Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 5 Issue 1 (2025)

Will Personalized Customer Experience using AI for Organized Retail outlets replace the human interaction.

Ms. Gauri Gandhi
B.E (AI&ML) final year student
AP Shah Institute of Technology, Thane.
Dr. Harshall Gandhi,
Asst. Professor,
Prin. L.N. Welingkar Institute of Management Development & Research.

ABSTRACT:
Customer Experience is the way forward for the organized retail outlets, and every retail chain is doing their best to provide ease of movement and convenience, currently the focus of organised retail is on ease of access, check in and check out, and different mode of payment, while the customer physical visits the retail. This trend is now shifting towards advanced personalised service, using deep learning models of AI, so as human intervention is completely avoided, and the same level of engagement is still maintained by the organized Retail chains, even though e-commerce is here to stay and grow, this paper tries to understand, if the age old concept of sales, which states, "people buy from people" will it still hold true, or will there be a paradigm shift in the way people buy.

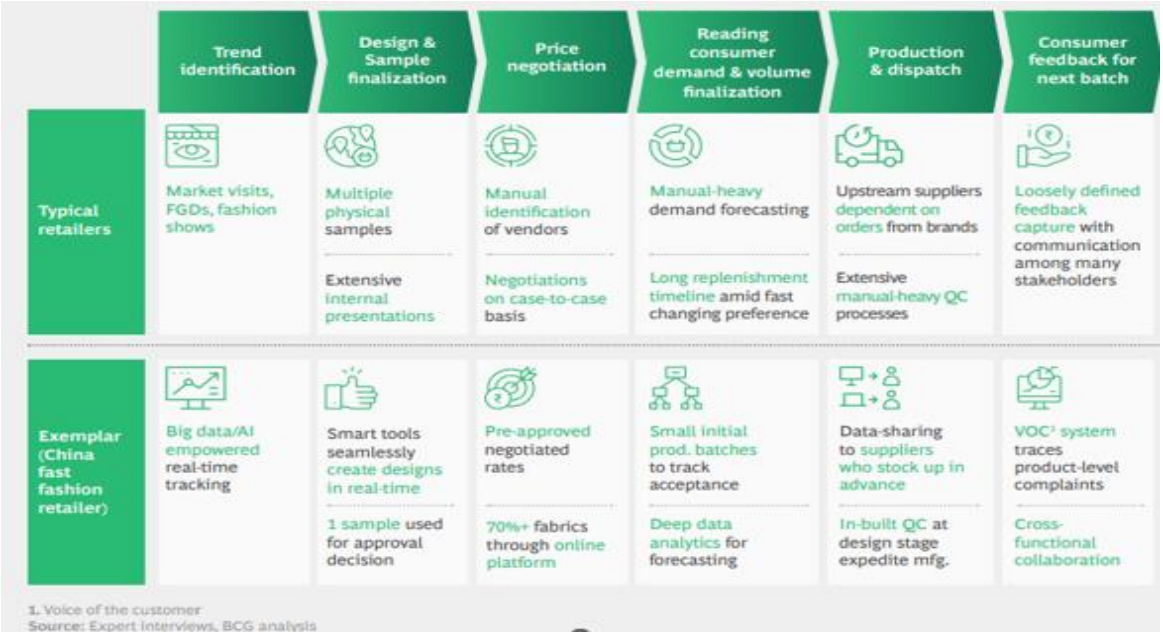
Key Words: Deep Learning, AI, Customer Experience, Organised Retail,

