The Future of In-Store Shopping
Consumers love stores, they can touch and try products and shopping is also a social event. Physical stores represent 12 times ecommerce.

Connected consumers, “always-on”, will be provided with a new end-to-end shopping experience which natively includes the asset of the physical store, without interrupting their digital experience. The store will bring a strong asset for the retailer bringing what ecommerce services struggle to perform: a touch experience, immediacy of product availability, advices and services. In one word, the digital store will become an amplifier of the consumer digital experience.

This white paper outlines these new trends for in-store shopping, analyzing the new scenarios and the major technical and business challenges that industries will have to face.
The Future of In-Store Shopping

Contents

4 New shopping experiences

5 Introduction
   Obvious Threats
   New Opportunities

6 New usages for online & in-store shopping
   Pre-store
   In-store
   Post-store

9 Technical Enablers
   Mobile Payment => from secure transactions to contextual payment
   Smart Labels => Full interaction with physical products
   Geolocation => Outdoor and indoor localization
   Big data analysis => Using information to create personalized services
   Cloud
   4G and better accessible WIFI

12 Benefits

13 Adoption of the mobile channel
   Consumer adoption
   Retailer and Manufacturer adoption

15 Atos Experience
   Smart Mobility
   Next generation of Mobile Payment services
   Loyalty
   OmniCommerce

17 Future trends

18 Conclusion

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About the Atos Scientific Community
The Atos Scientific Community is a network of some 100 top scientists, representing a mix of all skills and backgrounds, and coming from all geographies where Atos operates. Publicly launched by Thierry Breton, Chairman and CEO of Atos, the establishment of this community highlights the importance of innovation in the dynamic IT services market and the need for a proactive approach to identify and anticipate game changing technologies.
New shopping experiences

Technology can be a strong lever to improve the shopping experience for customers and an invaluable support to increase sales for retailers. Let’s look at some of the possibilities technology offers through a technically feasible story, which is not yet available in stores to its full extent.

Maxime is in the pedestrian area of his city to do some shopping. He has prepared a shopping list upfront with suggestions he received from the store and items he added himself, like a new pair of earphones. A geofinder app recommends him to an electronic shop just one block away.

At the entrance Maxime uses his mobile to tap and check into the shop. Checking in offers some special services to Maxime. Based on his search data the shop prepares special promotions, offers a shop map to help navigating around, suggests a collection of items that may appeal him based on his previous purchases, his friends’ and his public references in social media. Shortly after checking in he is offered a watch with some advanced running meter as he is a fan of marathon races and he receives a promotion for Apple earphones.

Because he is under time pressure this Saturday, he uses the navigation help. His mobile shows a map of the shop and guides him to where the earphones are displayed. Once he reaches this area, he finds other Sony earphones he is interested in. With his mobile he taps the Apple and the Sony logos and uses the compare function. The comparison convinces him of the Apple earphones, which due to the promotion he received, come at the same price as the Sony earphones.

He finally adds the earphones to his basket and likes them on Facebook to share news of his purchase with his friends.

At the checkouts there is only one cashier for large credit purchases, as everyone can add products to the mobile basket and do the checkout and payment themselves. He is happy that he can finalize his purchase himself. He validates his purchase at the checkout, tabs his mobile on the NFC tablet and a 29.90 Euros transaction is communicated to the NFC tablet for approval and completion. Immediately he receives a virtual receipt for the purchase and leaves the shop.

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**Introduction**

**Obvious Threats**

The shopping experience has suffered a dramatic change over the last decades. Offers are larger and more diversified than ever, globalization is a reality and e-commerce is growing exponentially. Buyers are more demanding, discerning and sophisticated while the traditional selling models are not good enough to secure a sustainable sales flow.

Retailers are struggling to adapt to this fast pace of change. True, we have seen malls being produced in all suburban areas, concentrating stores in one place to limit shopping and transportation time for buyers; house delivery and credit card payment are part of the shopping culture, but those changes are not dealing with some of the major challenges retailers are facing.

**New Opportunities**

In a world with instant access to information, where competition is just one click away, attracting and keeping customers is crucial to survival. Mobile technologies can help reaching these goals by enhancing the shopping experience and gaining information and intimacy with the customers.

This will open new opportunities to retailers and manufacturers to be more engaged with shoppers providing new shopping perspectives, with an improved shopping experience for consumers and new business opportunities for retailers and manufacturers.

