

# Shifting Up Gears

How to Boost Store Sales and Conversion Rate Through Real-time Analytics



# PlanetRetail RNG >

**PlanetRetail RNG** is a global intelligence and advisory business exclusively focused on retail. For 13 years we have been tracking over 2,000 leading retailers and built a proprietary and globally comparable macro-economic data model with over 4.5 million data points. We do this to give our clients true competitive advantage in understanding where to play and how to win.

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# EXTENDA

## About Extenda

Extenda is one of the world's leading providers of POS solutions that simplify shopping by delivering innovation and simplicity to retail stores, enabling them to provide a world class shopping experience for their customers. Extenda's clients are market leaders in their own right and they rely on Extenda's extensive domain expertise and passion for delivering innovative solutions to maintain their place in the market. The Extenda product suite supports sales with omni-channel solutions such as POS terminals, self-scanning, mobile POS and e-commerce integrations. There are over 37,000 Extenda POS and 30,000 selfscan devices and mobile POS across more than 35 countries around the world. In their home country of Sweden, over 75% of all food retail transactions are processed by Extenda solutions.

Extenda's client base is built around internationally successful firms in the food and fashion retail markets. The mission of Extenda is to make clients more competitive and more effective in an efficient manner. This is achieved by speaking to clients and working with them to help develop the next generation of omni-channel systems.  
[extenda.com](http://extenda.com)

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Shifting up Gears: How to Boost Store Sales and Conversion Rate through Real-time Analytics

# Foreword from Extenda

Extenda has been fortunate to be part of the point-of-sale (POS) industry since 1982, serving top retailers through multiple generations of technology. Today, the retail industry is undergoing a dramatic change and, being a part of that industry, it is of highest importance to contribute by developing new capabilities for the new demands – by leveraging domain expertise and latest technologies.

The work presented in this whitepaper originates from a number of fruitful conversations with our clients about how to simplify shopping through innovation and store efficiency. Given today's technologies and the massive amount of sales data available, is there a way to generate insights that can help optimise daily store operations?

This paper presents findings from our investigation on how exceptions in sales can be used to discover and, subsequently correct, operational issues.

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Given today's technologies and the massive amount of sales data available, is there a way to generate insights that can help optimise daily store operations?



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# 1. Executive Summary

Bricks and mortar will continue to be the key pillar for retail sales. However, physical stores have inherited cost disadvantages and inflexibility compared to purely digital channels. This paper explores how real-time awareness can allow retailers to act on sales exceptions in real time, and thereby improve sales.

To stay ahead of the competition and cater to the digitally-empowered consumer, bricks and mortar retailers must overcome these disadvantages regarding costs and flexibility. A prerequisite to make this happen is gaining a real-time view of what's happening in the store as well as in other compatible outlets.

Many operations are still unable to take immediate action on unplanned occurrences and this can result in lost sales. Think of unexpected out-of-stock situations, shelving issues, housekeeping problems or the impact of the weather or from local events. What is required is a solution that can detect such exceptional situations automatically, alert staff in real time and measure results to further improve levels of operational efficiency and customer service.

A solution capable of suggesting immediate actions needs to reference historical data to determine the norm and intelligently compare this with current events, which will be streamed to the Cloud in real time. Any exception outside a pre-defined limit will trigger an alert. In this case, notification is immediately sent to the responsible store employee's mobile device.

Use cases for such a solution include alerts on negative and positive sales as well as gaining insights and monitoring sales to track results from ongoing initiatives.

The main benefits retailers can expect from implementing real-time analytics will be:

- **Increased Sales** - Tackling shelving errors and out-of-stock situations with real-time analytics will efficiently combat lost sales. Additional sales opportunities can be exploited by trialling commercial measures applying real-time analysis across comparable stores and deploying them on a larger scale when successful.
- **Increased Conversion Rates** - By tracking sales exceptions, the system will alert store employees to take immediate action on addressing any problems that occur or acting on opportunities that arise.
- **Improved Staff Efficiency** - The solution helps to prioritise instore activities. Store staff will be guided to focus on solving any issues which affect sales.
- **Improved Customer Service** - The solution will help to free up resources and allow employees to spend more time facing the customer.
- **Increased Customer Loyalty** - Increased customer satisfaction and an overall improved shopping experience will foster customer loyalty.

It is strongly recommended that retailers

- **Focus on store** operations again;
- Move from historic to **real-time** view;
- Harvest **low-hanging fruit** first;
- Have a **clear action plan** in place; and
- Don't forget to fully integrate store **employees** into the process.