1. Introduction:

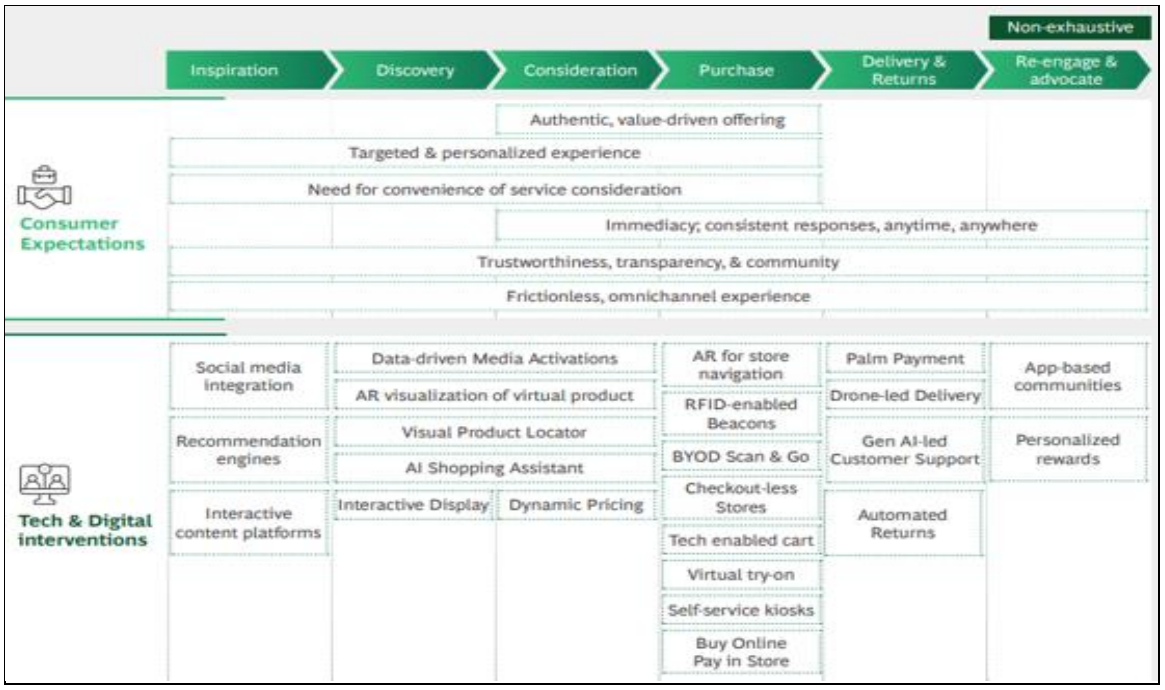
Retail establishments can be categorized in a variety of ways according to factors like location, the merchandise, marketing technique, and space, etc:

a. **On the basis of space:** Hypermarkets, Large Supermarkets, Mini Supermarkets and Convenience Stores.
b. **On the basis of location:** Traditional (Weekly Haats and Bazaars, Melas), Indigenous (Mom and Pop Stores, Kirana Stores), Contemporary (Public Distribution System (PDS), Khadi Stores, Co-operative Stores), Modern Retail Stores (Shopping Malls, Hypermarkets, Supermarkets, Convenience Stores) and E-commerce (Online Stores).
c. **On the basis of product merchandise:** Retail food, cosmetics and health products, durable or hard goods, soft goods, leisure, and personal items.
d. **On the basis of marketing techniques:** Hypermarket, Supermarket, Convenience Store, Department Store, Warehouse Store, Shopping Mall, Flea Markets, Discount Store, Mom and Pop Store, General Store, Specialty Store, Boutique, Value Retailer, Category Killer, E-tailer, Catalog, Direct Selling, Television Shopping, Vending Machine, Kiosk Stores, Automated Retail Stores and Services Retailing.

Technology in Retail:
Delivering agility and use of technology across the retail value chain, use case of Exemplar.



