **Access to mobile data network** – the success of the solution relies on the centralised storage of sales activity in each of the participating stores. As the voice market gets saturated, mobile network operators are focusing on data access as the next driver of growth. Over the past years the cost of data has reduced significantly. In the South African market, a 100MB data plan costs under \$3. As data prices continue to drop, more businesses will be able to afford connectivity.

- **Partnerships with small business associations** – the implementation of the solution will require a lot of coordination and ground work. Business owners must have an element of trust and confidence in the solution. Many of these businesses are already organised into business associations. Partnering with these business associations will improve the credibility of the project. Once the leaders of these associations are convinced about the idea, it will be easy to sell the idea to their membership.
- **Partnerships with wholesalers** – for the foreseeable future, small businesses will not have enough volumes that will allow them to buy directly from the manufacturers. To streamline the supply chain process, partnerships with local wholesalers will be key.
- **Enhanced customer value proposition** – the sustainable success of the solution is dependent on the continuous assessment of customer buying patterns. Store owners need to understand these patterns and change their product offering where necessary. The iGroza App is a key component of the solution as it captures the buying patterns at the big retailers. The App's current value proposition is limited to the maintenance of shopping lists. For sustainable use, it would be more valuable if the iGroza App is linked to some voucher or coupon offering that will incentivise users to use the App.
- **Frictionless payments** – the small business market is mostly driven by cash. It is common to find people that do not have bank accounts. To ensure the success of the bulk buying process, efficient ways of getting payment for inventory orders is key. The capability that will allow consumers to use the iShipa App to submit their orders will rely on an efficient payment platform. Partnerships with mobile money services such MPESA in Kenya and local banks will be necessary. The MasterCard Digital Enablement Service can also be integrated into the solution to streamline payment services.