**From a Customer perspective:**

The shopping experience has moved beyond the physical stores, and begins quite some time before the actual purchase takes place. The offering is global, not just that of the shop around the corner. Features, comments, prices and special offers can be compared in real time, at home, while commuting or even in the shop. This helps the customer make an informed purchasing decision without the need to set foot on the street.

Shopping will become a unique and specific experience to each customer. By sharing information about individual preferences, needs and expectations, a truly tailor-made shopping experience is possible. It is also a matter of privacy, but sharing the information is a way to establish a closer intimacy and helps the retailer offer a better service, adapted to personal tastes.

But also the processes taking place in the shop can change and improve to make shopping faster and more convenient, eliminating irritants like checkout queues or cumbersome checkout processes which do not add any value for the customers.

**From a Retailer perspective:**

Mobile devices bring the competition closer. But they also offer possibilities to differentiate from others and gain intimacy with the user. Can a physical store remain relevant in the e-commerce era? How do physical stores fight against showrooming (people using the store to view the product and later buy online in another place)? How can traditional retailers secure sales when competitors offer the same products at discount pricing online?

The answer lies in putting the customer at the center of the value chain through an enhanced shopping experience. Whenever customers interact with the commerce, a new opportunity arises to know them better and offer a more personalized service, which could extend up to negotiating prices on a one-to-one basis.

Having the customer in the store is a unique chance to strengthen the relationship and provide instant satisfaction through buying. Moreover, the retailer can provide the customer advanced services in the shopping area that interact with the buyer’s mobile device. Retailers will improve the shopping experience of the consumer based on four main elements:

- Improving the consumer/seller interaction
- Leveraging the e-commerce offering inside the store
- Empowering consumers
- Optimising the checkout

Smart Mobility is a true opportunity for retailers when it is combined with the right change management. It brings a simple solution on these four elements by reinforcing the complementary nature of mobile, the physical store and the web site. This ‘complementarity’ extends the consumer shopping experience, before, during and after their store visit by bringing e-commerce services instore while strengthening the store advantages. It enables a completely new distribution model: the instore digital distribution, designed for connected consumers, "always-on", but thought of as a new end-to-end shopping experience which includes the asset of the physical store, without interrupting the digital experience of the consumer. The store is then redesigned as a strong asset for the retailer bringing what e-Commerce services struggle to deliver: a touch experience, immediacy of product availability, advice and services. In other words, the digital store is an amplifier of the consumer digital experience.

The network and the brand of the store becomes a truly decisive advantage, changing the rules versus the e-Commerce pure players. Then, the online channel can complement the retailer’s offering and simplify some of the purchasing processes. In fact the buying will probably start on the Internet and may finish online or in the shop. Both channels have to be synchronized in a user-centric experience.

**From a Manufacturer perspective:**

Having access to customers’ information can provide significant advantages to manufacturers, as they can help make better predictions of future buying behaviors, based both on the shopping history and the activity before, during and after the actual purchase. This information could give hints on which product features are more interesting for clients, which ones are irrelevant and how they rate against the competition.

Stock and warehouse management could also be improved as data is aggregated and gathered almost in real time, bringing just-in-time production one step closer. Manufacturers could also push offerings to certain customers through retailers to optimize their production and reduce their stock. In highly improved fabrication and procurement scenarios, products could be made to order to match specific user requirements within the manufacturers set of options, bringing the customers preferences right to the shop floor.
New usages for online & in-store shopping

One might compare the developments in the retail market with the service orientation in product companies. Retailers are under pressure to secure their revenues, cover their costs for physical presence and serve their customers in a holistic way. Product companies started to offer (connected) services to their products in order to differentiate from competitors and gain loyalty from the consumer, retain the revenue as well as create a competitor advantage. The retailers are basically facing the same challenge, to find differentiators and build a competitive advantage to their competitors’ base that grew through the online market.

A solution is seen in a holistic customer-centric shopping experience involving all the options technology provides. So the lines between online and in store shopping are fading away.

The enhanced shopping experience involves three phases of shopping: the pre-store preparation, the in-store experience and the post-store services.

**Pre-store**

Before a customer enters a store they need to be made aware of the offers and the reasons to buy at a specific store. The online channel can really support this step as one third of the worldwide population is using the Internet already, with penetration growing. Physical stores can offer online services and cooperate with online retailers to attract more potential customers. Getting posted on search engines, being mentioned in forum discussions, providing applications and connection between the store and the customer, are the first steps in building a relationship. The Internet presence is further important to be visible for different types of consumers, who in addition to the Internet experience like to get the physical experience of goods.

