Retail Technologies and Future Skills Report

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Skillnet

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Foreword

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We live in profoundly challenging, but also interesting times. Massive social and economic changes are taking place. Hopefully, some of these will be short-term, as we navigate our way through the Covid pandemic, but others will fundamentally reshape how we live and work.

The impact of these changes on retail is seismic. Long before COVID-19, technological disruption was a defining feature of the retail landscape. Businesses were embracing new channels and platforms, rapidly redesigning how they operated to meet changing consumer preferences. Covid has dramatically accelerated this dynamic.

This report provides a very important, comprehensive and timely insight into these underlying technological trends reshaping Irish retail. It examines how digital innovation is changing customer habits and business strategies. Importantly, it looks at how retailers must respond to succeed in this environment. The report is not just about technology, however, it is about people.

Our people remain at the very heart of the Irish retail story. While the sector accounts for 12% of national GDP and pays €7 billion in tax revenue to the State, it also employs nearly 300,000 people in every city, town, and village across the country. The pressing challenge is to cultivate, develop and align the skills, talent and innovation that exists in our people and our organisations, in a way that embraces new opportunities and new ways of working.

This report sets out a comprehensive range of recommendations for retail businesses, policy makers, and education and training providers across a range of key areas. It looks at what is needed to create workplaces where knowledge, ideas and skills are shared, and new quality career paths developed.

Retail Ireland and Retail Ireland Skillnet look forward to supporting the next phase of the sector's development, working with policy makers and education and training providers to put people, skills, and innovation at the very heart of the sector's future.

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About the Report

Background

One of the greatest challenges facing all sectors of the economy including retail is the acquisition and development of talent. Retail is becoming an increasingly knowledge-intensive industry and the skills and competencies required to succeed in the sector are evolving. The need to focus on skills for the retail sector is being driven by several factors with technology and changing consumer behaviour amongst the most notable.

There is currently very limited data available in relation to the current and future skill requirements of the retail sector which is concerning for both retail employers and education and training providers. This is somewhat surprising given the size of the sector and its contribution to the economy. As a leading training and education provider for the Irish retail sector, Retail Ireland Skillnet (RIS) with the support of Skillnet Ireland commissioned an in-depth study to investigate the technologies disrupting the retail sector and the impact of these technologies on skills. The role Brexit and COVID-19 has in accelerating new technologies in the retail sector has also contributed to the study.

Objectives of the report

1. **To identify how technology is impacting the Irish and international retail sector.**

2. **To review how technology is disrupting retail disciplines nationally and internationally.**

3. **To determine the implications of new technologies on the skills required to perform effectively in the retail sector.**

4. **To present recommendations to retail employers for addressing challenges related to skills and careers.**

5. **To present recommendations to education and training providers when addressing the skill requirements of the retail sector.**

Layout of the Report

The report is divided into 8 sections:

Section 1 Key Findings: provides an overview of the reports key findings.

Section 2 Research Methodology: provides an overview of the methodology adopted for this study which combines in-depth interviews, focus groups, an online survey, input from a range of subject matter experts, and an extensive review of the literature.

Section 3 Technology in Retail: describes the main technologies impacting retail including data, automation, internet of things (IoT), blockchain, mobile, artificial intelligence (AI), virtual reality, and augmented reality (AR). In addition to reviewing these technologies, the section will also present the implications for careers and skills.

Section 4 Retail Disciplines: reviews how the major disciplines within retail are being impacted including sales – instore and online, customer experience, marketing, visual merchandising, supply chain, loss prevention and payments. In addition to reviewing these disciplines, the section will also present technology trends and skills required.

Section 5 Implications on Careers and Skills: provides an overview of how technology is impacting careers and presents the generic skills required at entry, supervisory and senior level within retail.

Section 6 Recommendations for Employers: presents a number of recommendations to employers with a special focus on training, education, and skills.

Section 7 Recommendations for Education and Training Providers: presents a list of recommendations for training and education providers when designing and delivering programmes of study for the retail sector.

Section 8 Final Thoughts: concludes the report with a general overview and information on researchers.

Section: 1

Key Findings

» Industry 4.0 technologies such as big data, internet of things (IoT), blockchain, automation, robotics, artificial intelligence, virtual reality, and augmented reality are increasingly disrupting Irish retail organisations.

» Every facet of retail is being impacted by technological advancements. Whilst predictions vary to the extent of the disruption, almost all retailers agree that embracing technology is now a necessity. The term "innovate or die" has never been more relevant.

» The level of disparity between the rate of adoption of technology amongst Irish retailers is concerning. On one extreme, we were exposed to retailers on the cutting edge of technological adoptions whilst for others, technology seemed far away on the horizon. The key barriers identified by retailers include cost, lack of internal support, knowledge, organisational culture, talent, and time.

» Retailers are engaging in new business models and leveraging capabilities and resources with other sectors and tech start-ups to develop new technologies and customer solutions. Almost 40% of the retailers that contributed to this report are already partnering with tech start-ups, while another 33% are looking for tech start-ups to collaborate with.

» In some instances, retailers are becoming resellers of technological solutions they have developed for their own business.

» Retailers acknowledge that organisational culture is playing a fundamental role in the successful implementation and scaling of new technologies. They acknowledge the success of technological initiatives depend on continually evaluating their organisational values, assumptions, belief, policies, procedures, controls, rewards, rituals, routines, and power structures.

» The integration of systems to deliver real-time and actionable data-driven insights across the business is a top priority for retailers. However, 84% of respondents reported that a lack of available data experts makes it difficult to fulfil their organisation's potential in relation to data usage.

» The ability to repurpose existing legacy systems through the use of Realtime APIs is the primary consideration before researching and implementing new tech solutions.

» Retailers are trying to adopt a customer-centric approach when evaluating technology in areas that traditionally would not have considered customer touchpoints, such as supply chain management, leadership, and finance. Retail leaders acknowledge that customer experience must be owned by everyone in the organisation and not just the responsibility of a select few.

» Retailers want to create workspaces where knowledge, ideas, opinions, and skills are shared across their organisation. They want to break down the traditional barriers associated with roles and responsibilities and create a more collaborative, transparent, knowledge sharing, and supportive work environment.

» The findings from the study illustrate how technological advancements are revolutionising everyday retail operations and to survive and thrive, retailers are going to have to make investments in both technologies and talent. Over 30% of respondents to this survey identified a lack of talent as a key barrier preventing them from investing in new technologies.

» As consumers become more sophisticated, knowledgeable, and demanding, the skills required by retail employees will elevate to levels never seen before. Employees will need a combination of human, digital, and traditional retail skills to perform effectively in the modern retail environment.

» The challenge facing Irish retailers however is that many of these skills are already in high demand from other sectors within the economy and attracting and retaining this talent will become more difficult. There is no set formula to tackle this problem but providing learning and development opportunities, competitive remuneration packages, promotional opportunities and an environment where employees can thrive is a good start.

» Technology and automation will free up the workforce from routine and repetitive tasks allowing them to focus more on customer-facing activities providing a new level of personalisation and improved customer experience.

» The training and development function within the retail organisation will become more important than ever and will need to be staffed by competent individuals who understand technology, skills, and retail. They will also need to effectively collaborate with external education and training providers. Business success will depend on the attraction, retention, and development of talent.

» The emerging technologies and the corresponding impact on skills and careers have major implications for education and training providers. The need for hybrid training and education programmes combining retail and technology disciplines will become more apparent. The siloed approach of the past where academic departments worked in isolation will not succeed in the modern world of work.

» Many of the skills identified by retailers for this report including communications, teamwork, creativity, enthusiasm, empathy, time management, and discipline are best acquired in the workplace as opposed to the classroom. This will increase the need for dual education programmes (programmes delivered in conjunction with industry) such as apprenticeships and traineeships. Education and training providers will need to extensively and genuinely collaborate with employers to remain relevant in the future workplace.

Section: 2

Research Methodology

Introduction

Data for this study was collected through a combination of:

1. Semi-structured interviews
2. An online survey with retail managers and supervisors
3. Focus groups
4. Input from subject matter experts
5. Extensive literature review

Interviews

Senior managers from 24 different retail organisations shared their valuable experiences
and insights as part of the data collection process. A profile of the interview respondents that
contributed to the interviews is presented below.

Figure 2.1: Retail subsector respondents employed in

Which of the following best describes the store you work in?

Convenience / Grocery / Forecourt	25.00%
Department Store	29.17%
Stationery / Toy store / Book Store	12.50%
Home and Garden / Furniture	8.33%
Other	8.33%
Food Services	8.33%
Pharmacy	8.33%

Figure 2.2: Number of employees working in respondents store location

What is the number of employees in your organisation?