## 2. The Situation

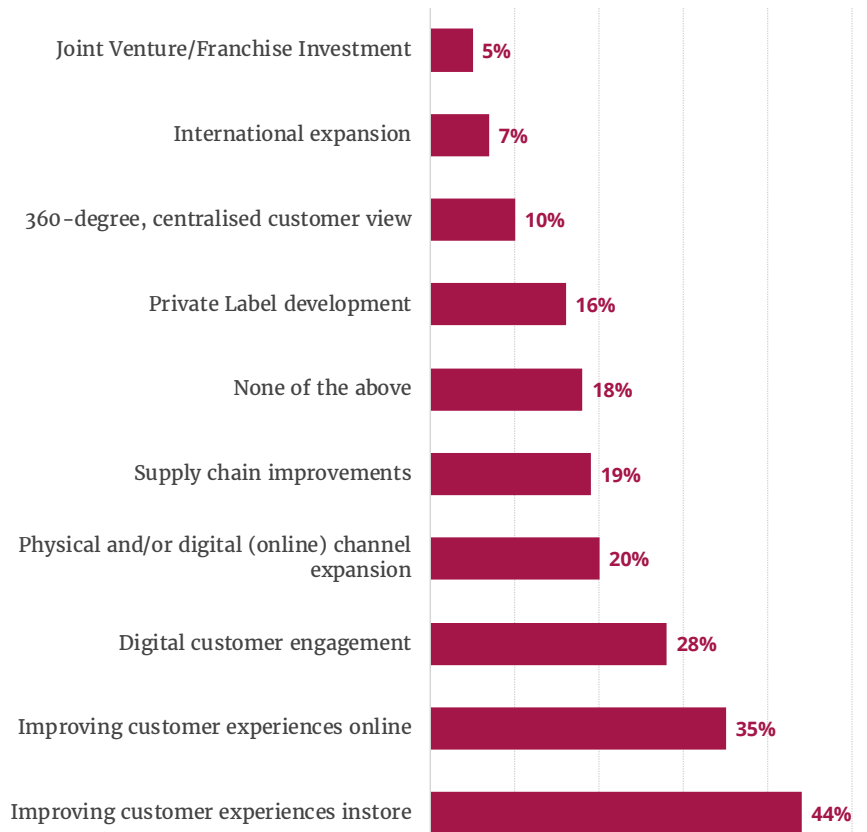
Digitisation and the resulting changes in consumers' shopping habits have initiated an unprecedented transformation process in retail. People now enjoy constant access to the internet via an increasing variety of smart and mobile devices. Today's shopping journey typically involves multiple touchpoints. In addition to, or increasingly replacing traditional media such as print, out-of-home advertising or radio and TV, consumers source product information by online browsing, watching YouTube videos or consulting social media. Reviews and ratings from influencers and peers in their networks often carry greater weight than advice from a retail store assistant.

### Stores remain most important consumer touchpoint, but need re-invention

Digital is already influencing more than half of all purchases. While this share will only rise, it should be recognised that 90% of sales are still completed at a physical outlet. Nevertheless, store operations are increasingly coming under pressure. Consumer expectations are only increasing with the best online experiences being the benchmark. Spoiled by unlimited ranges and full transparency on product and price online, shoppers often are discouraged when looking to buy from physical stores. To stay in the game and to cater for the digitally-empowered consumer, bricks and mortar retailers must overcome its disadvantages regarding costs and flexibility. A prerequisite to making this happen is gaining a real-time view of what's happening in the store.