Special services can then support in planning a purchase. Functions like an online shopping list or suggested items for the customer can bring a customer to the store, with increased frequency. Such information also helps the store to better plan stock levels and availability. So the Internet actually offers retailers chances to attract customers and make them visit their shops, gather various data on the customers to serve their needs better and merge physical and online shopping.

With the usage of mobile devices shops can attract customers walking by outside, with advertisements, special offers or simply presence on the Internet that makes the brand known to more people.
In-store

As soon as the customer is in the store, the virtual pre-store experience gets enriched by knowledgeable staff and touchable products. A potential value flow in the shop displayed below, starts with step one. If a product the customer wants to buy is out of stock on the shelf, an application can send a notification to the shop to fill the shelf and once filled inform the customer of the availability of the product.

Additional information on products can be made available via tags at the shelf edge or on the product through the customer’s mobile device (step two). Even additional personal support can be ordered and delivered through the mobile (step three). Retailers build on the physical experience and the consulting service, while reducing costs for these with better standardized information that is easy to be gathered for the consumers (step four).

A crucial factor is very friendly staff to get a personal relationship started. Additional offers that can’t be provided through the Internet because they are dependent on the mood of the buyer or preferences that can only be identified by physical staff interaction are an advantage to be offered in physical shops.

Loyalty advantages are offered directly through the data collected on the purchase, additional cards or coupons do not need to be carried around and the customer gets the best personalized offer available immediately (step five). Loyalty cards are already widely in use and might be used to find out more about the preferences of the customer, to develop special offers based on the needs, define patterns and trends to build a connection and a certain dependency to make the customer a frequent buyer at the shop.

In addition, staff at the shop need to be aware of Internet offers in order to provide counter-offers in the store and be prepared for in-store negotiations and bargains. Usage of a virtual basket makes the customer independent in the way of shopping and improves the speed of the checkout and payment process (step six and seven).

Furthermore, physical shops can attract the customers with leisure or social experiences like in-store coffee shops to make the customer stay in the shop and feel at home, providing the chance for more goods to be purchased. Nevertheless, the physical social interaction, the connection to social networks is important, attracting friends to join a person in the physical shop or to be a reference for a later purchase, provide retailers with the chance to gather big volumes of data that can be analyzed and used for upselling.

Other trends introduced in stores are related to the use of digital signage as a new interactive visual merchandising tool that wows shoppers & drives sales for the retailers and the brands being showcased in this innovative way:

- 30% of retailers invest in digital signage 2013 (IDC Retail Insights)
- 50%-60% of retailers increase digital signage budgets in 2014 (IDC Retail Insights)
- 22% CAGR (Compound Annual Growth Rate) till 2015 in Digital Signage EU market (Futuresource)

![Figure 2: In-store services](image)
Post-store

The after sales service can make the shopping experience even more convenient when the products can be delivered with just some clicks on the mobile. Also any warranty handling can be improved through online presence and easy to use processes for the customers.

Retailers and manufacturers can send a short survey to their clients to check their reactions and react to any negative review or comment in a social network.

The better the retailers take care after a purchase, considering it the “purchase before the next purchase”, the more likely they are to have won happy and frequent customers.

Figure 3: The consumer journey (pre-store, in-store & post-store)
Technical Enablers

Looking at the technology, there are several technologies that will turn some of these opportunities into reality in the coming years. Their evolution and challenges are explained in this section.

Table 1: Technologies

<table>
<thead>
<tr>
<th>Technology</th>
<th>New Services enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Payment</td>
<td>Improve/speed-up checkout process</td>
</tr>
<tr>
<td>Smart labels (NFC, QR, barcode, image recognition)</td>
<td>Remove barriers that separate web, mobile and in-store commerce. Interact with products. Contextual pricing</td>
</tr>
<tr>
<td>Geolocation</td>
<td>Locate stores, locate products, geofencing services</td>
</tr>
<tr>
<td>Big data analysis</td>
<td>Personalised experience and services</td>
</tr>
<tr>
<td>Cloud (Service orchestration)</td>
<td>Shops do not need to focus on IT but on the customer</td>
</tr>
<tr>
<td>4G (or beyond) and better accessible Wi-Fi</td>
<td>Speed and better graphics instore</td>
</tr>
</tbody>
</table>

Mobile Payment => from secure transactions to contextual payment

Up until recently, Mobile payment was considered a dedicated channel, replicating the vertical legacy payment schemes without bringing real benefits to merchant or users, beside the convenience of a unique device.