Chain Group employing 250+	12.50%
Chain Group employing >250	20.83%
Single Site employing 100+	16.67%
Single Site employing 50-99	20.83%
Single Site employing 11-49	20.83%
Single Site employing <= to 10	8.33%

Figure 2.3: Role in company

What is your role in the company?

Role	%
Department Manager	**16.67%**
Store Manager	**8.33%**
Technology Manager	**25.00%**
Training and Learning Manager	**20.83%**
HR Manager	**29.17%**

Respondents were enthusiastic to participate and expressed their appreciation for the research. The interviews were semi-structured in nature and carried out in the respondent's workplace by two trained interviewers. An interview guide containing several themes was used to direct the interview, but the interviewees could lead the discussion. The sample for the research was a purposeful one. This involved selecting individuals employed in retail with knowledge and experience in retail operations, HR, training, and technology.

The respondents represented the wide and diverse nature of the Irish retail sector. Interviews lasted on average 122 minutes and in many cases were followed up by a phone interview. In advance of the interviews being carried out, three pilot interviews were conducted. All the interview participants were informed of the purpose of the research. Participating in the interviews was a voluntary matter for the participants, who did not have to answer questions they were not comfortable answering. The interviewees were also free to withdraw at any time. Interviewees were told their responses would be anonymised.

Online Survey

Sixty retail managers and supervisors completed an online survey using Netigate software. The profile of the respondents is presented below:

Figure 2.4: Retail subsector respondents employed in

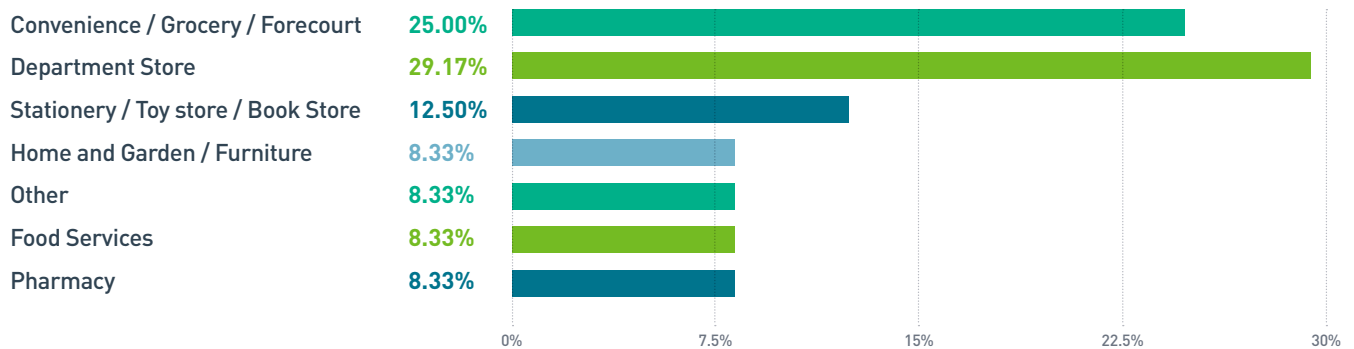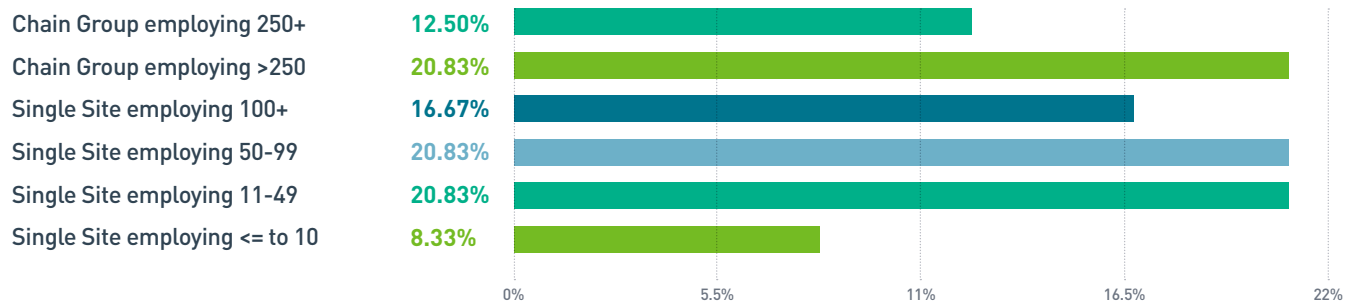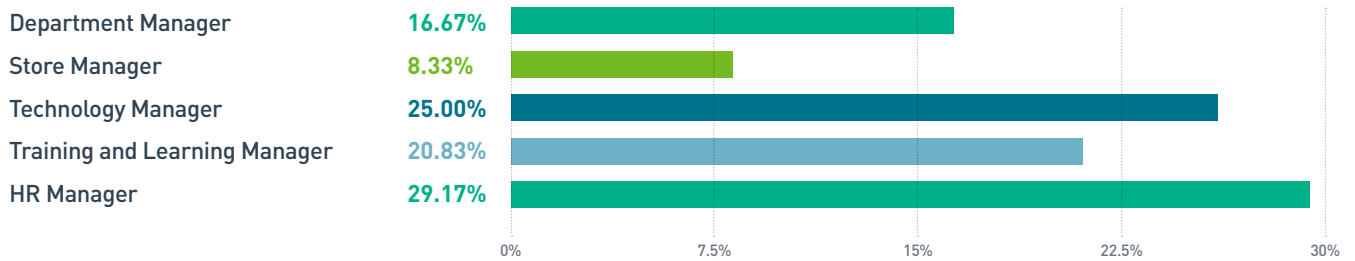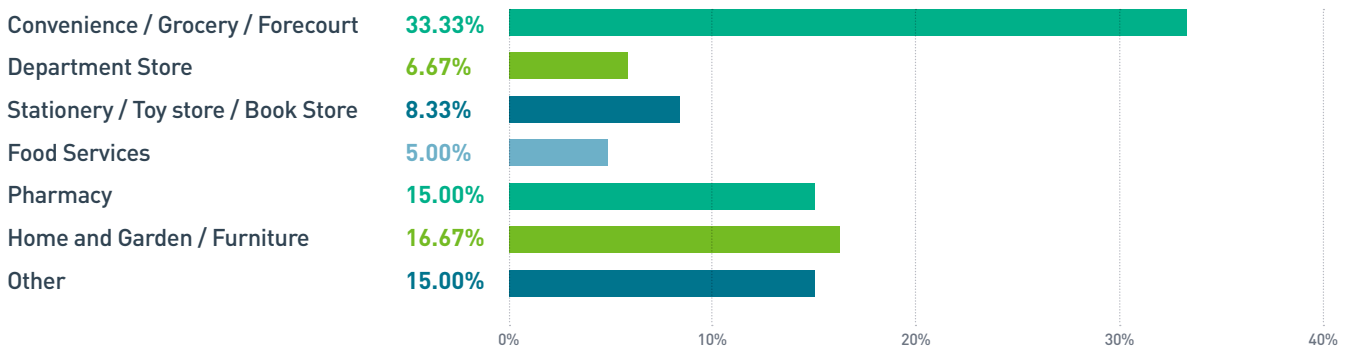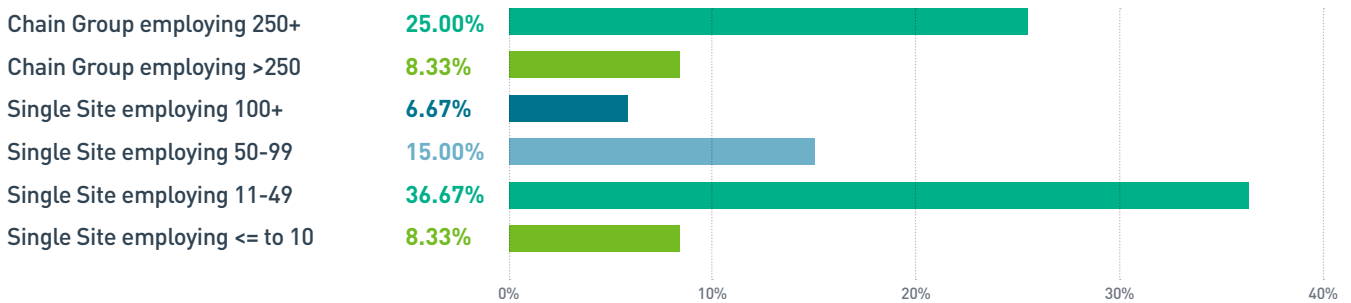## Which of the following best describes the store you work in?

Convenience / Grocery / Forecourt	**33.33%**
Department Store	**6.67%**
Stationery / Toy store / Book Store	**8.33%**
Food Services	**5.00%**
Pharmacy	**15.00%**
Home and Garden / Furniture	**16.67%**
Other	**15.00%**

Figure 2.5 Number of employees working in respondent's store

How many employees currently work in your store location?