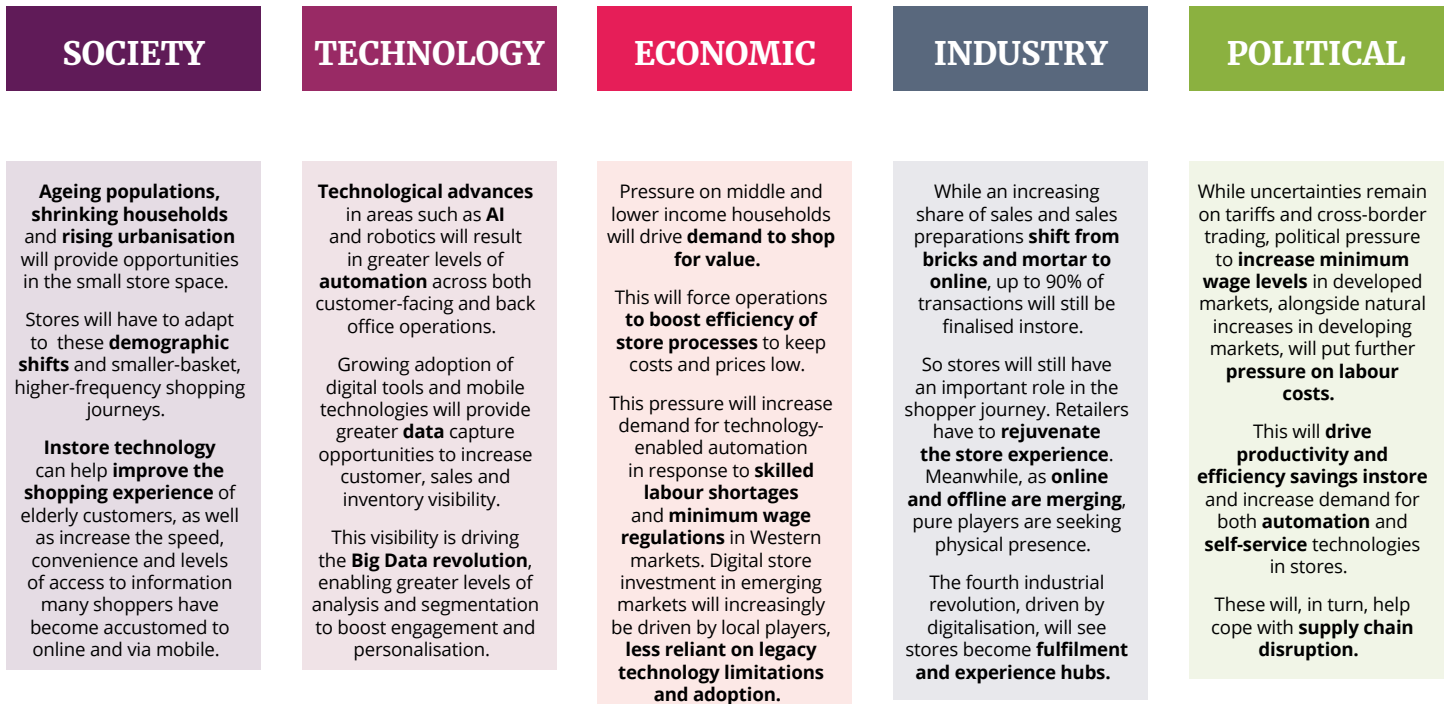
Earlier this year, Planet Retail RNG published results from a survey among more than 350 C-level executives from all retail sectors across four leading global markets. The study found that improving customer experiences instore was the number one priority among the panel.

### Current Strategic Priorities Within The Next 12 Months



Source: Planet Retail RNG contracted survey – base 359 C+ retail executives across markets UK, US, Japan and Germany

**To stay in the game and to cater for the digitally-empowered consumer, bricks and mortar retail must overcome its disadvantages regarding costs and flexibility.**



### STEIP factors are impacting retailers' store operations

To predict future developments and to identify winning strategies, Planet Retail RNG has established its STEIP methodology. It looks at the relevant drivers in Society, Technology, Economy, Industry and Policy. Of particular interest for this white paper are those drivers with a strong impact on store developments.

As mobile networks improve and smartphones continue to proliferate across markets, we are entering a period of 'ubiquitous connectivity' where all consumers are constantly connected via their mobile device. This connectivity gives people access to unlimited information in their pocket and is raising consumer expectations around convenience and personalisation.

Omnipresent digital culture and fast-paced lifestyles are shortening attention spans. The time retailers have to reach shoppers is decreasing. Consumers increasingly want instant gratification and expect retailers to respond fast to their shopping behaviour as best-in-class online retailers do.

It also means that most modern consumers already enjoy real-time capabilities. Bricks and mortar retailers do not often have to play catch-up with their customers. At the same time, massive progress in communication technologies, cloud-computing and Artificial Intelligence (AI) gives retailers the capabilities to communicate with shoppers and react to their behaviour in real time.

From an economic perspective, stores need to be more productive and efficient to cater to heightened shopper expectations. Meanwhile, the industry faces labour pressures, both from costs and skills perspectives. So making efficient use of people as well as matching labour levels to demand has become increasingly essential.



### Out-of-stocks/out-of-shelves

Out-of-stocks have long topped the list of shopper complaints. It is a frustrating experience when desired products are unavailable. Today's consumers are even less willing to accept substitutes or return to buy a product later. In most instances, shoppers would rather buy elsewhere or refrain from purchasing at all. Such instances can also significantly compromise customer loyalty.