The real breakthrough of mobile payment is its possibility to be fully integrated in the purchase experience in both proximity and remote situations:

- Consult product information instore, and pay directly to benefit instant promotion and to reserve your product
- Scan your product with your mobile, confirm payment, and leave the store without losing time waiting for a cashier to re-scan your product and accept your payment
- While in the restaurant, order your meal, pay for it, and get it delivered right to your table without standing in line
- Natural payment: just say “put it on Peter’s” while at the checkout without taking your phone outside your pocket, the cashier can check on his register that your phone is actually in the store, and that the registered picture matches the one in front of him, before confirming the payment securely.

These simple examples give an overview of the new opportunities for merchants and new experiences for customers.

Of course, the technical challenges are to manage this integration combining security and compliance for the payment on one hand, flexibility for merchant to create their own purchase experience and of course a smooth and natural user experience for the customer.

This implies mastering the technical challenges (NFC, 2D/QR, Strong authentication, Cloud payment, payment interfaces) and making them fit the merchant and user’s need instead of asking users and merchant to adapt to the technologies!

More details about Mobility Payment trends can be found in the Ascent White Paper “Advanced Mobile Payments” (http://atos.net/ascent)
Smart Labels => Full interaction with physical products

E-commerce shifted consumer's behavior from walking to the store to buy a product, to accessing a whole wealth of product information remotely and requesting new expectations regarding proximity, efficiency and service.

With mobility and new smart labels we can provide a similarly enriched experience in the store allowing customers to interact with products directly and get extended information when needed.

Table 2 provides a list with different types of labels including their main features.

Among them, Electronic Smart Labels (ESL) with NFC becomes a kind of “digital magnet” for shoppers’ smartphones in the store. They bring great and consistent customer experience seamlessly to leverage the different channels and increase sales performance. The first store fully equipped (50000 ESL with NFC) opened in October 2012 in Paris and several retailers started rollout. In 2013, more than 5 million of NFC ESL will be installed worldwide setting a new standard and a milestone for the store of the future.

Table 2: A list with different types of labels

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Proximity</th>
<th>Retailer adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcode (1D)</td>
<td>Included in all products as standard identifier</td>
<td>10 - 40 cm</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Requires a mobile camera to scan it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QR codes (2D)</td>
<td>Included in some products or labels to provide additional info</td>
<td>10 - 40 cm</td>
<td>Medium/Low</td>
</tr>
<tr>
<td></td>
<td>Bigger information storing capacity than barcodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Requires a mobile camera to scan it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image Recognition</td>
<td>Through the camera, the product is recognized when compared to image patterns previously recorded</td>
<td>10 - 30 cm</td>
<td>Low (growing)</td>
</tr>
<tr>
<td>NFC</td>
<td>NFC stickers for labels or NFC included in Electronic Labels</td>
<td></td>
<td>Very Low (depending on NFC devices growth)</td>
</tr>
<tr>
<td></td>
<td>Requires an NFC mobile to interact with it (easier and more natural than with the camera as previous ones)</td>
<td>2-10 cm</td>
<td></td>
</tr>
</tbody>
</table>

Geolocation => Outdoor and indoor localization.

The Internet revolution was to bring ubiquity to users. From my PC, I can connect to the entire world, place an order in a shop that is located on the other side of the planet, just as easily as I would order something at the store next door.

The revolution of the mobile services has been to bring back users in the real world, users not only expect to have the entire world in their pocket, but to have the entire world helping them in their environment. This revolution is called contextual computing, or smart mobility.

There are today a few technologies enabling this contextual geolocalisation.

- Geofencing, which is starting to appear on the latest generation of phones, allows the user to configure some specific actions when he enters a particular perimeter. For example to ask for special promotion when you arrive inside a store, to automatically receive special discount and be rewarded for passing by. Other usage can be to automatically announce your presence to the store, so that you can finalise your payment naturally just by saying your name to the vendor who can check your picture on his system and announce your presence to the store, so that you can finalise your payment naturally just by saying your name to the vendor who can check your picture on his system to validate the payment. Geofencing is a very powerful functionality, but the question of privacy is very important, and retailers must be transparent when activating such functionality in order to avoid global rejection by users.