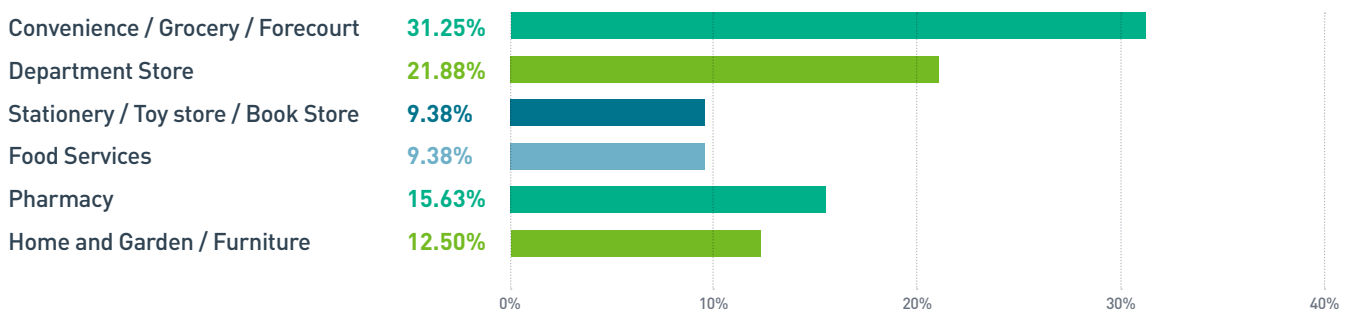|	
Chain Group employing 250+	**25.00%**
Chain Group employing >250	**8.33%**
Single Site employing 100+	**6.67%**
Single Site employing 50-99	**15.00%**
Single Site employing 11-49	**36.67%**
Single Site employing <= to 10	**8.33%**

The online survey took on average 17 minutes to complete, collected information about the respondent's role and the organisation he/she worked in. Respondents also provided information in relation to how technology is impacting their organisation and the wider retail sector. The key retail disciplines discussed include sales, customer experience, retail marketing, merchandising, supply chain, loss prevention and payments. The skills, training and education implications were also reviewed. The data submitted was then analysed by two trained research experts with extensive knowledge in the field of retail technology and future skills.

Focus Groups

Four focus groups were held in February 2020. Each focus group comprised of 7-9 participants who were all retail managers at the time. A profile of the subsectors the focus group participants were employed in is presented below.

Figure 2.6: Retail subsector focus group participants employed in

Which of the following best describes the store you work in?

Convenience / Grocery / Forecourt	**31.25%**
Department Store	**21.88%**
Stationery / Toy store / Book Store	**9.38%**
Food Services	**9.38%**
Pharmacy	**15.63%**
Home and Garden / Furniture	**12.50%**

The objective of the focus groups was to determine the impact technology is having/going to have in the Irish retail sector and the implications this has on the key knowledge, skills and competencies for entry, supervisory and senior level employees within retail. The findings of each focus group were recorded by a Moderator.

Input from Subject Matter Experts

The study benefited from the insight of subject matter experts from the retail sector who contributed to the study by sharing their views and opinions in several areas including ecommerce, sales, customer experience, digital marketing, loss prevention and payments.

Extensive Literature Review

The research draws on an extensive literature review and analysis of the most recent reports and studies. To manage the vast amount of data gathered, the researchers adopted a thematic analysis approach. This involved analysing and reporting patterns or themes within the data. Many of the themes were identified prior to conducting the literature analysis (based on research objectives) whilst others emerged as the data was being interpreted.

Section: 3

Technology in Retail

Digital Transformation

Digital transformation is not something that happens overnight. It is a process that takes place over time. It involves existing or new technologies being modified or introduced to streamline company processes and ultimately bring the retailer closer to the customer. Retailers that contributed to this research have prioritised three areas as fundamental to their digital transformation efforts; ecommerce, internal systems, and digital footprint.

1. Ecommerce

The unstoppable rise of ecommerce since the turn of the century has transformed the retail landscape across the globe. Whilst some Irish retailers have struggled to keep pace with the digital commerce revolution, others have embraced it with an open and agile mindset. COVID-19 has laid down the gauntlet for all retailers. The term "innovate or die" has never been more relevant. Retailers across all subsectors are evaluating their online presence and are carefully considering the following:

» What is the most effective way to start selling online immediately, i.e. own website, social media, and/or marketplace?

» What is the starting point for the development of an ecommerce website – internal expertise, web developers, product descriptions, images, packaging, logistics, time, competitiveness, returns, the cost to sell, etc.?

» How to connect with more customers nationally and internationally to grow revenue and reduce costs across their ecommerce platforms?

2. Internal Systems

Retailers want to create greater levels of operational efficiency and customer-centricity to their business model. Retailers want improved real-time management processes that break down the silos created by having separate systems completing different tasks. They want teams to work from a single source of data so goals and strategy can be aligned across the organisation. They want to embed a customer-first approach with all technological developments. In addition, they are looking at how to reduce manual touchpoints through a product lifecycle with the aim of driving operational efficiencies. Retailers are reviewing their Electronic Point of Sale (EPOS) systems, Customer Relationship Management (CRM) platforms, loyalty, supply chain management system and finance system, amongst others and considering three options:

» How can we fully utilise functionality available in current systems?

» How can we lengthen the lifecycle of existing technologies by repurposing and integrating through the use of realtime APIs?

» How can Industry 4.0 technologies such as blockchain, IoT, Big Data, automation and augmented and virtual reality develop core organisational capabilities?

3. Digital Footprint

Retailers realise that they need to create a strong digital footprint as part of their overall digital transformation strategy. They are thinking beyond digital marketing and aligning KPIs for the company's digital footprint to the yearly business strategy. Retailers are developing a digital-first public relations strategy and utilising brand-relevant social media platforms to engage, communicate and convert customers. They understand to remain relevant they must have a strong presence online. Search engine optimisation (SEO), best practices for vertical, voice and visual search are increasingly viewed as important, not just by marketers but by leadership teams across the retail organisation.

To provide some background information to the reader, the remainder of this section presents the data collected from the online survey examining the role technology plays in the respondents' organisation, motives for investing in technology and the barriers preventing retailers from investing in technology.

Role Played by Technology

The respondents to the online survey endorse the view that technology is having a major impact in the sector, with 80% indicating that technology plays a central role or important role within their retail organisation.

**Figure 3.1: Role technology plays in respondent's organisation**

What role does technology play in your organisation?

Technology plays an important role	**40%**
Technology plays a central role	**40%**
Technology plays a moderate role	**20%**
Technology plays no role	**0%**
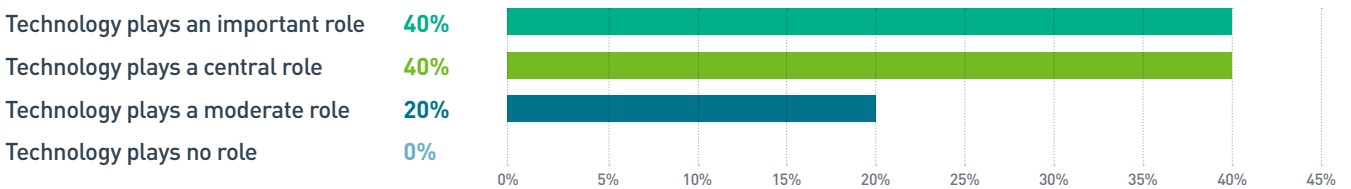
We also asked respondents to indicate the level of investment in new technologies they believe their organisation will make in the next 1-2 years. As can be seen, all respondents indicated that some level of investment in new technologies will be made within their organisation in the next 1-2 years.

Figure 3.2: Investments in technologies over the next 1-2 years

In the next 1-2 years, I believe our business will make...