Technology and digital can help deliver on evolving consumer expectation as below:

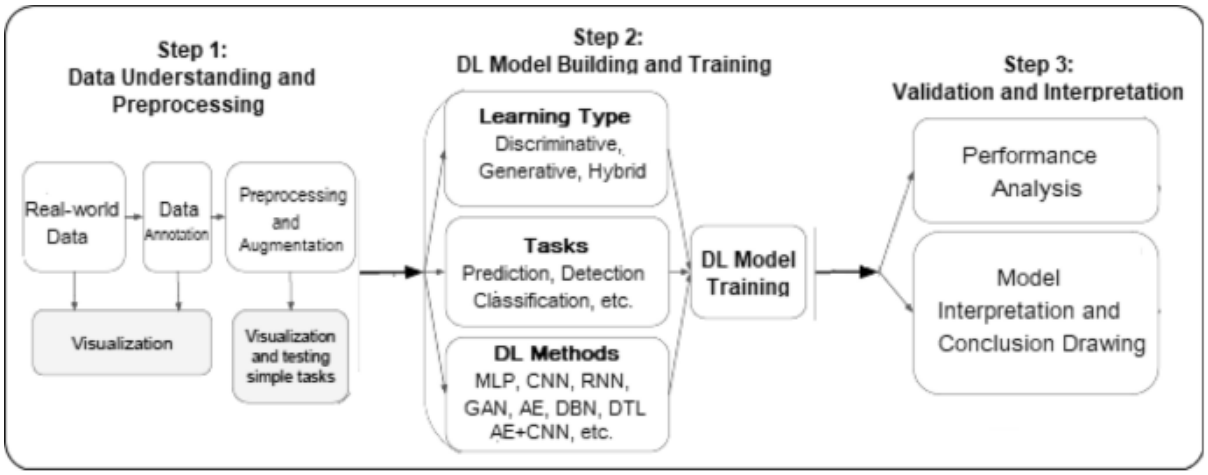


Retail in India is expected to grow at 9% -10% to reach $2Tn in the next decade.

2. Literature Review:

Using artificial intelligence in retail

For retailers aiming for the epitome of AI sophistication — where the technology shifts from predictions to making decisions autonomously— investing in infrastructures like RFID and IoT and fostering a unified data ecosystem are vital. The efficacy of AI can be increased by bolstering your company's AI capability with the necessary knowledge and change management techniques.



Three sequential steps make up a typical DL workflow to address real-world issues: (1) data comprehension and preprocessing; (2) DL model construction and training; and (3) validation & interpretation.

Personalization is the next frontier for retail success, but we must contend with tech-savvy consumers whose tastes are ever-evolving and who demand personalized, quick, and easy purchasing experiences. Because AI can instinctively comprehend client desires and create individualized services, it is the best instrument for meeting these expectations.

However, maintaining profitability involves more than just developing loyal customers. With its advanced analytics and predictions, artificial intelligence (AI) provides a strategic perspective that enables merchants to quickly adjust to changes in the market.

1. **Inventory management**: It's never easy to keep enough inventory on hand. AI forecasts future purchasing patterns, aligns inventory, and assists in identifying and removing inefficiencies that are a financial burden by merging supply chain analytics with client purchase data. Profitability is increased, waste is decreased, space is optimized, and customer happiness is raised.

2. **Demand forecasting**: Being ahead of the competition means understanding what demand will look like in advance, yet forecasting is extremely complicated and involves many variables. To produce precise demand forecasts, AI systems look at historical sales data, the state of the industry, and new trends. This level of accuracy reduces waste, restricts overproduction, and strengthens sustainability initiatives.

3. **Route planning**: A retailer's bottom line is greatly impacted by delivery logistics. Using real-time data and intricate algorithms, AI can overhaul delivery routes to limit transit times, reduce fuel consumption, and improve customer satisfaction. AI-based route planning helps companies manage changing conditions and avoid service disruption.

4. **Price optimization**: In order to be successful, retailers must continuously modify their price plans. In order to swiftly adjust prices, oversee promotions, and preserve profitability, artificial intelligence (AI) systems examine demand flows, rival pricing, buyer behavior, general market trends, and internal expenses.

5. **Assortment planning**: Conventional retail planning techniques and assortment tactics find it difficult to adapt to changing consumer preferences. AI examines consumer data to find

trends and pertinent characteristics that are typically hard to find through traditional means. This results in a product mix that is more individualized, local, or focused on the individual. By 2025, AI and automation will be used by all international multichannel fashion shops for customized assortments, predicts Gartner.

