A First Step: Understanding Application of Digitalization in Retailing

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Abstract: Retailing operations are labor-intensive thus prone to human errors. Digitalization is a need of the small or big retailers to efficient in doing procurement, inventory, display, Selling, relationship management within the bounds of capital, labor and space. Thus, digitalization is necessary to talked, studied and practiced in retail industry so that the Indian retailers could leverage its capabilities. This research paper covers the first step towards understanding of Digitalization and related concepts by illustrating the various initiative taken by giant retail firms in past decade. This research paper is also an attempt to clear the myth among retailers that digitalization is an evil and it can be cup of tea of giant retailers only to wipe out the retailing business of small retailers. How digitalization can be, achieve in retail business to scale up the turnover addressed.

Index terms: CRM, Cloud Computing, Data driven, retail-consumer, transformation, digitization

1. INTRODUCTION

The rise in adoption of technologies has bedeviled retail organization worldwide. Technologies like e commerce, m commerce, payment gateways, Internet of Things (IOTs) and lot more has made switch the customers from physical retail to digital retail. The trends (majorly of US) like:

- Online shopping led to 9000 stores close down by 2017, and it may increase up to 12,000 in 2018 (Peterson, 2018)
- The e-commerce, ePharma and eGroceries more new categories will come up. The % of total reatail sales rised from 9.3% 2017 to 12.0% by 2020. (Source: Company filings, Department of Commerce, Cushman & Wakefield Research)
- Outside of the 2009/2010 downturn in consumer spending during the Great Recession, consumer spending has been consistently on the rise, even as retail bankruptcies and closures have accelerated. (Source: TradingEconomics.com, US Bureau of Economic Analysis, Cushman & Wakefield Research)

2. RESEARCH METHODOLOGY

The study has two parts. **First Part** – It deal with the Applications Of Digitalization's and Decision Making that are being adopted by the retailers globally and the **Second Part** deal with the **software solution** available by the software companies to support such digitalization and decision making.

The retail industry has seen radical changes in past two decades in the way the business functions of retailing are doing their routine operations and decision making in real-time therefore the methodology to keep review of all ongoing software applications provided by the various Software solution providers.

2.1. Population and Sample

All those who provide the software application software globally and are renowned as expert solution providers specifically that caters to the retailing management requirements in digital way. However only three software providers have been included in this research are as follows: HCL, IBM and Sisense.

2.2. Data and Sources of Data

The data collected is of secondary in nature and it is in two sets of data

As per the nature of the research the two sets of data (set of information) is required. *First Set* consists the application of digitalization in retail that are commonly used in retailing in US and UK chiefly.

The *Second Set* consists of Software applications developed or provided by the Software Companies taken in sample.

The *First Set* data (set of information) collected from numerous freelance agencies and authors that review the upgradations in the field of retailing.

The *Second Set* of data is compilation of as provided software applications and their capabilities (digital in nature) as provided by the websites of their solution providers (as per sample)

3. APPLICATION OF DIGITALIZATION IN RETAIL

There are 11 technologies and their specific application is now days practiced. These are energizing the omnichannel retailing and boosting the retail sales many folds making retailers business sustainable. These technologies either in combination or solo along with the physical outlets are being applied and those retailers who had understood it have managed to safeguard their enterprise and the employment both. These technologies are as follows: -

1. **Digital Marketing:** as the retail consumers feeling comfortable purchasing at home through website, mobile Apps or voice search, digital marketing has become crucial for retailers. As per the RetailNext, Inc., the worldwide leader in applied Big Data retail analytics for brick-and-mortar stores said that "Retail Store Sales and Traffic Suffer Double-Digit Declines". (RetailNext, 2019) Therefore, Digital marketing has become an essential way of marketing. With this technique one can easily reach out to selective audience and could save effort and cost.

2. **Augmented Reality (AR):** it is completely changing shopping experiences. Consumers can now virtually try on clothes or test products via AR. **For example**, within Sephora's mobile application, users can virtually sample makeup in real time. By placing filters over their live selfies, users can see what makeup products would look like on their faces, explained Solis in his Leading Trends in Retail Innovation report.