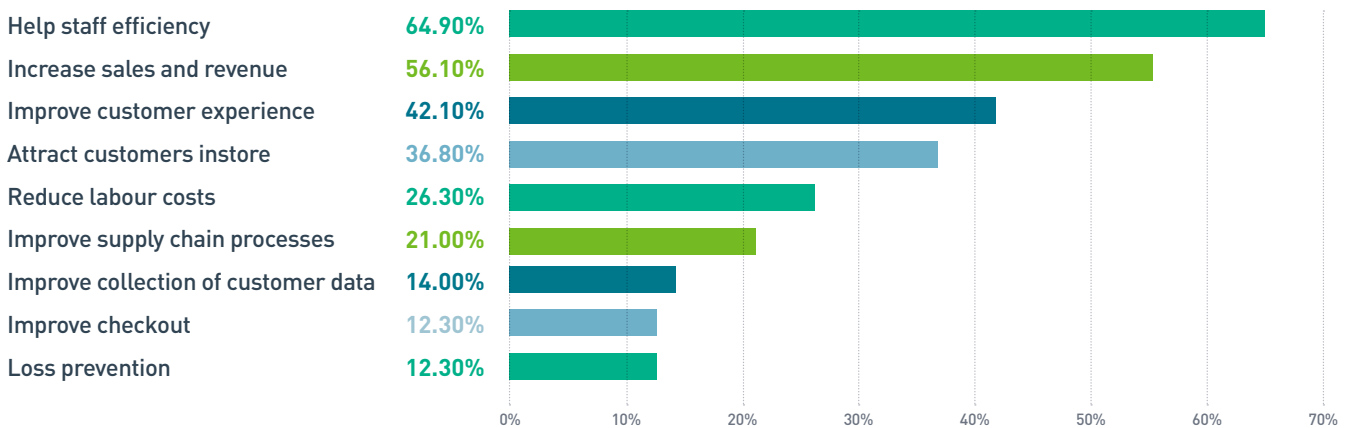|	
Moderate investment in new technologies	**63.33%**
Significant investment in new technologies	**36.67%**
No investment in new technologies	**0%**
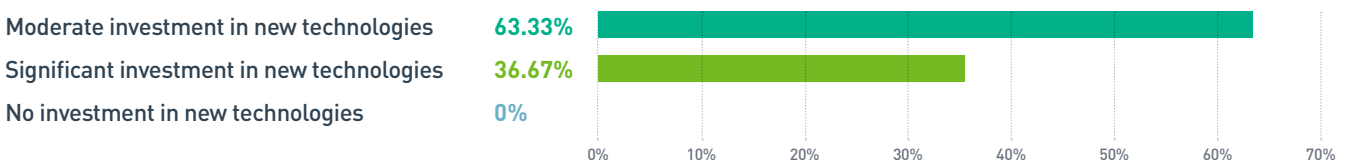
36.67%

of retailers plan to significantly invest in technology over the next 1-2 years

Motives and Drivers

To determine the main reasons why retail organisations are increasingly embracing technology, we asked respondents to provide their top three motives. The primary drivers behind the investment in technologies for the retailers surveyed were to help staff be more efficient followed by increasing sales and revenue and improved customer experience.

Figure 3.3: Top motives for investing in technologies

Select your organisation's top 3 motives when investing in technologies

Help staff efficiency	**64.90%**
Increase sales and revenue	**56.10%**
Improve customer experience	**42.10%**
Attract customers instore	**36.80%**
Reduce labour costs	**26.30%**
Improve supply chain processes	**21.00%**
Improve collection of customer data	**14.00%**
Improve checkout	**12.30%**
Loss prevention	**12.30%**

It is worth noting that respondents contributed to the online survey for this question before the COVID-19 outbreak in Ireland. There can be little doubt that COVID-19 has also acted as a driver for many retailers to invest in new technologies to address loss of revenue, legal, health and safety concerns.

This study uncovered that a wide range of technologies including blockchain, IoT, AI, AR, virtual reality, robotics and big data, once associated with just the tech-related sectors are being utilised to satisfy the motives presented in the graph above. The retailers that can best utilise these technologies to address consumer preferences and the changing retail landscape will be best equipped to succeed.
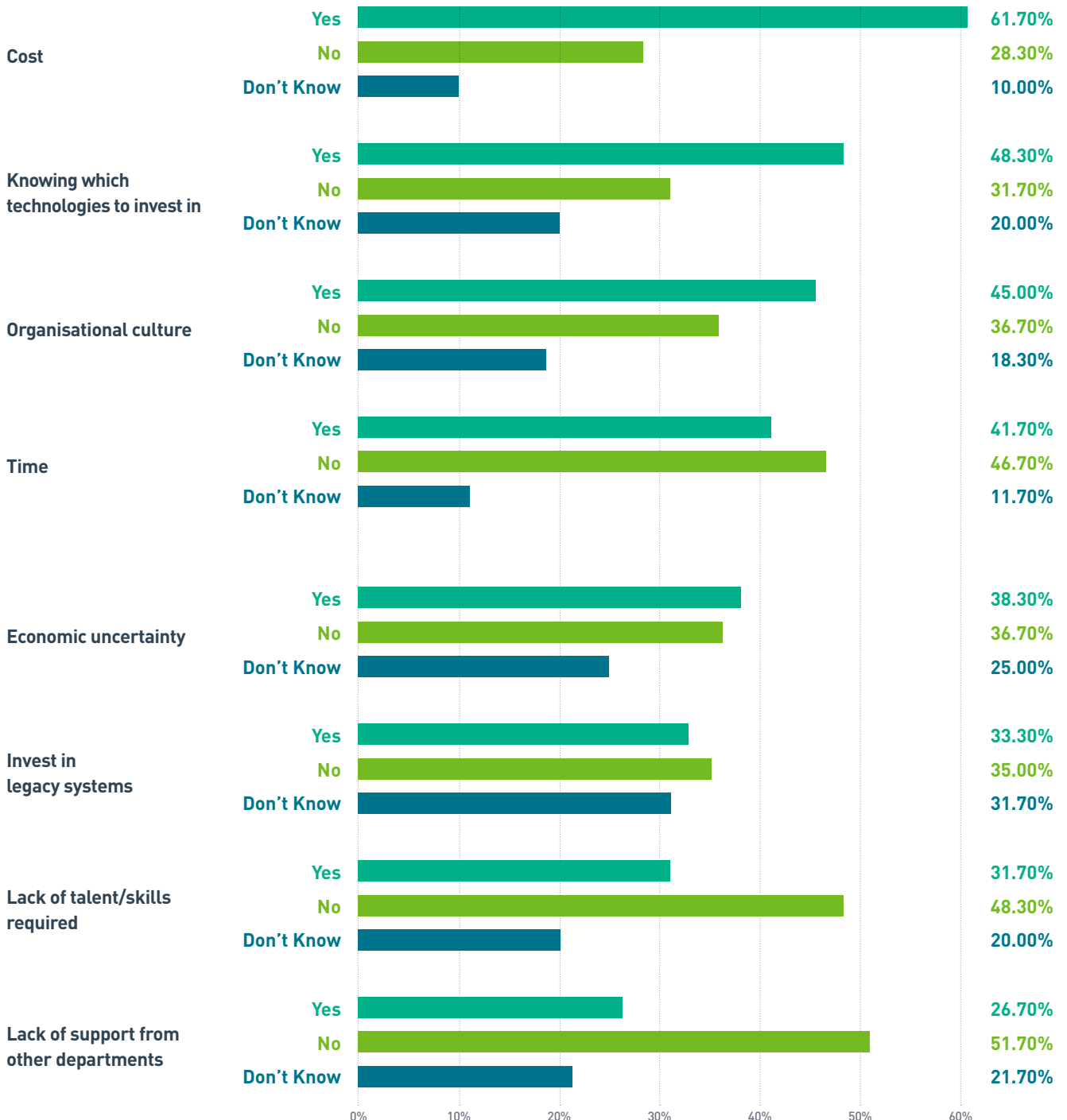
64.90%
of retailers invest in technology to help staff efficiency

Barriers

It is also important to present the barriers preventing retailers from adopting technologies. Respondents that completed the online survey were presented with a list of eight potential barriers preventing their organisation from investing in technology and asked to confirm if the potential barrier existed in their organisation. The graph below provides the outcomes from the respondents.

Figure 3.4: Barriers preventing investment in technologies

What are the barriers preventing your organisation from investment in technologies?

Barrier	Response	Percentage
Cost	Yes	61.70%
	No	28.30%
	Don't Know	10.00%
Knowing which technologies to invest in	Yes	48.30%
	No	31.70%
	Don't Know	20.00%
Organisational culture	Yes	45.00%
	No	36.70%
	Don't Know	18.30%
Time	Yes	41.70%
	No	46.70%
	Don't Know	11.70%
Economic uncertainty	Yes	38.30%
	No	36.70%
	Don't Know	25.00%
Invest in legacy systems	Yes	33.30%
	No	35.00%
	Don't Know	31.70%
Lack of talent/skills required	Yes	31.70%
	No	48.30%
	Don't Know	20.00%
Lack of support from other departments	Yes	26.70%
	No	51.70%
	Don't Know	21.70%

Cost was identified as a major stumbling block followed by a lack of knowledge into which technology to embrace. Cost has become even more of an issue since the outbreak of COVID-19. Few sectors are feeling the impact of the COVID-19 outbreak more than retail. Many experts believe that the disruption is likely to leave a permanent trace meaning most retailers will have to change their traditional processes and practices. Technology holds the key to building a future of retail where convenience, value, safety, and hygiene are key considerations.