6. **Personalization**: A thorough grasp of consumer interests and behaviors is essential to creating a memorable purchasing experience. AI helps merchants create individualized shopping experiences that foster loyalty by analyzing data factors like customer browsing patterns and past purchases. The highest levels of engagement and conversion are guaranteed by strategically placed products and promotions. Value-creation opportunities for merchants include:

    1. Developing a superior customer offering made possible by innovative business models.
    2. Using digital and GenAI to create a smooth and customized customer experience.
    3. Using AI to challenge traditional models and unlock value chain efficiency.

Personalized Tailored Client Experiences

Offering a more individualized client experience is one of the most alluring advantages of generative AI for merchants. One way to achieve it is using AI shopping assistants. However, generative AI is capable of much more. For instance, by examining each customer's unique purchasing patterns and preferences, the technology can be utilized to develop personalized promos and offers. For example, if a consumer frequently buys eco-friendly products, the AI may create exclusive deals or package offers for them when they return. This can be carried out at scale and autonomously.

Additionally, highly customized loyalty programs that change according to each member's interactions with the company can be created using generative AI. Members may therefore be presented with challenges, incentives, or experiences that are specifically designed for them in place of a general point system.

Generative AI is being used by crafts retailer Michaels Stores to better learn how various client segments react to various messaging. As a result, it has increased the click-through rate for emails by 25% (and SMS campaigns by 41%), from personalizing 20% of email campaigns to personalizing an astounding 95% of email efforts.

Customized or Personalized Goods

Generative AI can be utilized to assist clients in creating their own distinctive, customized products in addition to making product recommendations that are likely to pique their interest. A generative AI tool developed by fashion tech experts Space Runners enables users to build their own distinctive outfits with just basic text inputs. The AI design tool, known as Ablo, enables people to successfully launch their own fashion brands. For brands, it offers incredible prospects for co-creation with their clientele**.**

AI discovers the optimal levers to pull with certain consumers, helps sales representatives better understand what's causing churn, and eliminates a lot of the guesswork involved in countering it. As a result, the distributor's top line increases due to an increase in client loyalty and lifetime value.

1. **Price optimization**: AI uses data science to provide salespeople the ability to tailor prices for specific clients. In order to generate highly segmented pricing recommendations that are most likely to resonate with certain customers, algorithms analyze vast amounts of data about cart activity, relative margin changes, and purchasing behaviors. It's crucial to remember that the distributor must also have strong customer segmentation tools in order to have pricing optimization capabilities like these.

2. **Personalize/Customize promotions:** Examine and enhance discounts, promotions, and other deals. AI can detect potentially problematic consumer behavioral trends to predict and lower the risk of customer attrition, as seen in the foodservice case previously discussed. In order to provide sales representatives the best chance of reversing such patterns, it can then recommend which levers they should pull, including new rebate models, promotional offers, and other specially designed offerings (like higher credit ceilings and longer payment windows). Both the capacity to assess individual client journeys and segmentation capabilities are essential in this field.

3. **Customized/ Tailored product recommendations:** optimize client appeal and profitability by configuring and improving value-added services. Distributors can use AI to help them develop enticing, long-term lucrative services (such predictive maintenance and kitting) that revolve around the goods they sell.

According to IDC, by the end of 2024, 33% of G2000 companies (essentially, the world's largest companies) will exploit innovative business models to double the monetization potential of Gen AI. Used with advanced analytics and modeling capabilities, Gen AI can offer recommendations on how to best set up and price a service to balance the distributor's profit margin and revenue with the customer's value.

4. **Predictive consumer insights**: to increase retention, highly tailor product and service recommendations. Why is a particular consumer no longer purchasing one of their best-selling items? How may you change the breadth or depth of your product catalog to stop a decline in sales within a certain, strategically important clientele? AI is capable of giving precise responses to these kinds of queries.