Simply carrying more stock is not an option, as this significantly raises related supply chain operations and inventory costs. Sophisticated planning and forecasting tools have been instrumental in optimising retailers' replenishment processes and inventory. These use historic data, mainly from POS transactions, taking into consideration seasonal influences as well as promotions and other plannable events, and applying analytics to predict correct stock levels. While these tactics have proved successful in helping many retailers reduce inventory as well as markdowns or waste, they are still unable to deal with the numerous actual unplanned occurrences that can result in lost sales. By this, we mean unexpected out-of-stocks, shelving issues, housekeeping problems or impacts from weather or local events.

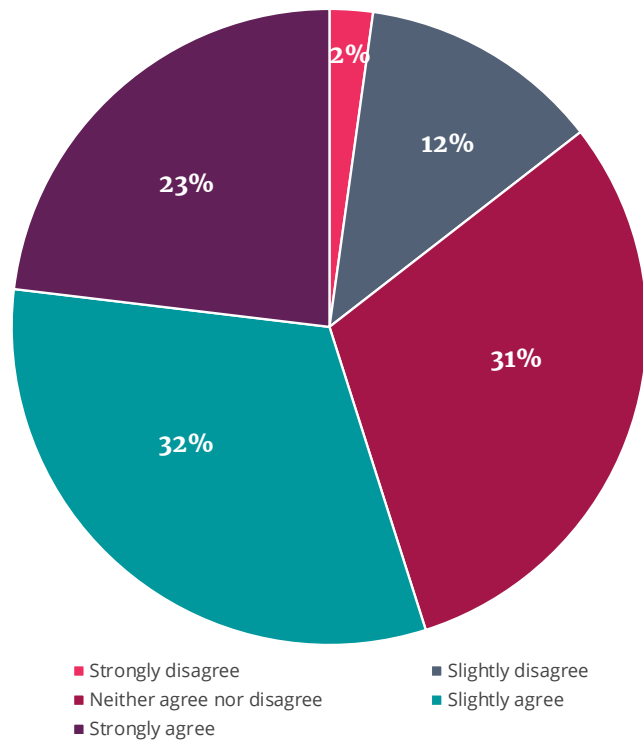
### Lack of transparency and real-time information

Even the best of these solutions relies on analysis in the form of reports, looking back over periods of months, weeks or days. Most stores lack the capability to take immediate action and relocate resources to address exceptions that happen in real time.

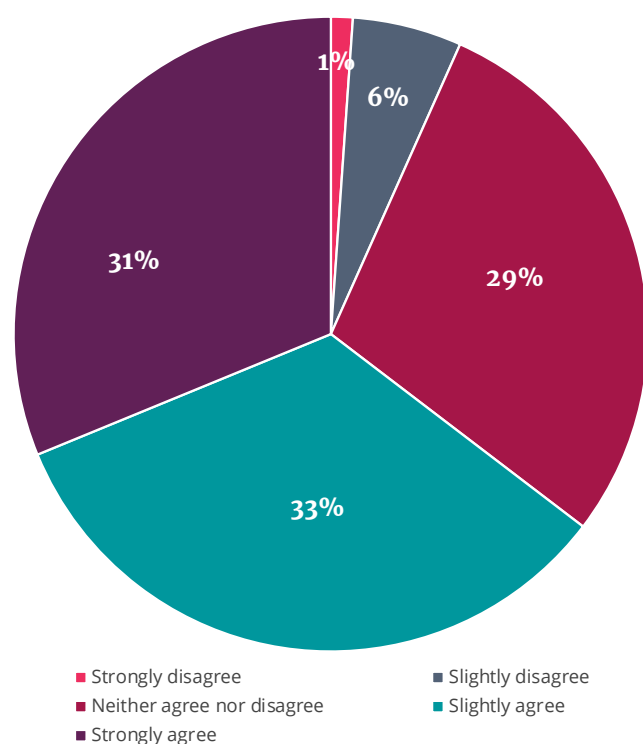
The reasons behind deviations from expected sales can be numerous. Sales of a product may suddenly break if it has been misplaced or all items on the shelf have been sold and not replenished from back room storage. A particular item might be offered on discount at a neighbouring store or have accidentally been priced too high. As a more positive example, sudden sales uplifts can occur due to a rearranged product display. Think of soaring demand for beer and charcoal if the weather suddenly heats up. Such activity can easily be shared with other stores enjoying similar weather conditions.

It would be impossible to detect these types of incidents in time via traditional merchandise management systems. They would only be reported days or weeks after the event when it was too late to take effective action. Situational complexity as well as personnel costs, lack of resources or unavailability of capable staff often prevents retailers from noticing such incidents, let alone responding in a timely manner.