Technologies Impacting the Retail Sector

Having presented the role played by technology in retail, along with the motives and barriers, the remainder of this section will review the major technologies impacting the sector including data, IoT, automation & robotics, blockchain, mobile, AI, virtual reality, and augmented reality. In addition to describing these technologies, their usage in retail will also be discussed. Furthermore, recommendations for retailers in relation to the adoption of these technologies will be presented along with the impact the technology will have on careers and skills.

The section will review how technology is impacting the retail sector:

a) **Data**
b) **Internet of Things (IoT)**
c) **Automation and Robotics**
d) **Blockchain**
e) **Mobile**
f) **Artificial Intelligence**
g) **Virtual Reality and Augmented Reality**

a) Data

Introduction

Data should be at the core of every business. Making decisions on gut feelings alone is no longer acceptable as more and more retail organisations are now making use of the trail of data that consumers leave behind them to enhance engagement and conversion.

There are very few industries that benefit from the generation of high-quality data as the retail sector. Successful retailers today are embracing data analytics to support decision making and execute better strategies. Retailers are gathering, curating, and analysing data such as online browsing data, social media and mobile data, customer satisfaction surveys, purchase data, and so on to improve decision making and avoid implementing wrong strategies. It is estimated that Walmart collects data on around 1,000,000 transactions per hour and this data helps make critical decisions in real-time[1]. This data is sourced from multiple touchpoints and together with machine learning, AI, and IoT is constantly evolving to better meet the needs of consumers.

Data and Retail

Retailers by their very nature generate substantial data from various sources including sales figures, consumer preferences, social media correspondence, returns, and financial data. All this data has the potential to deliver improvements throughout the organisation. Successful retailers have always made use of data to provide insight for better decision making. What has changed in recent years is the sheer volume of data available to them and the tools and technologies at their disposal to both collect and analyse this data.

Traditionally, data was used by retailers to analyse post-event reporting but now it is being used to predict future consumer behaviour and is core to the success of the marketing function. As mentioned above, retailers have at their disposal vast amounts of data relating to consumer behaviour and preferences. The problem however is that this data often remains dormant or the data is often siloed (e.g. held in legacy systems not speaking to each other) and retailers are not getting the single view of the customer that is required. Converting this abundance of rich data into a single view of the customer is essential so the needs of demanding consumers can be better addressed. To achieve this, retailers need to invest in systems and procedures that can pull structured and unstructured datasets together.

To compete in a world where consumers expect to be treated as individuals, retailers must strive to make customers feel as if they know them personally, understand their lifestyle needs, wants and aspirations, and have their current interests, needs and wants in mind. This level of intimacy can ultimately create long-lasting and rewarding relationships between retailers and their customers[2].

Smaller retailers may believe they are not big enough to realise the potential of investing in data. The truth is that small businesses need data to succeed just as much as larger organisations. At a basic level, a number of small retailers that contributed to this study described how they collect consumer data from their EPOS system, surveys, feedback from social media and websites as well as public data sets (e.g. retail surveys or census data) and collate this data into an excel spreadsheet or other software to identify

comparisons, trends and correlations. This allows them to better understand their consumers and inform decisions in relation to promotions (e.g. impact of different promotional campaigns), pricing (e.g. correlation between price and sales), merchandising and supply chain (e.g. seasonal impact on stock sales for certain items). Others are using bespoke platforms/data solutions to transform data into useful insights that help decision making.

Our research supports claims made in previous studies which suggest that more customers are now prepared to share their data in return for a more personalised service. However, in order for this exchange of data, consumers need to believe that organisations take data privacy seriously, by being transparent about how data will be used, limiting the processing of personal data to what is necessary, protecting data against theft, and granting customers the right to be forgotten[3].

Having highlighted the reasons why retailers need to invest in the acquisition and analysis of data, the next section reviews some of the more popular ways big data is impacting the retail sector.

Popular Usages of Big Data in Retail

Retailers need to understand their customer preferences including what they like and dislike, what promotions work best for them, social media preferences and so on. The more accurate this data is, the greater the likelihood retailers can satisfy their customers' needs. The data collected informs patterns of consumer behaviour that allow for the better execution of sales and marketing strategies and improves customer retention figures through more personalised loyalty programs.

A major challenge for retailers is calculating the optimal levels of stock for their various products. By reviewing historical data as well as other impacting factors such as time of year, consumer behaviour, economic trends, and competitive data, retailers can have a much more accurate picture of the right amount of stock to carry at any one time. Retailers have been using IT systems for many years that review all these variables and presents accurate required stock levels for their various outlets.

The modern consumer expects a certain level of guided selling. Retailers are using automated systems to communicate personalised and targeted messages to consumers that are informed by data collected from previous customer engagements e.g. using data from previous sales to predict future sales. This could involve a kids' clothes retailer targeting parents that purchased age three kid's clothes in 2020 with age four clothes in 2021. Retailers reviewing consumer data can also spot customers they risk losing to competitors due to changes in their shopping habits. This may prompt the retailer to make a timely intervention such as a sales promotion to win back the customer.

Retailers are using the data collected from instore video footage, beacons, motion sensors, and Wi-Fi analytics to identify the optimal design and layout for their stores. This provides data such as how many consumers enter the store at certain times, how long they stay, where they spend the most time, and the most popular routes around the store consumers take. From this data, retailers can make a wide range of merchandising informed decisions such as where the most profitable products should be located, which products can be removed due to poor returns, positioning of point of sale materials and when shelves should be stocked.

Retailers are also benefiting from big data analysis to improve their marketing offerings. For example, IBM and the Weather Channel combine using data to provide predictive marketing insights to retailers enabling retailers to understand the impact weather has on sales, staffing and product mix. This in turn informs communications on digital signage and across social platforms helping retailers reduce costs and improve customer engagement and sales.

84% say lack of data experts makes it difficult to fulfil their organisation's potential in relation to data usage.

Recommendations to Retailers

» Define objectives in relation to what data you would like to gather and what data could be used for. Objectives should be aligned to core customer requirements.

» Review the various sources where data can be collected from. For example, some retailers are still only using their EPOS solution to process sales even though many of them are equipped with reporting features that present important data on margins per product or supplier, takings per employee, trends (e.g. seasonal trends), customer preferences and much more. To get the most out of data, retailers need to look at how different metrics relate to each other. Rather than looking at each report on its own, retailers should mix and match different ones for deeper insights.

» Research systems/technologies that can bring disparate datasets together into a single view of the customer.

» Encourage your customers to share their shopping preferences with you. Record any insights gathered from consumer engagements that would help with future sales.

» Decide if your organisation is going to use a third party to manage data or are you going to use your in-house team. If using your own personnel, ensure they are properly trained and have clear roles.

» Ensure everyone in the wider organisation contributes to data collection and are made aware of the analysis produced. Too often data collected by one business function is not shared organisation-wide.

» Use the data collected to make a more personalised offering to your customer and increase retention.

» Customers expect retailers to treat their data with respect and if they cannot trust you to safeguard their data, they will take their business elsewhere. Retailers need to seriously consider how they will use and protect the data.

» Clean the data regularly to ensure it remains up to date and customer consent remains in place.

» Taking free online courses in data analytics to use tools like Google Analytics. This will provide good insight in how people engage and respond to your online efforts and offer ideas for new marketing efforts.

» Remember it is not about collecting large amounts of data – it is about collecting the right data in real time to better predict future trends.

Impact on Careers and Skills

The increasing emphasis on data has heightened the importance of skills in capturing raw data, analysing it, and presenting it into a meaningful form that improves business processes. Data specialists will require a rare mix of skills in areas such as maths, statistics, analytical, probability, digital/technology, legal and regulatory as well as human skills in areas such as communications, teamwork, critical thinking, and persistence. Individuals that understand retail along with the skills just mentioned will be in big demand.

Retailers are already hiring data specialists at an incredible rate. 75% of respondents that contributed to this study indicated there will be an increasing need for data analysts within their organisation in the next five years. However, 84% of respondents reported that a lack of available data experts makes it difficult to fulfil their organisation's potential in relation to data usage. The demand for these specialists in all sectors of the economy makes recruitment and retention challenging for not just retailers but all employers.

b) Internet of Things (IoT)

Introduction

The Internet of Things (IoT) is a network of objects and devices embedded with sensors that can interact and communicate with each other in different ways. In an industrial setting, these devices and sensors can be found in manufacturing equipment, the supply chain, and in-vehicle components[4].

For customers, these devices include mobile phones, sports wearables, home heating, and air conditioning systems. The IoT facilitates the interconnection of items we use daily to exchange data to better optimise and fit our preferences. IoT technologies open a wide range of opportunities in many fields, including transportation, healthcare, workplace, and retail[5].

