LEVERAGING TECHNOLOGY TO TRANSFORM TRADITIONAL RETAIL

Digileap Whitepaper
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Challenges of Retail Industry

Retail industry has been through a lot. The Internet has played havoc with traditional departmental stores and their supply chains, and though the notice has been there for a long time, individual preferences of immediate gratification largely expressed as “satisfy me anytime, anywhere at a price I am ready to pay” and the resulting supply chain challenges has led to many new competitors who have used technology well, to break the entry barriers and eat into the incumbent’s traditional share of the market.

Traditional stores have also responded by launching initiatives spanning across from web presence to supply chain management – however – when taken as a whole, the traditional industry’s response to competition and to the customer, to their own existential threats and to their leveraging of technology to create addictive experiences - has been anaemic.

This whitepaper deals with the key trends and many of the customer expectations, trends and opportunities for the Retail industry players to react and establish their leadership.

Trend Cause

The following major changes in the eco-system are the drivers of the changes that are happening:

**Shifting Customer Preferences** - Anytime, Anywhere, My Price - On time In Full

**Shrinking Supply Chain Time** - From Design to Customer to Cash

**Emerging Ecosystems** - Online marketplaces, Data Aggregators, Web Aggregators

**Payment and Delivery Rails** - Real time Payment platforms, Flexible Fulfilment (same day delivery, pick up from store, ship to store, etc.,).

**Emerging Technologies** - IOT, AI, Block Chain, RPA, Wearables

Most Retailers are facing the might of new players such as Amazon's convenience, swift delivery and low pricing and find a way to react to it. Losses of the market share and margins by such traditional players are significant. Not just that, the ability of Amazon to operate at a loss versus such traditional players who are always measured on traditional variables has made the battle un-even.

Facing such upheavals, the traditional departmental have to transform and do that rapidly.
Macro Change 1 - Transformation Needed in Retail Supply Chain

Increase in Complexity of Supply Chain

Supply Chain is becoming increasingly complex due to the proliferation of multiple factors both on the part of Products and on the part of Customers.

Fig 1 – Complexities of Products as well as the Channels and Customers leading to Complexity of Supply Chain

Given this complexity, Demand Driven Supply Chain can be more effective by moving away from traditional linear supply chain models to network based models. This allows all players in the Supply Chain to become part of one virtual organization and create the ability to become better and more effective collaborators as they share big data across the network and respond quickly to customer demand signal.

Companies have demonstrated higher sales, lower supply chain operating expenses and working capital improvements by adopting this approach.
Traditional Supply Chain

Fig 2 – Traditional Supply Chain adds Delays of Information Flow to that of Material Flow at each link causing the Supply Chain to become out of sync with market needs (numbers are for illustrative purpose only).

In this hypothetical example, a delay of 8 days gets added in the traditional supply chain link leading to a delay of over 32 days with T1.

Next Age Supply Chain

Fig 2 – Network Model allows Information flow to be immediate to all participants of the virtual network while material flow takes its required time (numbers are for illustrative purpose only).
How Technology Can Help

Right process and technology can be leveraged to establish the right model for the Demand Driven Supply Chain. Broadly one can speak about the changes introduced as Demand Side Changes and Supply Side Changes, as outlined below.

On the demand side

- **Collaboration Model** - As mentioned above, adopting a Collaboration model between upstream and downstream channel partners with VMI or Consigned inventory management can help give better and more accurate visibility and eliminate violent swings in inventory in response to shifts in customer demand.

  *Technology* – Supply Chain Community Portals/Exchanges, e-Procurement, e-Auctions, IVR, Remote Collaboration Products, Voice and Video technologies

- **Create Data Repository of Buy Signals** – By creating Data repository from the data at the point of Sales, organizations can have access to the source of consumption such as POS and fine tune their planning.

  *Technology* – ETL, Data Lakes, Big Data, e-POS, Micro Services, Artificial Intelligence

- **Use of Inventory Optimisation and Balancing tools and Distribution Requirement Planning tools** can reduce stock-outs as well as having excess inventory.

  *Technology* – Optimisation Algorithms, Planning Tools, Artificial Intelligence

On the supply side,

- **Planning Tools** - Increase of planning frequency can help get the alignment between Demands and Supply better as well as eliminate information latency.