3. **Virtual Reality (VR):** According to Forbes. VR is helpful for visualizing and redesigning stores, and testing different layouts without having to physically rebuild the store. **Example:** Retailer Rebecca Minkoff is using VR to plan store organization that is most convenient and logical for the consumer's preferences. In its first experiments with virtual reality started in 2014, when the technology was far buzzier, the brand showed its fashion shows in 360-degree VR using Google Cardboard.

4. **Sales Fraud detection and prevention:** PetSmart is catching criminals through high-tech methods, and in year 2016 saved *$12 million* by pinpointing fraudulent orders before they were shipped. By tracking online fraudsters in 2017, PetSmart was able to cancel nearly *$4 million* in fraudulent orders. After labor loss, shipping costs, merchandise costs, chargebacks, fees and fines are added, that could translate to $3 to $3.50 for every dollar in fraudulent charges, for an annual total of about $12 million. PetSmart uses Kount's AI/ML-powered BOOST Technology.

5. **Analytics:** the retail analytics have various applications in Sales, Inventory, customers and enable merchants to take better decisions related to retail businesses. But one application which is crucial for any retailer is that it can also recommend the customers based on their past purchase history. This is a wonderful way of influencing the customers. Therefore, retail analytics is used to help make better choices, run business more efficiently and deliver improved customer service analytics. (sisense, 2021)

6. **Omnichannel Retail:** it means technology that enables multiple presences on various channels of retail and all the channels are in sync with each other.

7. **Artificial Intelligence:** it optimizes the consumer experience by reducing queues in the billing, replenish stock in real time.

8. **Sensor Data :** These are trackers attached with assets so that their tracking is possible, prevent damage by mishandling, enable the correct place of assets, like carts and baskets

9. **Facial Recognition:** Shoplifting is a common phenomenon in retail, with facial recognition retailers can identify the shoplifters by matching the face of customers with shoplifter databases. If this feature clubbed with Artificial intelligence then it may also possible to figure it out the possible shoplifters. Therefore this enables preventive action rather reactive and could save huge loss of resources.

10. **Cloud Service: "***the retail cloud market is expected to grow to more than $28 billion by 2021"* (Wilson, 2021) All the digital services perform well if they are fetching data from cloud in real time. Thus in UK and US more and more retailers are adopting cloud service.

4. SOFTWARE ASSISTED RETAIL DECISION MAKING

Following are the decision making often needed by the retail managers. These decisions are crucial for retailing in several ways. Following are the decisions:

Table 1: Various Software Assisted Retail Decision Makings (self)

Function	Decision making
Marketing	Promotions, access to coupons, geo fencing (digital marketing) etc.
Supply chain	Tracking of shipment, ensuring the quality of goods during transit, merchandise plan etc.
Portfolio management	What to offer, what to sell, how much to sell, when to sell, optimizing retail formats etc.
Improvement	New opportunities identification, bringing up-gradation etc.
Coordination	It is within the organization among the employees as well as outside with the suppliers, communication with trading partners.
Business monitoring	It is day-to-day records keeping, employee's performance monitoring, etc.
Audit	Vendor audit and compliance
Consumer experience	It covers in store experience through websites and apps, purchase, payments etc.

5. COMPANY WISE DIGITAL SOLUTIONS FOR RETAILERS

HCL – Retail Connect, Food Safety and Traceability, Portfolio Optimization, Ocean, Retail Enterprise Collaboration, Integrated retail planning, My Store Dashboard, Mappin, Vendor Audit and Compliance, BlinkE-On Demand Ecommerce, Real-time in-store insights.

IBM - Cloud services and retail analytics tools, Sales Assist

Sisense – Sales Data Analysis, Predictive tool, Inventory management, e-Commerce Dashboards, Supply chain management, fraud detection.

6. CONCLUSION

Combining the above trend of retail consumers and the "applications of digitalization (use of software in retailing)" is for sure replace the traditional(physical) retailers. The sales at physical locations are not sufficient to sustain their business in long term.

They can adopt e-commerce (online presence) in addition to their physical outlet for better customer tracking and measuring the customer satisfaction. In India professional ways of doing business is somewhat rare in sight. Most of the retailers is still practicing age old methods of retailing which is now seem ineffective. The *functions* which are essential to *retailing business* also need to be transform or *digitalization* to support real-time *decision making* and other useful *applications* in retailing.

It is like "Video kills radio stars" similarly soon people will say "online kills offline stars".