3. Research Methodology:

The Research Paper is based on Secondary study by Systematically searching articles published between year 2000 until 2024, reviewing the conclusions and context systematically in the databases as Web of science, research articles of Deloitte, and Scopus etc. Only the articles "comparing the use of AI for personalized customer experience in Retail and views of subject matter experts "were considered.

4. 4.Discussion and Findings:

RQ: **AI will assist retailers to provide more personalized service to customers and alternatively increase the loyalty and customer satisfaction.**

Customers' individualized experiences are improved when artificial intelligence (AI) is incorporated into retail shopping. AI in particular is poised to transform the retail sector by offering unmatched attentiveness, which will benefit both customers and businesses.

First of all, chatbots driven by AI provide immediate, customized support. They evaluate consumer data using AI algorithms and offer tailored discounts, vouchers, and promotions. An interesting purchasing experience is produced by this customisation.

AI also simplifies processes like inventory control and sales data analysis. It uses point-of-purchase (POP) and point-of-sale (POS) audits, for example. According to industry experts, this efficiency helps retailers make well-informed decisions and saves time.

Using AI To Personalize Shopping Experiences

AI is undoubtedly revolutionizing various industries, and among the most significant is retail. In fact, spending on AI in retail reached a staggering $8.41 billion in 2022. As a result, retailers are now harnessing the power of AI to enhance and personalize in-store and online shopping experiences.

Remarkably, according to the recent Capgemini Research Institute research (Capgemini, 2022), the use of AI produced remarkable outcomes, such as a 5% decrease in user attrition and a 9.4% rise in satisfaction. As a result, the retail sector's conversion rate has increased. Furthermore, it is anticipated that AI services in retail would rise significantly by 2028, rising from around $31 billion.

However, why is this taking place? Indeed, there is a direct link between increased income production and marketing customisation. Indeed, according to a poll, 63% of marketers said that customisation raised conversion rates.

Enhancing Retail Suggestive Selling Strategies: Suggestive selling, sometimes referred to as upselling or cross-selling, is a sales strategy that offers clients incentives to buy more expensive or related things. In retail, suggestive selling strategies aim to increase customer satisfaction while increasing the retailer's earnings.
A multitude of consumer data, such as purchases, website visits, and social media interactions, may now be gathered by AI. Algorithms using artificial intelligence can analyze this data to find patterns and recommend goods based on customer preferences. Stores are able to provide better product recommendations as a result, which makes customers happier and boosts sales.

Customers can benefit from tailored recommendations produced by AI-powered solutions both in-person and online. Advanced technology such as computer vision, speech recognition, and facial recognition, for example, can be used to recognize repeat consumers as soon as they walk into a physical store. As a result, individuals might be called by name and given product recommendations that pique their curiosity. Consider Walmart. Walmart uses customer insights and data from its online and in-store supply chains to incorporate grocery pickup into its primary shopping app. This strategy enhances Walmart's general merchandise operations while streamlining the shopping experience for customers.

AI-Powered Checkouts

Customers have often complained about long checkout lines, and the pandemic has made matters worse. As a result, there have been calls for creative ways to enhance the entire shopping experience. As a result, a new breed of cashier less stores has surfaced, utilizing AI-powered checkouts to give customers a more seamless and easy experience.
However, how does this operate? Customers can scan and pay electronically at advanced checkouts, avoiding cashiers and manual procedures.

AI-powered checkouts recognize products and process payments instantly by utilizing computer vision, machine learning, and other cutting-edge technologies.

Shorter wait times, a more enjoyable shopping experience, and expedited checkout processes are just a few advantages of these improvements. Because of this, AI-driven checkouts are becoming more and more popular among shops globally, and this trend is only going to continue. Consider the Amazon Go stores, which were first accessible to consumers in January 2018. Without having to wait in a checkout queue, customers arrive, pick up their purchases, and depart. The AI-powered technology provides a future "just walk out" experience by tracking selections and charging their Amazon account.