IoT and Retail

An increasing number of retailers are investing in IoT technologies to improve their business processes and customer experiences. IoT technology is providing brick-and-mortar stores with data in a similar way that online retailers access consumer data through tracking cookies and demographics. IoT in retail merges the best of digital with the physical retail store to allow retailers to improve productivity, enhance customer experience, reduce costs, and increase sales.

IoT is not just for large retailers. Many of the SMEs that contributed to this study have reported how IoT is serving them well in relation to capturing consumer data, managing stock, making savings in energy costs, reducing wastage as well as more efficient use of their workforce.

The next section reviews some of the more common business applications of IoT in retail.

Popular Usages of IoT in Retail

Retailers are using IoT to optimise inventory by deploying technologies such as smart shelves to track how products are selling and schedule replenishments when required. The data collected by smart shelves during the day will be instantly shared with the store manager to provide customer-related insights[6].

Radio-frequency identification (RFID) and IoT sensors are bringing improvements in inventory management by providing important product information (e.g. product description, date created, best before date, details relating to the manufacturer, etc...). Supply chain improvements are also realised with accurate up-to-date information about where products are in transit and the expected time of delivery provided. This leads to a reduction in human error and working hours required. This technology is also used to update customers regarding the status of delivery by informing them of location in real-time. In addition, IoT allows retailers to automate product orders, by notifying them when a certain product needs to be re-ordered, gather data regarding the popularity of a certain item, and can help prevent employee theft[7].

Retail organisations are also using IoT sensors to create heat maps of the most popular navigation routes consumers take when shopping in their store. Retailers can then strategically position items for sale accordingly and move popular stock to quieter parts of the store when required.

Beacons (bluetooth devices that send alerts to shoppers' mobile phones based on proximity) facilitate a more personalised service for the consumer by recognising when a consumer is in the store and sending them offers based on previous customer behaviour. Retailers can leverage this behaviour data to make smarter merchandising and marketing decisions, like boosting inventory levels of hot-selling products or measuring the effectiveness of displays.

IoT technologies are also behind advances in signage to deliver more personalised and directed advertising and communications to consumers instore. This allows retailers to present real-time messages with the aim of generating more sales.

COVID-19 has resulted in retailers having restrictions on the number of shoppers that can be in the store at any one time. Some retailers have started using IoT technologies to better manage this. The maximum number of customers allowed in the store at any one time is determined and the occupancy systems keep track of when someone can enter. A traffic light system can then signal when more people can enter as others leave. This eliminates the need to station staff members at the doors counting people. Also, AI technologies can inform employees how long individuals are waiting in queues and either recommend those customers to other queues or allocate additional staff to the relevant EPOS.

Furthermore, IoT technologies are supporting the remote monitoring of products by identifying possible problems in relation to maintenance or analysing performance. Dealers and manufacturers can be informed about the potential break-down of a product even before the consumer realises and therefore avoiding reputational brand damage. Retailers can also use IoT technology to monitor electric appliances such as refrigerators within their stores and warehouses to ensure they are functioning properly.

Recommendations to Retailers

» Focus IoT efforts on business outcomes e.g. improved customer experience or reducing wastage. The key to success is to identify the right usage for IoT to maximise business benefits.

» Develop a strategy on how to connect your various devices and ensure the various technologies you want to connect are compatible with each other.

» One of the major challenges related to the adoption of IoT is problems associated with security and privacy. Retailers need to ensure their software is designed with security in mind.

» Retailers should make a gradual investment in IoT technologies. For example, start with signage or IoT software to manage air conditioning/lighting before implementing more sophisticated IoT solutions.

» If not using third parties, ensure you have qualified and trained personnel within your organisation that possess the required technical skills to gain valuable insights from IoT technologies.

Impact on Careers and Skills

IoT in retail is emerging as a very exciting space requiring highly skilled and technical staff. IoT makes it easier to automate routine activities that were previously carried out by retail employees. This frees up employees' time to perform more value-adding activities. Initial reports of IoT replacing people were greatly exaggerated. The technology is empowering them to perform better and carry less mundane tasks.

The complexity associated with IoT technologies results in a wide range of required skills. Some of the key skills required include hardware, programming, networking, application design and development, web and mobile user apps, data science and analytics, security and machine learning/AI as well as human skills such as communications, problem-solving, collaboration, and business acumen. The skills required for IoT employment are likely to evolve as it grows and therefore the importance of versatility and continuous upskilling become more important.
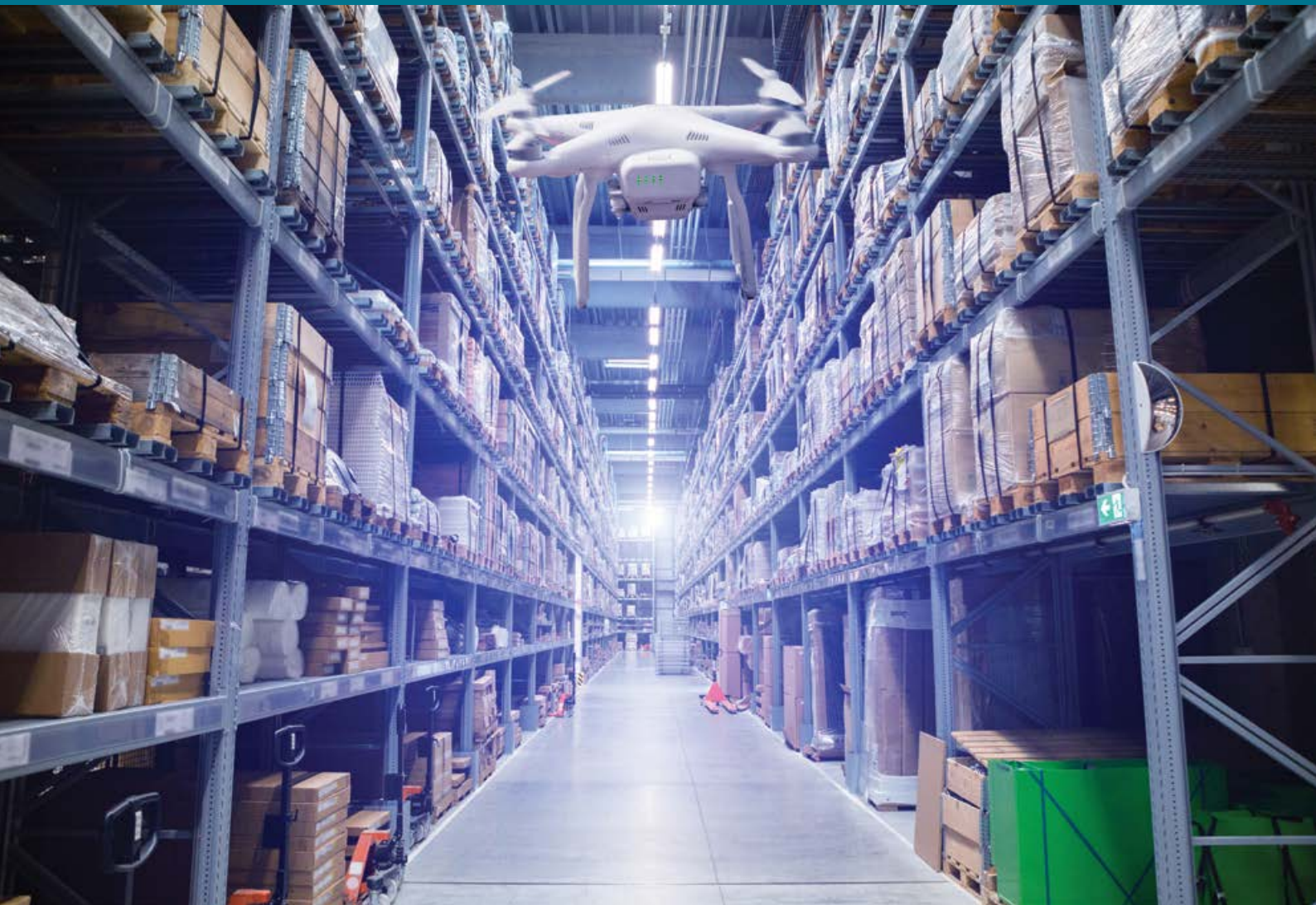
c) Automation and Robotics
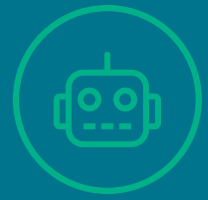
Introduction

Although robots have been deployed in manufacturing for decades, their adoption by other sectors has been limited due to several factors including high costs and limited capabilities in replacing humans. This however is changing with robots becoming much more affordable and advanced in terms of their functionality. Improved navigation and cognitive abilities have made robots more agile and capable of carrying out multiple tasks from moving products at distribution centers to helping direct customers in the store.