  *Technology* – Optimisation Algorithms, Planning Tools, Artificial Intelligence

- **What-If Analysis** - Conditional analysis to look into intraday demand – supply changes can be quite helpful esp. for intra-day or high priority demands

  *Technology* – Artificial Intelligence, ETL, Simulation tools

- **Real Time Inventory Monitoring** - Store Inventory in Semi-Finished Status where possible and do final assembly when firm orders are received
**Technology** – *Warehouse Management, Sensors, IOT*

- **Next Gen Warehouse Management** – Integrated next generation warehouse management with the help of robotics to speed up and run error free operations

**Technology** – *Warehouse Management, Sensors, IOT, Robotics*

- **Smart Process Automation (SPA)**

Only Automation in back-office or middle-office is not enough anymore. Intelligent Automation is a must and is a more sophisticated approach by integrating the best of RPA (Robotic Process Automation), adding elements of cognitive automation (machine learning, dynamic adaptation) and blending them together with a sophisticated process engine and outward facing interface that enables human interaction as well as intelligent decision making to cope with the kinds of complex non-linear, recursive and iterative processes that have typically always needed a person to drive.

SPA can therefore process a greater variety of more complex tasks than desktop based Robotics (i.e. standard RPA) ever could.

**Macro Change 2 - Transformation Needed in Creating Digital Experience**

A major part of creating digital experience for the customer lies in identifying the specific venues and creating venue-specific lasting experiences.

Modern technologies offer a great opportunity to provide branding, convenience and create customer loyalty opportunities at the retail venues.

**How Technology Can Help**

*Digitalize*

  1. **User “E”xperience Personalization**

Much like Robo Advisors for Wealth Management, a Store Advisor can recommend fashion trends and provide the ability to have a collage view or a specific apparel view of the person using Augmented Reality technologies.

As an example, through the use of Augmented Reality and Facial Recognition, the General Manager of the Store can offer a Live Coupon for buying an expensive suit to a loyal customer.
Specifically, the personalized and branding experiences delivered through IOT can build loyalty. Below in the diagram are a list of different IOT mechanisms that can be used for different types of Retail organisations – spanning across Intelligent Shelving, Wearable Applications, Virtual Dressing, Digital Signage, Consumer Engagement Apps, Customer Authorisation, Payment Solutions, Virtual Mirrors, Indoor Navigation – specifically for Specialist Retailers.

### Technology

1. **Robot Bagger – Robotics**
2. **Robot Advisor – Analytics, Big Data, Micro-Services**
3. **Segmentation Engine, Cross Selling, Next Best Offer - Analytics, Big Data, Micro-Services**
4. **Mirror Viewing - Augmented Reality**
5. **Delivery of User Experience through Point of Purchase Displays - e.g: Personalized Greetings on Store Entry – Facial Recognition**
6. **Personalised Offers – IOT, Augmented Reality, Facial Recognition**
ii. **Everything – Now and Here : Instant Gratification**

i. **Same Day Delivery**

Operationally, the back end needs to be integrated so that any item purchased off from the store or Web can be delivered directly.

Today, Gucci and FarFetch have an arrangement to deliver within 2 hrs in the same city. Similarly, Ounasstocks in Dubai has a requirement to deliver within 2 hours in Dubai and within the same for Emirates and GCC Countries.

This requires API level integration between the Transportation Systems and the POS system. Ideally, all of it should be driven and parametrized in such a way that a third party operator can be easily plugged in.

*Technology* – API-fication, Open POS Engine, Mobile Technology, GIS

ii. **Deliver Store Experiences Away from Store**

As a part of the brand building exercise for the store, efforts need to be made to deliver an addictive experience of the Store while customers are at their homes or at other locations through Use of Mobile technology.

As an example Mobile technology can be used to get Invitation Applications done, which can invite existing Customers to Launches of New Stores, New Brands, New Merchandise through Streaming.

*Technology* – Streaming Technologies, Customer KYC Applications, Video on Demand – e-Auctions, Augmented Reality, Integrated Mobile Event Management and Invitation Apps

### How Digileap Can Help

Digileap is an industry expert in Retail Technology across a wide Technology Stack. Digileap Talent COEs of Digital Experience, Analytics, APIfication and Micro-Services, BPM, AI, Data Analytics, IOT, ERP, Supply Chain and DevOPS. Specifically, the transformation in Retail industry will require technologists with Retail background and knowledge of one or more of the topics - Platforming for Data and Big Data, Mobile, Supplier Self Service Exchange, Micro Services, API-fication of key capabilities, Business Process Management and Workflow models, IVR Support, AI for planning, DevOPs, UX.

Finding such specific talent is not easy and therefore Digileap Talent COEs can help its customers by identifying the required talent for its customers through executive Search and for the middle and junior talent – launch permanent staff recruitment campaign in collaboration with the Talent Acquisition arms of its customers.

In addition, when required, Digileap Project execution teams can also conduct specific Technology engagements in all areas of technology on a fixed bid or T&M basis.