Personalized Customer Service and Engagement

By using AI, retailers may improve their efforts at customer interaction and customisation, but you may be wondering how this works. AI can make the purchasing process more seamless by creating interactive solutions that improve consumer communication. Natural Language Processing (NLP) is used by these chatbots to decipher customer inquiries and provide pertinent answers. Not only that, but chatbots may also pick up on user preferences and behaviors, which enables them to improve subsequent exchanges. Virtual assistants and chatbots offer quick, automated answers to customer queries and issues around-the-clock. By 2023, conversational AI-based chatbots have the potential to save companies an incredible $439 billion in labor expenses.

AI-Powered Personalized Pricing

Based on consumer buying trends, AI-driven algorithms may intelligently tailor prices, providing targeted discounts and promotions. This enables merchants to develop dynamic pricing plans that adjust to changing consumer preferences, seasonality, and demand.

Thus, by concentrating their pricing tactics on the most lucrative clients, companies can efficiently increase their profits and income. It is crucial to remember that customized pricing may give rise to questions about justice and ethics. The reason for this is that depending on their past purchases or projected willingness to pay, customers may be charged varying prices for the same goods.

Additionally, real-time price monitoring by AI-powered technology allows companies to modify their pricing plans in order to stay ahead of the competition. This ensures that merchants maintain their client appeal without compromising profitability by keeping them flexible and responsive to changes in the market. Retailers can use AI to improve inventory management in addition to pricing tactics.

By analyzing historical sales data and factoring in variables such as seasonality, promotional events, and trends, AI can forecast demand and assist in making more informed decisions about restocking and inventory levels. This reduces the risk of overstocking or stockouts, leading to cost savings and improved customer satisfaction.

Adopting AR In Business for Enhanced In-Store Experience:

In the realm of online shopping, where it might be difficult to physically evaluate things, Augmented Reality (AR) has become a cutting-edge alternative. There is no denying AR's advantages, particularly in sectors like e-commerce where it may significantly improve customer satisfaction and boost revenue. Businesses all over the world are embracing augmented reality (AR) technology, since more than 66% of consumers have expressed interest in utilizing it to make decisions. Consider the Place app from IKEA. Before making a purchase, the company helps clients see how potential furniture items would fit in their homes by using Augmented Reality (AR)

technology. By enabling consumers to make knowledgeable purchases, this feature eventually lowers the quantity of returns.

Improve Point of Purchase Displays

Artificial Intelligence (AI) has the potential to revolutionize retail shop audits and improve Point-of-Purchase (POP) and Point-of-Sale (POS) displays. Retailers can expedite the auditing process and make sure that product placements, promotional materials, and in-store displays adhere to set standards by utilizing AI-powered image recognition and data analysis.

By enabling real-time feedback and remedial actions, this technology minimizes human mistake and the need for manual intervention.
There are numerous advantages of applying AI in this situation. Better POP and POS displays will raise awareness and engagement, which will eventually increase revenue and improve customer happiness. AI-based store audits can offer insightful information about consumer behavior and preferences, enabling retailers to make data-driven choices that maximize inventory control, store layouts, and promotional tactics.

Retail business owners can improve the shopping experience and obtain a competitive edge in a market that is becoming more and more demanding by implementing AI into their operations.

5. Impact on Society:

Personalized shopping will influence the buying behaviour of consumers to such an extend that external stimuli will take over the thinking of the consumers, by overwhelming the consumers with messages and advertisement of products and offers, AI in turn will help retailers in proper understanding the end users and as well optimise the supply chain for cost reduction, alternatively the laws will be needed to be formalised for intrusion of personal space of consumers to a limited extent.

6. Conclusion:

The retail sector has seen a change thanks to artificial intelligence, which has made it possible for companies to provide individualized shopping experiences based on the distinct tastes and routines of each individual customer. Retailers may increase revenue and sales by using AI technology to improve consumer engagement and loyalty.
Retailers can differentiate themselves in a competitive market by offering their clients ever more individualized and outstanding services as AI develops. With AI in retail, the options are unlimited, ranging from personalized marketing to product recommendations.