### Maintaining Optimal On-Shelf Availability Instore Or Online Is Challenging



### Having A Real-Time View Of And Control Over Inventory Throughout The Supply Chain Is Essential



Source: PlanetRetail RNG sponsored survey – base 359 C+ retail executives across markets UK, US, Japan and Germany

## 3. The Solution

What is required is a solution that can detect exceptions automatically, alert staff in real time and measure results to further improve the system. All this easy to implement in a pragmatic approach where complexity is managed by software.

### Tracking sales in real time

Modern POS systems track each single sales event at item level. Typically, this information is fed into the central merchandising system in the form of batch data, which will only be analysed retrospectively.

A solution capable of suggesting immediate actions needs to reference historical data to determine the norm and intelligently compare that to current events that can be streamed to the Cloud in real time.

### Managing by exception

Utilising the combined computing power of cloud-based server farms, it will be possible to match each sales event with both historical data and real-time data from comparable stores. All exceptions from expected results will be detected. Information can be monitored at both category level and product level. Even additional properties, such as an item's position in the store, can be factored in.

Actual sales volumes at each of these levels will be compared to:

- Historical sales data, according to the retail calendar;
- Actual sales from other comparable stores in the network with similar sales patterns for the product or category;
- Current price and promotion activities and expected sales figures;
- Aggregated daily sales compared with historical data;
- Chain average sales for the product or the category.

To achieve best results, stores will be clustered mathematically, using transaction patterns **on item and category levels** and real-world metadata to verify the clusters. This means comparison will be adopted flexibly according to the current situation and not via fixed clusters. One store might be similar to another in ways that only Big Data analytics can determine.

Additionally, other data sources can inform the analysis. Those could include product placement according to the store's planograms or current weather data.

### Alerts in real time

Any exception above a defined limit will trigger an alert. In this case, notification is immediately sent to a responsible store employee's mobile device. The notification contains a demand for action as well as a request to verify the event, which has to be confirmed by the recipient. It also includes a set of proposed actions to take, to be confirmed upon completion.

### Use cases examples

In the following section, three major use cases will be highlighted. Firstly, alerts generated by negative sales compared to the expected results. These can be targeted at item or category level. The system will propose qualified actions and show details on what triggered the alert.

In the second case, the system flags results that exceed expectations. On these occasions, the particular instance, illustrated with sample images, for example, can be shared with other stores.

Finally, it will be illustrated how insight into current sales events can support prioritisation of store tasks. These results enable monitoring of results from any sales initiative over the course of a day.



The app's screen displays exceptions occurring in real time in order of urgency.

### Use Case Example 1 - Alerts On Negative Sales

Store staff receive notification that a product or a category is underperforming. Immediate action can be taken, based on supplied proposals, to correct operational issues and prevent loss of sales, such as restock or shelving.



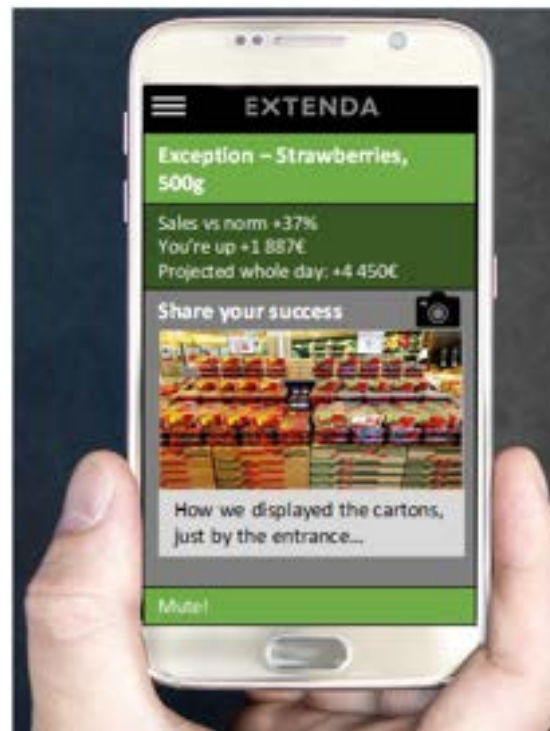
1. An alert is received on an employee's mobile. The user can see there is a new exception detected in the dairy category. Sales are down by 23%, representing a EUR3,000 EUR loss in sales. Clicking on the alert, the user receives more detailed information while walking to the dairy shelf.