- Beacons and Bluetooth Low Energy Technology will also facilitate location of devices and direct communication between retailers and consumers within the store.

- NFC tagging: whenever a user reads an NFC tag within a store, the system knows precisely the position of the user, based on the location of the tag. This enables the possibility of giving contextual information (local prices, route to a specific product in the store…) to the user.
Big data analysis => Using information to create personalized services

The connection between consumers, retailers and manufacturers produces a lot of data like every other connected organization. Data ranges from the search pattern of the customers on the Internet, through data gathered from customers that chose to be connected to the retailer, social network presence and mentioning (sentiment analysis), to in shop data from NFC usage, checked-in customers, consumed products to after care data gathered in the event of warranty.

The downsides are the storage, processing and management cost of such huge data volumes. Upsides, however, are the chance to harness and make sense of the vast quantities of heterogeneous data from disparate sources, gain valuable insights into market trends and opportunities, bringing genuine competitive advantage. The customer can be understood better making services fit to their personal expectations.

Market adoption relevant for retailers and manufacturers range from:

- **High-resolution Customer Knowledge:** derived from a complete “data footprint” of the instore and online connected customers
- **Advanced Forecasting:** from Pattern Based Strategy and AI-based Predictive Analytics
- **Enhanced Data Experimentation:** validating hypothesis by data, rather than “gut feel”.

More details about Big Data trends can be found in the Ascent White Paper “Open Source Solutions for Big Data Management” and “Data Analytics as a Service” (http://atos.net/ascent).

Cloud

Being up to speed with end user technology, being available on all possible channels of interaction with a customer and making use of the data gathered in these circumstances requires technical facilities. Retailers can leverage the advantages of services operated out of the cloud to run their shops physically and virtually:

- **Platform as a Service:** making available the physical shop experience on a virtual platform without investing in the infrastructure needed
- **Software as a Service:** being used in the shop to operate the checkout or information systems, can be up to date all the time through operation in the Cloud
- **Data Analytics as a Service:** the combination of Big Data, Pattern Based Strategy and Cloud technologies provides a model for this service, that can deliver real time results to the retailers, improving for example, personalisation of their services.

More details about Cloud trends can be found in the Ascent White Paper “Cloud Orchestration an real business need” and “PaaS making the most of clouds” (http://atos.net/ascent).

4G and better accessible WIFI

In-store apps will only be successful if connectivity is available to deliver speed and better graphics to their connected consumers. Free WiFi can be provided at check-in, to personalize services once the user is identified. According to an OnDeviceResearch survey, 74% of respondents would be happy for a retailer to send promotions while they’re using instore WiFi. This is an opportunity to change the current situation where visitors are anonymous in their shopping habits in the store.

Additionally 4G mobile will be around five times faster than third generation technology and retailer instore apps can only get better when this technology is fully deployed.

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Benefits

In the hybrid world of combining the physical store without interrupting the consumers’ digital experience, business and consumer benefits should be balanced. We believe that the adoption of new technology will not be successful otherwise.

‘Benefits’ should be defined in the broadest way ranging from financial rewards to, for example, a sense of belonging to a group, increased brand awareness or just a lot of fun in the store.

This overview provides examples of in-store technology showing the customer benefits, store benefits and brand benefits.