7. References:

1. Welingkar, 2022: Franchising in Retail, Developed by Shabbir Padhri, 2022, PP217.
2. BCG, 2024: Unlocking the $2Tn Retail opportunity in the next decade, BCG & RAI, by Namit Puri & Bharat Mimani, Feb 2024, PP72
3. Forbes, 2024: Artificial Intelligence In Retail: 6 Use Cases And Examples, forbes.com, by Amanda Spencer,Oct 2024.
4. Marr, 2024: 7 Ways Retailers Are Using Generative AI To Provide A Better Shopping Experience, Forbes.com, by Bernard Marr, Feb 2024.
5. Forbesmiddleeast, 2024: BrandVoice | Paid Program, Forbes ME, 2024.
6. SAP BRANDVOICE, 2024: SAP BrandVoice: These AI-Powered Uses Cases Will Help You Reduce Customer Churn, forbes.com, Aug 2024.

7. DataFloo, 2023: The Use of Artificial Intelligence in Retail: Personalized Shopping Experiences, Datafloq, by Justin Alexa, April 2023.
8. Capgemini, 2022: The new report by the Capgemini Research Institute Building the Retail Superstar: How unleashing AI across functions offers a multi-billion dollar opportunity surveyed 400 retailers implementing AI use cases at different stages of maturity (a group that represents 23% of the global retail market by revenue).
9. Forbes, "Stitch Fix: The Amazing Use Case Of Using Artificial Intelligence In Fashion Retail", May 2018.
10. IDC, "Worldwide Spending on Cognitive and Artificial Intelligence Systems Forecast to Reach $77.6 Billion in 2022, According to New IDC Spending Guide", September 2018.
11. CIO, "Tesco uses AI to stock shelves, route drivers with Google Assistant", May 2017.
12. Business Insider, "Walmart ramps up cloud efforts by investing in NVIDIA", September 2017.
13. Business Wire, "GUESS?, Inc. Collaborates with Alibaba to Bring Artificial Intelligence to Fashion", June 2018.
14. Wall Street Journal, "Kroger Makes Bold Push to Boost Online Shopping," May 2018.
15. HBR, "Ocado Is Transforming Online Grocery Shopping with AI, But A Skills Challenge Lies Ahead," May 2018.
16. Retail Week, "How machine learning is enabling Morrisons to innovate around its customers," March 2017.
17. One Ragtime, "French AI Ecosystem: An infographic", June 2018.
18. AdWeek, "Why France sees artificial intelligence as a business imperative", June 2018.
19. TechCrunch, "France wants to become an artificial intelligence hub", February 2018.
20. Digital Commerce 360, "E-commerce accounts for 27% of US apparel sales" July 2018.
21. Business Insider, "Adeptmind Integrates Machine Learning Technology in Decathlon's Online Shopping Experience to Increase Engagement and Improve Sales", May 2018.
22. Internet Retailing, "Sainsbury's store tour: the latest developments that are set to differentiate the retailer." April 2018.
23. Venture Beat, "For eBay, AI drives over $1 billion in sales per quarter", August 2018.
24. DMNews, "Wayfair Launches New AI-Leveraged Feature", May 2017.
25. Forbes, "How Amazon Has Reorganized Around Artificial Intelligence And Machine Learning", July 2018.
26. EU Startups, "Lisbon-based AI startup Sensei raises €500K from European retailers Metro Group, Sonae and Techstars", February 2018.
27. ZDNet, "How technology is saving PetSmart millions by eliminating sales fraud", July 2018.
28. ComputereWorld, "The North Face sees A.I. as a perfect fit", January 2016.
29. Elixirr, "AI: Why is there a gap between ambition & action?," May 2018.
30. Computer Weekly, "Retailers need to prepare properly before AI adoption, say experts," March 2018.
31. Forbes, "Louis Vuitton Becomes Latest Luxury Brand To Launch A Chatbot", December 2017.