2. The system provides a user with suggested actions. Looking at the shelf, the employee can see that whole milk is out of stock and other items are also missing. Therefore, "Restocking" is selected and the assistant ensures the dairy fridge is replenished. The user can also look up more information on what triggered the alert and then mute the exception if required.

3. The problem has now been solved, but the exception will remain listed in the app until sales normalise. The system will log information on what caused the issue and who rectified the problem.

## Use Case Example 2 - Alerts On Positive Sales

The top-performing store can rapidly share its product arrangements via photo.



1. Exceptionally positive results from strawberry sales have created an alert. This is something the employee wants to share with other stores in the chain.

2. Using the app, the employee takes a photo to highlight the reason behind the sales uplift, such as a new display. Similar to a social media post, the user can add comments to explain the circumstances. Other stores can then take advantage of the positive example.

3. The exception has been handled, but will remain listed in the app until other stores have experienced similar sales uplifts.

### Use Case Example 3 – Insights And Sales Monitoring

If store employees find an issue, such as a disorganised shelf, they can immediately use the system to validate whether this actually affects sales. They are obliged to only fix genuine problems to prioritise tasks in the most effective way.



1. Using insights from an item's real-time sales data, store tasks can be prioritised based on best-result expectations. By monitoring sales figures over the course of the day, users can track the performance of a campaign or an initiative taken, such as a change in product placing or reconfigured shelf layout, as well as special instore activities.

2. Should an employee detect an issue when walking the aisles, he or she can scan the respective item's barcode. The app will then provide insights on the potential sales impact of the issue. This allows the user to evaluate the worth of any possible response. This helps staff spend time on those tasks having the maximum sales impact.

3. The system motivates employees to become creative. They can try different product displays or place items together in a new way and immediately see the impact on the resultant sales figures. Positive employee contributions can be recorded by the system and rewarded accordingly.

### Measuring and Quantifying results

Once a task is completed, the system monitors and calibrates results from each of the actions taken. This data is used to inform future instructions and make proposals more accurate, thus acting as a self-learning system. This is achieved by using science-based algorithms, applying machine learning and AI.

For chains with high employee turnover, the AI-powered tool will guide staff to perform the most efficient activities and ensure that organisational learnings become sustainable.

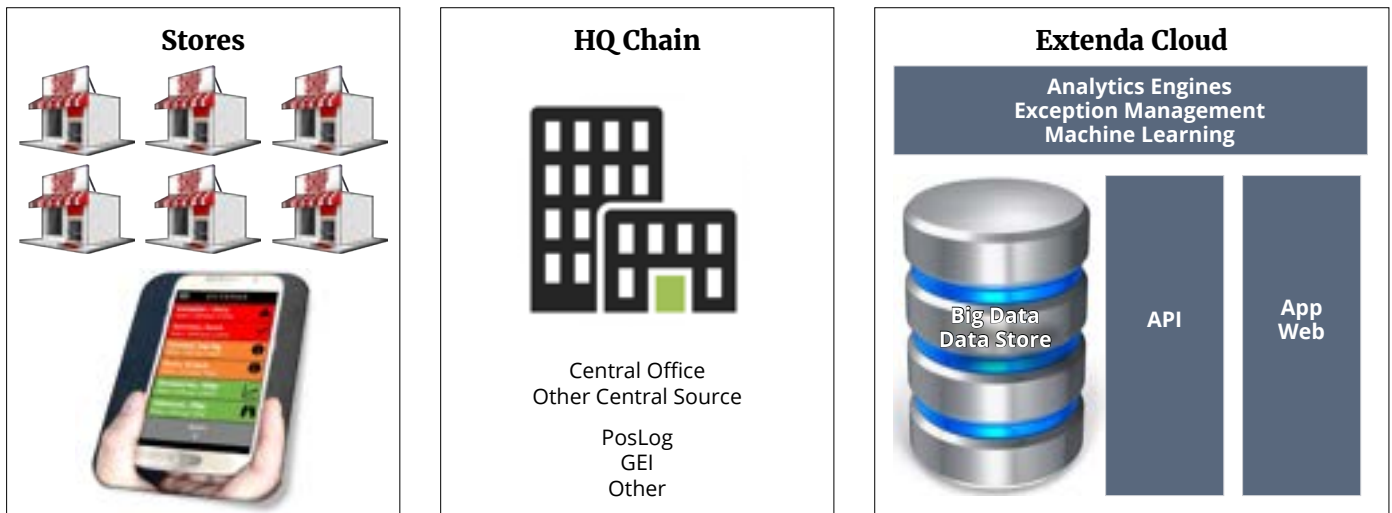
For those with skilled staff, the system will propose different options and improve the decision-making process by providing accurate background data and analysis.