| Table 3: Overview examples of in-store technology showing the customer benefits, store benefits and brand benefits |
|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Customer benefits | Retailer benefits | Manufacturer benefits |
| Personalized offer based on loyalty | Good deal | Increase success ratio & turnover | Increase success ratio & turnover |
| | Reward for loyalty | Draw customers in for return visit | Extra opportunity to engage and promote |
| Extended product information on mobile | Diet info, developing a deeper understanding of impact on diet | Higher customer service | Higher customer satisfaction |
| | Allergy info, allergy warning | Relieves staff less questions | Branding opportunity |
| | Menu options | Dynamically updated, no shelf label adjustment needed | Improved information accuracy |
| | Product alternatives when out-of-stock | Option to deliver product information to educate staff | towards customer & store staff |
| Product comparison from the mobile | Easiness to compare products | Data collection on comparisons, conversion rates | Data collection on information request |
| | Get more information that does not fit on the shelf label | Cross-sell and up-sell opportunities | |
| | Get expert advice | | |
| | Personalized comparison | | |
| Product review and social network integration on mobile | See what other customers think of the products | Extends service to customer who is going to review the service anyway | Extends service to customer who is going to review your product anyway |
| | Friends or expert opinions | Increase Fun Factor of shopping | Data collection on product reviews, opinions, measure brand and product popularity, measure campaign impact |
| | Share your product preferences with your friends | Data collection on store and service reviews, improve experience | |
| | Send tips to your friends | | |
| | Review products in-store | | |
| Indoor location assistance | Easily find what you are looking for (not only goods but also services) | Improved customer service level | Draw attention to your in-store promotion area |
| | Locate friends or staff | Data collection on routes taken allowing to further optimize routing, path width, queuing, positioning the goods, effect of in-store promotions etc. | |
| | Possibility to request assistance at your location for a question or a complaint or cleaning request etc. | | |
| NFC payment at checkout | Phone is the wallet, no cash risk | No cash risks, safer | Opportunity to engage with the customer on the mobile device at checkout |
| | Less wait time, shorter queue, timesaving | No pin pad equipment investment | |
| | No plastic, more environmentally-friendly | Faster, more efficient flow past the cash register saving costs on staffing | |
| | Experience something new on device at checkout | No plastic saves cost | |
| Intelligent shelf (knows when empty) | High product availability | High product availability | |
| | Picking up product could trigger fun interaction, video etc. | Efficient replenishment in store | |
| | | Collect data on picking up and placing back on shelf | |
| | | High product availability | |
| | | Data on picking up and placing back on shelf | |
| | | Interactive shelf promotion | |
Adoption of the mobile channel

Consumer adoption
Mobility has been adopted by consumers in the shopping process, they use their camera to take a photo of an item they like and they look on the Internet for information about a product or to compare prices. In all these cases, they are obtaining real-time information that influences them in their purchasing and decision-making behavior. It is clear that there is a huge opportunity for retailers to take advantage, customers are in their shop, and provide personalized mobile services that meet their needs. But in all these actions, consumers are using generic apps on their smartphones rather than tailored apps from the retailer. One of the main challenges is that they download their app for the first time and afterwards they use it regularly. Which are then the main motivations for users to download a concrete app from a retailer?

- Improved shopping experience (dedicated payment line instore, priority services, receipt tracking, etc.)
- Incentivized through rewards (instant coupons, short-term location-based coupons, reward points in the mobile, etc.)

Initially consumers will start using basic functionalities (find a store, make a shopping list, get product information, etc.) and once they feel confident and see the value, they will access more complex functionalities (make a shopping basket, self-checkout, mobile payment, cloud tickets, etc.). It is important that all these functions are easy to use and they are designed with the consumer at the center, hiding the complexity of the technologies being used (NFC, image recognition, indoor location, etc.).

Many consumers have fears about privacy protection and their behavior being observed, therefore it is important that retailers avoid ‘Big Brother’ effects, taking into consideration end-user privacy issues. They will have to allow consumers to choose to be traced or make anonymous any data collected during the shopping process, ensuring social acceptance and position against lack of privacy in digital shopping. Consumers, however, have a long history of forgoing privacy in exchange for value and convenience. Examples range from Google’s free email services, Facebook social network or the use of CB reports in services such as Mint.com. The use of context in the delivery of mobile services must be positioned as helpful – the right balance between value/convenience and loss of privacy has to be found for every mobile service launched. It should be envisioned as ‘Big Mother’, providing information to someone who will take the best care of you.

![Figure 4: Value for shoppers versus share of personal information](image-url)
Retailer and Manufacturer adoption

From the retailer and manufacturer’s point of view we can observe three clear steps before they move from the current situation with no mobile solution to a situation in which the mobile channel becomes part of the core strategy.

Step 1 - Silo Applications (Enterprise Fragmentation on Mobile)

At this stage, enterprises introduce mobility in different initiatives to support concrete opportunities and needs (shopping list, recipes, store locator, etc.) but without a full mobile strategy. In most of these cases, these initiatives are standalone mobile apps (or with a minimum integration with backend systems) launched from a concrete department (IT or Marketing are the most common) allowing enterprises to explore the possibilities of the mobile channel and to raise awareness within the organization.

Step 2 - Mobile Strategy (Mobility as a competitive advantage)

Once organisations realize the potential of the mobile channel it is time to order with existing initiatives and the right moment to define the vision and the strategy of the company for the mobile channel. At this point it is crucial to have senior management sponsoring the initiative to ensure its success. It is the moment to deploy mobile solutions that improves the relationship with the client and provided added-value services integrated in the overall shopping experience that at the end will make sure that they buy more. A clear Mobility Plan for the next two years is approved at this step, with clear business and technology decisions. This plan will have to be reviewed at least every six months to accommodate technological and business evolution.