Many analysts have suggested that the outbreak of COVID-19 will change people's preferences and create opportunities for automation. And whilst some employees may feel threatened by the prospect of robots taking their jobs, others will experience benefits. A 2019 study by Oracle, found that as employees realised that robots could help them in the workplace, their attitude towards them changed. The research found that 64% of respondents surveyed said they trusted the robot more than their manager and half have turned to a robot instead of their manager for advice[8]. Positive sentiments towards robots from employees were further highlighted by a BBC story portraying employees in Canada feeling sorry for robots when things go wrong and even holding retirement parties for five mail robots!

Automation, Robotics, and Retail

According to a recent McKinsey study, 53% of the work carried out in retail has the potential to be automated[9]. Much of this automation could be carried out by robots.

As retailers look to reduce costs and streamline operations, particularly along the supply chain, robots are only going to become more involved in retail's day-to-day operations, taking on greater roles and interacting with employees and consumers[10]. In addition to reducing costs, many retailers have turned to robots due to challenges associated with the acquisition and retention of staff to carry out mundane roles both in the warehouse and instore. Amazon has reportedly more than 100,000 robots working in its warehouses worldwide, transporting stock, and grouping together items needed for specific orders[11]. Furthermore, Amazon are encouraging their employees out of the warehouse and into last-mile delivery, paying workers up to $10,000 each to quit their job and set up their own delivery business as part of Amazon's Delivery Service Partners program.
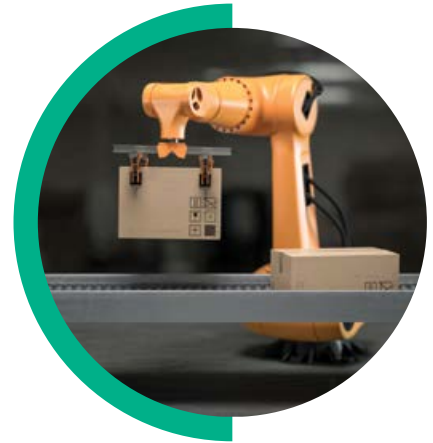
Retailers are not just using robots to replace humans. In many ways, robots are working closely with employees to make them more productive. This collaborative approach where the robot becomes a "cobot" might for example involve a robot scanning the shelves in a supermarket to help the retail employee with decisions in relation to inventory. So instead of counting stock, the retail employee can have deeper and more high-value customer engagements.

Popular Usages of Automation and Robotics in Retail

Perhaps the most significant disruption presented by robots and automation in retail is being witnessed in the supply chain function. The term "humanless warehouse operations" is gaining more traction in reports and studies focusing on the future of work. Inside the Alibaba-owned Cainiao warehouse, 700 robots are used to fulfil orders. In China, online retailer JD.com runs the world's first fully automated ecommerce warehouse. Instead of the usual 400 to 500 workers needed to run a 40,000-sq-m facility in Shanghai, it needs only five[12]. It is not just manual repetitive functions that are being replaced. In some of the more established organisations the roles of quality assurance and security are being substituted by drones and robots.

Many stores have already introduced automatically updated electronic price tags for display shelves, eliminating the need for employees to change them by hand and allowing companies to run and display special offers in real-time. The electronic tags can also facilitate dynamic pricing, discount overstocked products or identify products nearing their expiry date. In the future, more retailers will engage with their customers' smartphones to display personalised prices. This would allow retailers to make bespoke offers that take into consideration a customer's profile, shopping history, and current location in the store[13].

Amazon has paved the way for full automation with its staff-less, checkout-less Amazon Go stores, which utilizes multiple technologies to detect which items customers leave the store with and to charge their accounts accordingly[14].

Other retailers are turning to automation to make the recruitment and development of new staff more efficient. Software is being used to screen new applications eliminating those that do not meet a predefined criterion set by the employer. In addition, more and more retailers are now using robots to onboard part-time/seasonal workers thus freeing up employees to focus on other activities.

A selection of popular robots currently being used by retail organisations worldwide include:

» **Tally** – a robot mainly used by supermarkets to monitor shelves and alert employees of out-of-stock items and problems associated with merchandising (e.g. items on the wrong shelves).

» **Millie** – a robot that alerts customers about spills as well as cleaning the mess up.

» **Pepper** - a four-foot-tall humanoid robot with a tablet on its chest engages with customers instore offering information, taking customer suggestions, or referring them to an employee.

Recommendations to Retailers

» Consider how your customers may react to any investment in automation/robotics. It needs customer buy-in. Are you removing a unique selling point?

» Do not consider the area you are automating in isolation from other business functions within your organisation. Will the increase in efficiency in one area lead to a bottleneck in other areas?

» Consult with your employees/employee representatives in advance of making any investments. Respect their concerns and keep them informed. Remind them that it is not a battle between people and machines. It is about improving performance through collaborating with the robots/software and freeing up employees to perform more important roles within the organisation.

» Carry out an in-depth cost/benefit analysis of the proposed new automation as part of the decision process.

Impact on Careers and Skills

Many experts believe that automation and robotics will have a bigger disruption in employment for the retail sector than any other sector in the coming decade. Others argue that the influence of automation and robotics will be less severe in reducing the numbers employed in retail likening it to the introduction of ATMs in the banking sector. This resulted not in job losses but the redeployment of bank personnel to more customer interfacing roles where humans outperform machines.

Despite these contrasting schools of thought on how automation and robotics will impact the retail sector, it is safe to assume that there will be a reduced need for manual skills and an increased requirement for technological skills. Retail staff will be required to possess the practical skills required to operate and monitor new technologies, such as addressing faults and maintaining devices. In addition, they must also possess well-developed communication and customer handling skills to provide appropriate levels of face-to-face customer service and offer help and support to shoppers[15]. There is a danger that those without these skills or access to training to acquire these skills could be left behind. As competition for hiring tech-savvy individuals with good interpersonal skills becomes more intense, retailers will be forced to allocate increasing budgets to training and development.

d) Blockchain

Introduction

Blockchains are decentralized, shared ledgers where all transactions are recorded securely by encryption in near real-time and are immutable (incapable of being altered or deleted)[16]. Rather than relying on information being stored by an individual/single organisation, blockchain ensures a shared record of data (similar to a Google Doc) showing the lifetime history of transactions across all parties and participants.

As the name suggests, blockchain works by recording data transactions in blocks with new blocks added in order to provide a chronological sequence. Blocks store information about the transaction such as who is participating in the transaction, date, time, price/costs involved, etc... Each of these blocks is secured and bound to each other using cryptographic principles (i.e. chains).

Blockchain and Retail

As highlighted in the previous paragraph, blockchain technology itself is about recording events and transactions. Within retail, there are many uses for blockchain technology, and the list continues to grow as innovations in both blockchain tech and retail emerge. Some of the more well-known uses are presented below.

Popular Usages of Blockchain in Retail

Cryptocurrencies such as Bitcoin have the potential to have a major impact on how retailers engage with customers and suppliers in relation to payments, contracts and transactions. Cryptocurrencies can eliminate intermediaries (e.g. central banks), cut time and costs, and provide unprecedented transactional transparency— all in a secure closed group network[17].

The supply chain is an area many experts believe that will be most revolutionised by blockchain by allowing total transparency on every stage of the product journey. One of the problems facing supply chain managers is the disconnect between various parts of the supply chain. With blockchain, there can only be a single network through which all supply chain participants communicate. Knowing where an item is at any given time drastically reduces the chances of theft or fraud. Blockchain technology traces product information at every stage of the product lifecycle using embedded sensors and RFID tags. This helps address concerns of today's increasingly conscious consumers in relation to their buying decisions seeking products that are eco-friendly, cruelty-free, and manufactured ethically, among other ethical considerations.

In a sector where consumer trust is hard-earned and easily lost, retailers are looking at blockchain technologies to address consumer transparency concerns. Retailers of luxury products are using blockchain technology to authenticate their products/combat counterfeiting by allowing consumers to trace the full lifecycle of the product from production to sale location thus providing greater consumer confidence. This traceability aspect of blockchain is providing additional transparency to food production where supplier and ingredients information can be tracked. As retailers increasingly try to get a clear understanding of their carbon footprint and environmental impact, they will increasingly turn to blockchain technologies.

Another area where blockchain is having a positive impact is around loyalty cards. Most traditional loyalty schemes reveal very limited data about their customers. Collaborative loyalty programs using blockchain technology, where multiple organisations share purchase data about individual consumers, could create a more well-rounded view of the consumer allowing for better personalisation marketing efforts[18]. A further example of how blockchain can improve loyalty schemes is provided by Swiss-based Qiibee. They use blockchain technology that allows consumers to swap their loyalty points acquired from different retailers.