Decisions combining human intelligence with AI will generate much better results than each can achieve on their own. For example, it has been proven that a combination of an averagely-skilled chess player with an AI-based computer intelligence will win against the best champions.

### Low barrier

As the system is Cloud-based it is easily scalable and requires neither investment in hardware and software nor large project costs for the retailer. It can be described as a packaged out-of-the box solution, providing Standards-based Interfaces to allow for simple integration with the POS system. As a future enhancement, additional custom integrations can be made to augment the system with store-specific price and promotions and/or planograms. This allows the solution to be implemented very quickly and provide a fast and measurable return on investment.

## Potential Architecture Of Extenda’s Real-Time Store Analytics Tools

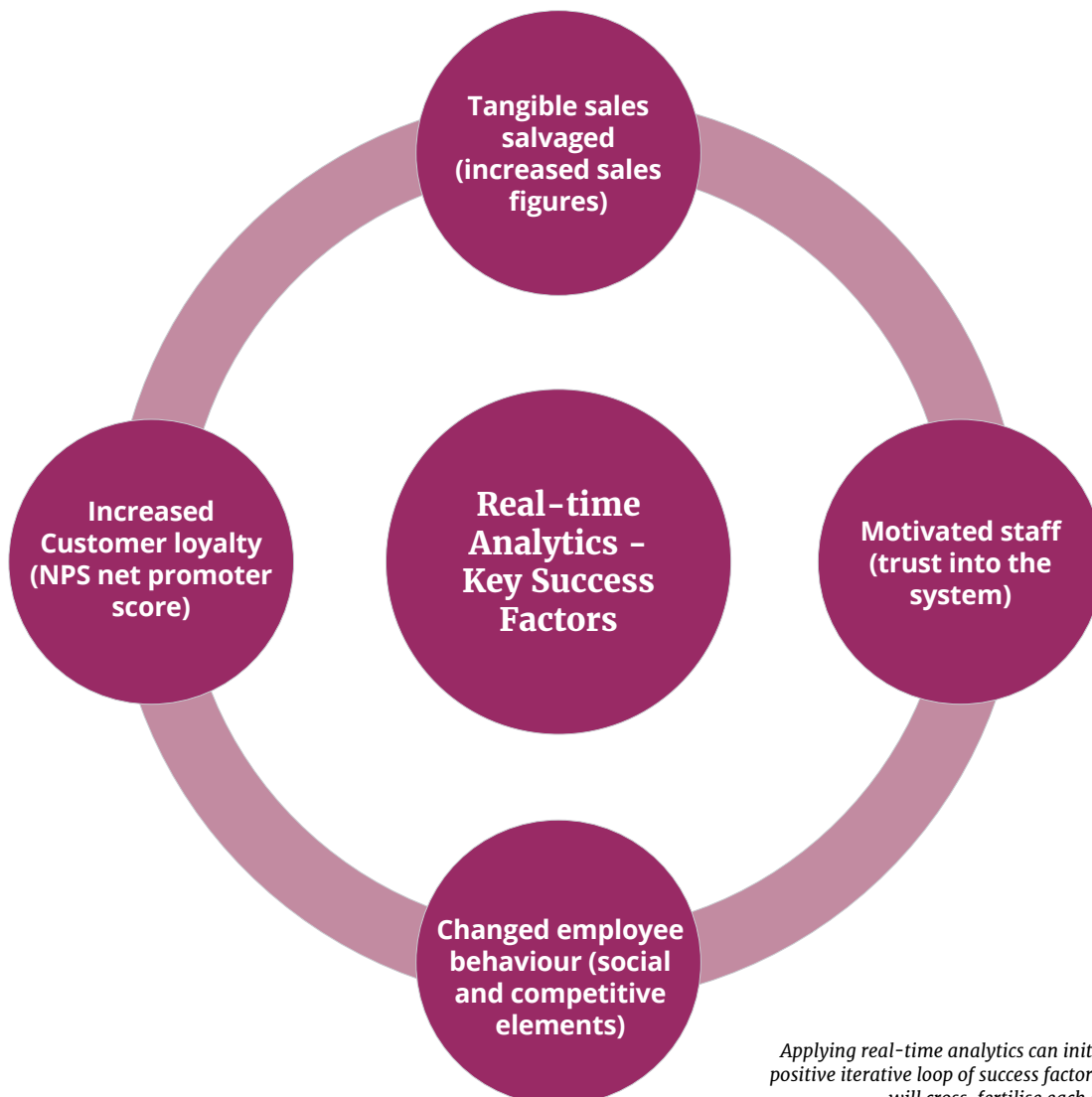


All stores within a retail chain feed POS transactions to their headquarters. This is already in place for Extenda clients. From the back office, live transactional data and more static meta-data, such as category or an item’s position, is streamed to the Extenda Cloud. A host of mathematical and statistical models are applied in order to, among others, identify norm sales or to locate and group comparable stores. The outcome is a set of exceptions and the logic around them to define and prioritise recommended actions. Finally, an application serves mobile instore devices - the main clients in the solution.

## The Benefits

So what benefits can retailers expect from implementing a real-time analytics solution?

- **Increased Sales**  
Shelving errors and out-of-stock situations directly lead to reduced sales. Tackling these problems with real-time analytics will, first and foremost, lead to sales increases. **Top-down analysis indicates that stores can expect to increase turnover by 2%.** The solution will ensure that stores reach the tangible level of sales as proven by other comparable stores or historical data.
- **Increased Conversion Rates**  
By tracking sales exceptions, the system alerts store employees to take immediate action on recovering any occurring problems or acting on opportunities that arise. The solution can monitor a changed display or campaign on an item in real time. This data can trigger further optimisation, such as better product presentation and improved store layout, thus increasing conversion rates.
- **Improved Staff Efficiency**  
The solution helps to prioritise instore activities. Staff will be directed to focus on solving issues which actually affect sales. Employees are detailed to only fix issues when there is a genuine problem. This will create engaged employees and boost efficiencies.
- **Improved Customer Service**  
The solution helps free up resources and allow employees to spend more time facing the customer. This – plus the fact that shoppers will find better-tended assortments and shelves - will significantly increase customer service and satisfaction levels.
- **Increased Customer Loyalty**  
Increased customer satisfaction and an overall improved shopping experience foster customer loyalty. Real-time analytics of instore transactions significantly support store managers in their efforts to provide the best shopping experience. Sharing of best practices will help retailers improve brand image across the network, which will motivate shoppers to return to their stores.