Step 3 - Mobile Platform (Mobile channel as core business strategic)

This stage should be the result of the Mobility Plan approved in the previous phase. Mobile services are fully integrated in the enterprise at all levels (integration with backend systems, integrated with new processes, etc.) becoming a new pillar in the core business of the company. It will allow for the full potential of new devices in the store, for the customers and for the mobile sellers, all of them contributing to a new enhanced shopping experience.

Figure 5: Mobility adoption steps for Retailers & Manufacturers

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Smart Mobility

Atos, through its Scientific Community, identified in 2010 that in mobility ‘Context is King’ (Ascent Journey 2014). This converted mobility into smart mobility, a new generation of disruptive smart applications that use information about the user’s context (such as sensor presence, identity, location) to deliver enriched services that adapt in real time according to the user’s situation to mobile devices.

Context-driven mobility enables analysis of the situation/context of hundreds of thousands of consumers in real time to deliver the right service, to the right consumer, at the right place and in the right timing of engagement.

Nowadays, Atos is recognized as the unique European company among the major Mobility Service providers, worldwide (Gartner, 2012).

Smart Mobility for retailers is one of the priorities within Atos with solutions like Mobiret (Mobility for Retailers).

**Mobiret** is an integrated mobile commerce platform developed by Atos for retail businesses that need to extend their marketing strategy to the mobile channel. It includes many innovative services that allow retailers to attract new customers and boost spending by facilitating a seamless new shopping experiences before, during and after the visit to a shop. It allows users to find nearby stores and be identified when they check-in, to find instore products and interact with them (obtain live product information, compare, add to shopping basket), to get real-time personalised promotions, to get information from previous buyers, to enable the self-checkout process using the mobile device and to access all tickets in the cloud.

Loyalty

Atos has more than 15 years experience building and managing proven loyalty services in different countries and sectors. Atos Consulting & Technology Services has developed a compelling service offering for organizations in CPG and Retail for Loyalty Management and Mobile Commerce. This provides our customers with an integrated business-driven strategy in either of these two fields, and is supported by state-of-the-art processing services, which are unique in today’s world. Atos can also offer real-time loyalty platforms in collaboration with key partners.
Next generation of Mobile Payment services

Atos, and its subsidiary Worldline, is a major player in Europe’s payments sector. In addition to being a major processor of classic electronic payment methods and credit card schemes, it is already a technical provider for several of the Mobile Payment methods in use across Europe. Mobile payment is re-inventing the customer-to-merchant experience; some solutions already provided by Atos are summarized here:

- **Atos NFC Mobile Wallet: Your mobile is your wallet**
  - Your card is dematerialized in your mobile phone
  - To pay, wave your phone in front of the payment terminal
  - Loyalty, offers and couponing can also be in your mobile

- **Atos Cloud Payment: No need to queue up for ordering**
  - Order and pay on your mobile
  - Simple and secure online 1-click payment by mobile
  - Enabling both m-commerce and in-store online payment for self-service shopping

- **Atos Mobile Acceptance: Payment card acceptance on merchant smartphones**
  - You give directly your Credit card to the seller who provides you some advices on the product
  - Mobile POS fundamentals
  - Digital contents usage
  - E-learning requirements

- **Atos Benefits form the online/ in-store convergence**
  - Make a first selection online and confirm it while in store
  - Benefit from special offers
  - Pay directly on your mobile
  - Choose your delivery options

OmniCommerce

During the last decade, Atos has been developing complex, innovative services for the retail sector across hundreds of successful e-commerce projects delivered as Software-as-a-Service (SaaS) on a pay-per-use model. This has evolved to the Atos solution of Omni-Commerce, as the seamless integration of physical and digital sales channels to provide a single, unified and engaging experience for any consumer, allowing them to search, compare, share and buy anywhere, at any time.

All these offerings are provided by Atos with a unique risk and revenue sharing business model based upon the client’s business criteria.
Future trends

Looking further into the future one can imagine engagement of consumers with physical stores and with products on a whole different level. Products in stores could interact with shoppers and reveal their lifecycle. Where have the products been? What are they made of? Which people were involved in production? With the growing environmental awareness and interest in the origin of products this would add a totally new and enticing dimension to the shopping experience, especially brands and shops that invest heavily in traceability, ecological footprint and cradle-to-cradle principles. With the increased bandwidth and graphical capabilities of our mobile devices, combined with the ability to handle big data, this is within reach.