BIBLIOGRAPHY

Bayern, M. (2018, July 3). *10 technologies leading digital transformation in retail*. Retrieved from www.zdnet.com: https://www.zdnet.com/article/10-technologies-leading-digital-transformation-in-retail/

Brown, G. H. (2018, March 22). Disruption:US Retail in the Age of Amazon. Chicago. Retrieved from https://www.cwretailinvestmentadvisors.com/wp-content/uploads/2018/04/FINAL-03.22..18-Cushman-Wakefield-Disruption-US-Retail-in-the-Age-of-Amazon-Garrick-Brown.pdf

Chuprina, R. (2021, March 4). *Artificial Intelligence for Retail in 2021: 12 Real-World Use Cases* . Retrieved from https://spd.group/: https://spd.group/artificial-intelligence/ai-for-retail/

Crawford, C. (2017, December 29). *2017 Bankruptcy Infographic: Apparel Retail's Year of Reckoning*. Retrieved from www.sourcingjournal.com: https://sourcingjournal.com/topics/business-news/apparel-retail-bankruptcies-2017-76140/

Crawford, C. (2018, January 10). *Cushman & Wakefield's Retail Predictions for 2018 Are Not What You Want to Hear*. Retrieved from www.sourcingjournal.com: https://sourcingjournal.com/topics/business-news/retail-apocalypse-2018-cushman-wakefield-prediction-76866/

HCLtech. (2021, February 9). *Retail Services - IT Solutions for Rtail Industry| HCL Technologies*. Retrieved from hcltech.com: https://www.hcltech.com/retail-services

Lu, L. (2020, 11 6). *The Main Reason Why Brick-and-Mortar Stores Aren't Completely Going Extinct*. Retrieved from entrepreneurthearts.com: https://entrepreneurthearts.com/the-main-reason-why-brick-and-mortar-stores-arent-completely-going-extinct/

Marr, B. (2019, November 25). *The Top 10 Technology Trends In Retail: How Tech Will Transform Shopping In 2020*. Retrieved from https://www.forbes.com/: https://www.forbes.com/sites/bernardmarr/2019/11/25/the-top-10-technology-trends-in-retail-how-tech-will-transform-shopping-in-2020/#163932134e03

Nagel-Martin, I. (2016, May 2). *Digital Business Modeling: A Structural Approach Toward Digital Transformation*. (SAP) Retrieved October 28, 2019, from news.sap.com:

https://news.sap.com/2016/05/digital-business-modeling-a-structural-approach-toward-digital-transformation/

Peterson, H. (2018, January 1). *A tsunami of store closures is about to hit the US - and it's expected to eclipse the retail carnage of 2017*. Retrieved from www.businessinsider.in: https://www.businessinsider.in/retail/a-tsunami-of-store-closures-is-about-to-hit-the-us-and-its-expected-to-eclipse-the-retail-carnage-of-2017/articleshow/62326467.cms

Prause, J. (2016, May 11). *Digitization vs. Digitalization – Wordplay or World View?* (SAP) Retrieved October 28, 2019, from news.sap.com: https://news.sap.com/2016/05/digitization-vs-digitalization-wordplay-or-world-view/

Rawlings, K. (2021, March 4). *How IoT Technology is Revolutionizing the Retail Industry*. Retrieved from mytotalretail.com: https://www.mytotalretail.com/article/how-iot-technology-is-revolutionizing-the-retail-industry/

RetailNext, I. (2019, December 4). *Retail Store Sales and Traffic Suffer Double-Digit Declines in November*. Retrieved from https://retailnext.net/: https://retailnext.net/en/press-release/retail-store-sales-and-traffic-suffer-double-digit-declines-in-november/

sisense. (2021, February 8). *What is Retail Analytics? | Sisense*. Retrieved from sisense.com: https://www.sisense.com/glossary/retail-analytics/

Wilson, M. (2021, March 6). *5 retailers using cloud to improve services*. Retrieved from ibm.com: https://www.ibm.com/blogs/cloud-computing/2017/12/06/5-retailers-cloud-improve-services/

Winkler, N. (2021, February 9). *Omichannel Retail Simplified*. Retrieved from shopify.com: https://www.shopify.com/enterprise/omni-channel-retailing-commerce-what