*Applying real-time analytics can initiate a positive iterative loop of success factors that will cross-fertilise each other.*

## 4. Recommendations

- **Retailers should focus on store operations again**  
Despite continued online growth, stores will continue to play a crucial role in retail. However, they urgently need revamping to remain relevant and drive footfall and conversion. In an increasingly digitised world, the evolving role of the store demands it meets higher customer expectations. To satisfy these requirements, stores must be *connected*. A Connected Store gives access to data in real time, making use of the latest embedded devices and communications technologies, including social, mobile, analytics, AI and the Cloud.
- **Operations should move from historic to real-time view**  
In today's fast-paced business environment, it is no longer sufficient to only examine historic data to plan next steps. In many cases, it will be too late to act when results from traditional BI reporting come in. It is therefore imperative to empower management as well as shop floor staff with a real-time view on transactions. This will enable fast responses even in unexpected circumstances and deliver best-in-class customer experience.
- **Reap low-hanging fruits first**  
Transforming a business to become a real-time operation can be a tedious task requiring major investment and implementation time. In many cases, it will not be feasible to replace all existing legacy systems simultaneously in a 'big bang' approach. It is best practice to initially invest in smart out-of-the-box solutions that deliver the desired capabilities. It is recommended to focus on tangible results, such as increased sales or conversion rates, to identify the right investment priorities.
- **Have a clear action plan in place**  
It is highly recommended to take a phased approach when implementing real-time analytics. This is how a best-practice 3-step programme could look:
  - 1) A good starting point is to go back and study historical data. Comparing differences between expected and actual sales compiled from existing business intelligence tools can indicate possible future gains from a real-time system.
  - 2) In a next step, basic functionality should be implemented. This will quickly deliver significant benefits.
  - 3) When stores and management have gained experience with the system, it can be refined. Analysis can be enriched with more augmented data, for example, from social media or other online sources.
- **Don't forget to fully integrate store employees in the process**  
Success depends on the engagement of store staff. Employees may have reservations about automated decisions based on AI. They may believe they can do it better using experience they have accrued. Some may fear eventually losing their jobs. It is imperative to train staff properly and provide full transparency on what the system can and cannot do. It should be made clear that it is there to assist them and that this technology will enable them to concentrate on what they are really good at and spend more time with customers.

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**In a fast-paced business environment, it is imperative to empower management and shop floor staff with a real-time view on transactions.**





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