As with the interaction with the products, the interaction with retail store staff could change dramatically. Imagine when entering the store, you could indicate your mood, varying from happy, inquisitive, bored, disappointed, curious etc. allowing the staff to respect your mood and surprise you if you want or just allow you to shop uninterrupted. And why would you want to engage with retail staff only in the store? Maybe you want to speak to them when you have a question upfront or after purchasing your product at home you need their help in installing the product. They can easily look over your shoulder just as you can look over their shoulder using videoconferencing possibilities that will be commonplace.

Once retailers are adopting these technologies and providing new experiences in shops (scan products and send to home or pick-up at the exit, no cashier, etc.) they will also have to redesign the store of the future to better accommodate all these new behaviours and opportunities. Replacement of a product lineal by sample products or even only a photo when feasible (commodity products) might also change the appearance of these new connected stores.

New wearable devices will also appear complementing and extending some of the new uses already introduced by smartphones. Will internet-connected glasses enable new ways of shopping? Will your eyes replace the camera to scan a barcode or identify a product directly?
Conclusion

Retailers and manufacturers will provide an enhanced shopping experience to their customers by reinventing the interaction with them and the full shopping ecosystem. The physical store becomes part of a whole experience based in the concept of hybrid digital distribution, designed for connected consumers, “always on”, and thought as a brand new end-to-end shopping experience which includes the asset of the physical store, without interrupting the consumer’s digital experience.

Retailers will reinvent the physical store as we know it today, by bringing e-commerce services while strengthening the advantages of instore shopping. Data will be key in this transformation, to make shopping a truly user-centric experience and facilitate the appearance of new services, not only for customers, but also for retailers and suppliers.

Strong IT players in this field should be in a position to provide end-to-end services with proven knowledge and expertise in the main technological elements facilitating this transformation: Smart Mobility, Payment, Loyalty and OmniCommerce, also with a clear innovation approach that will allow them to continue generating disruptive ideas to generate growth.

However, technology will remain the means and not the end. Ultimately, what will make stores interesting in the future is the same thing that makes them interesting today: the physical experience of being there, talking to real people who know their products, touching such products and the unbeatable joy at leaving the store with the product in your hands. It is using technology to bring the user to the center of the action and to take advantage of all these instore differentiators, that what will shape the shopping experience of the future.

Figure 7: The new full shopping ecosystem

<table>
<thead>
<tr>
<th>Retailer Services</th>
<th>Supplier Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REDUCING SHOWROOMING</strong></td>
<td><strong>REAL-TIME COUPONING</strong></td>
</tr>
<tr>
<td>Contactless Price/NFC/QR Code Tags will enable easy tap services &amp; products interaction</td>
<td>Loyalty services for Suppliers based on customer intimacy in-store</td>
</tr>
<tr>
<td><strong>OPTIMIZING ENGAGEMENT</strong></td>
<td><strong>DELEGATING MARKETING</strong></td>
</tr>
<tr>
<td>Specialized Services to enable self-check-out in your processes</td>
<td>Delegation Services of marketing and part of the sell support to Suppliers</td>
</tr>
<tr>
<td><strong>EMPOWERING SELLERS</strong></td>
<td><strong>STORE &amp; NET DATA</strong></td>
</tr>
<tr>
<td>Specialized Tools to win sales efficiency and increase customer service level</td>
<td></td>
</tr>
</tbody>
</table>

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Videos

Tap&Pay
Watch how consumers interact with retailers using their mobile phones for smart shopping.

Omnicommerce
Take a look at our digital solutions ready for the connected consumers era.
About Atos

Atos SE (Societas europaea) is an international information technology services company with 2012 annual revenue of EUR 8.8 billion and 77,100 employees in 52 countries. Serving a global client base, it delivers IT services in 3 domains, Consulting & Technology Services, Systems Integration and Managed Services & BPO, and transactional services through Worldline. With its deep technology expertise and industry knowledge, it works with clients across the following market sectors: Manufacturing, Retail & Services, Public sector, Healthcare & Transports, Financial Services, Telco, Media & Utilities.

Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. It is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is quoted on the NYSE Euronext Paris market. Atos operates under the brands Atos, Atos Consulting & Technology Services, Worldline and Atos Worldgrid.