Blockchain can also ease some of the pain associated with product recall by better targeting the products that are unsafe or contain defective parts. This would reduce disruption to customers, track the status of the recall, and reduce overall recall costs[19].

Recommendations to Retailers

» Determine how blockchain can generate additional commercial value and how it aligns with the overall business strategy. Adopting blockchain should be about improving your business processes and achieving business outcomes.

» Before embracing blockchain technology, ensure you have in-depth discussions with suppliers/stakeholders that will be impacted by it.

» Be aware that there is a range of challenges associated with cryptocurrencies including fluctuating cryptocurrency transfer costs and volatility in relation to its value.

» Realise a return on investment can take several years given implementation costs and time required to fully exploit the potential benefits.

Impact on Careers and Skills

Up until recently, it was only the larger firms (mainly tech and financial) that were using blockchain due to the high costs associated with development. However, as the usages for blockchain increase and with more affordable plug-and-play technologies becoming available, smaller organisations from multiple sectors including retail are turning their attention to blockchain. LinkedIn identified skills in blockchain as Number 1 in the Top 10 most in-demand hard skills globally for 2020[20].

The suite of skills required by employers for blockchain practitioners is broad and includes not just blockchain specific skills but cross-discipline skills such as design thinking, Agile, DevOps, communications, business acumen, self-discipline, and teamwork. A good understanding of retail is beneficial for those seeking a position within the retail sector. It is this rare mix of knowledge, skills, and competencies employers that contributed to this study struggle to find. In addition, knowledge, and skills in blockchain technology will be needed by personnel across various functions of the organisation including supply chain, marketing, finance, and regulatory if its benefits are to be exploited.

e) Mobile

Introduction

Much has changed since Motorola introduced the first modern-day mobile telephone in 1973. It would have been difficult to predict back then the impact these devices would have on modern-day life.

Nowadays people are becoming increasingly connected and have unlimited information at their fingertips. They are using their mobile devices for calls, SMS, social media, emails, researching products/services on the web, making purchases receiving loyalty points, and much more.

Mobile and Retail

Retailers are responding to the growth in popularity of mobile devices in a variety of ways. Some have developed apps and mobile-optimised websites to ensure the mobile shopping experience is user-friendly and seamless. Whilst others have introduced features instore such as QR codes or beacons that connect with consumer smartphones to improve the customer experience.

Mobile technology offers retailers much potential in the changing retail landscape where hygiene and convenience are amongst the top concerns. Even before the COVID-19 outbreak, mobile was becoming an increasingly popular technology amongst consumers both nationally and internationally. Mobile technologies can guide consumers around the store, skip checkout queues, determine the best times to visit the store to avoid crowds, etc.

The next section will review some of the popular ways mobile technologies are impacting retail.

Popular Usages of Mobile in Retail

Mobile technology is having a significant impact on payments. These include the use of mobile or digital wallets which allow contactless payments on card terminals using fingerprint or facial authentication on the device. In 2019, an estimated 22% of all Irish consumers used their mobile to make payments which is low when compared to the global figure of 35%. Interestingly, over 50% of Chinese consumers made weekly or more frequent purchases via mobile devices in 2019. In fact, mobile payments via e-wallets powered by the likes of Alipay and WeChat Pay overtook cash as the primary purchasing method by Chinese travellers in 2018. The main growth in those using mobile payments in Ireland and indeed globally is amongst the young millennials[21]. However, since COVID-19 an increasing number of consumers from all age groups are showing a preference for payment solutions that avoids human interaction using technologies such as smartphones.

Retailers are providing customers with an end-to-end app experience that offers everything from instore navigation, payment solutions, managing loyalty points, personalised special offers, and other interactive content[22]. The retail employees can also benefit from mobile apps by better empowering them to make more informed decisions. Providing mobile devices to employees supports them in accessing valuable information from managing inventory to addressing customer requirements and improving engagement, convenience, and immediacy. Beacon technology (described in the IoT section) used in conjunction with apps can inform the retail associate which customers are instore, send them personalised promotional offers as well as providing important data about these customers such as preferences and past purchases to better support efforts in upselling and cross-selling. This intelligence allows the employee to better personalise engagement with customers. There are many options for bringing devices to the store floor, from shared devices to unique personal devices as well as asking employees to use their own smart phones.

Some retailers such as Amazon Go, Hema, and 7FRESH are taking mobile apps to a new level by only allowing consumers who have downloaded their app entry into the store. This is because once instore, consumers must use the app to scan the products in the basket and complete the transaction without getting into a checkout line. Other retailers are replacing their email communications with mobile app notifications as their main tool for communications due to the instant notification and better click-through rates.

Organisations are also using apps to develop innovative and creative learning environments. Walmart created an app called Spark City which is a simulation-style video game that puts players in charge of a Walmart department to develop their management skills. It shows players what it is like to work as a supervisor in the store for a day and the typical challenges they encounter. It is available in App Store and Google play for Walmart associates as well as the general public.

Recommendations to Retailers

» A mobile-first strategy should be taken when developing a website or designing social graphics. As consumers are increasingly researching and purchasing goods using their mobile devices, retailers must ensure the experience exceeds their expectations. In 2019, revenue generated on mobile devices globally accounted for 54% of revenue and 70% of traffic and is expected to grow significantly this year[23]. The store of the future will become increasingly reliant on smartphones and apps so having a mobile-first strategy that supports your customers, employees and wider organisational goals are essential.

» As more and more consumers rely on their smartphones as their first port of call for sourcing information and making transactions, it makes sense that retailers consider a branded app. Apps provide consumers with a faster and smoother experience than accessing your website. Increasingly, demanding and sophisticated consumers expect your app to facilitate more than your website can and will not be encouraged to download your app without this additional functionality. As the consumer engages more with the app, he/she expects the software to provide more personalised information and offers. When designing apps remember customers expect a friction-free experience so ensure best in class architecture and user experience is adopted throughout the design and development processes[24].

» Consumers expect retail associates to have the same level of access to digital information as they have in relation to the products and services. A 2019 study by Retail TouchPoints found that 85% of customers expect retailers to provide their staff with handheld or fixed devices to check inventory and price within a store[25]. Retailers that encourage consumers to use self-checkouts should ensure that they have staff nearby who can demonstrate to consumers to use this form of scanning and to implement a thorough cleaning protocol after each shopper has used the device.

» With the rise in consumers using their mobile devices for shopping, social media has become more important than ever for retailers when communicating. This is especially true for younger shoppers. Different social media messages may need to be transmitted to address different consumer segments. According to PwC research in 2019, almost 30% of Irish customers are influenced by reading positive social media reviews with this impact increasing to around 50% for fashion and technology categories[26].

» Get ready for 5G! 5G has about 20 times the speed of 4G. This will open new opportunities for mobile especially in relation to enhancing customer instore experience for many IoT and AI technologies as well as significantly reducing power consumption.

Impact on Careers and Skills

One of the most critical factors for the successful implementation of a mobile strategy involves educating and training retail associates in relation to the functionality of the different mobile devices used within the organisation. Too often, retailers take it for granted that their employees who they believe to be tech-savvy will somehow automatically understand the workings of their mobile devices. In addition, the information available to consumers on their mobile devices only raises the bar in relation to what they expect from store associates. Consumers expects the store employees to provide them additional product knowledge from what is already available to them on their mobile. This increases pressure on employers to ensure their staff are more informed than ever before.

Equipping staff with mobile devices will make the employees more flexible in relation to what areas of the store they can work in as opposed to assigning them to narrow roles. Frontline staff should not only be able to provide information about the products on display within the specific store, but also have access to omnichannel services. Consumers expect that retail employees should have the knowledge and skills to be able to order products on the spot for them – either ordering online for delivery to their home or store, or finding the product to pick up from a different store nearby. To satisfy this, customer-facing employees should have access to mobile devices and be equipped with digital skills in how to use them[27].

f) Artificial Intelligence

Introduction

Artificial Intelligence (AI) is defined as the capability of a machine to replicate intelligent human behaviour and human decision-making capabilities[28]. The term represents a family of technologies and systems that can sense and observe the environment around them, and then act and learn from these experiences to predict future outcomes[29].

AI encompasses machine learning where machines can learn from experience, acquiring skills without human involvement. AI is a crucial facilitator in much of the technologies disrupting our personal and working lives. AI is all around us, from Netflix programme recommendations, to smart assistants like Alexa answering our everyday queries, to having conversations with chatbots where they provide personalised engagements.

One of the major drivers behind AI is Big Data. Efforts by organisations to collect as much data as possible resulted in an increased emphasis on finding ways to process, analyse and implement this data. Humans quickly realised that in many instances, the interpretation of this data was beyond their capabilities and therefore looked at machines to do it for them. These smart machines can provide higher quality outcomes much faster than humanly possible.
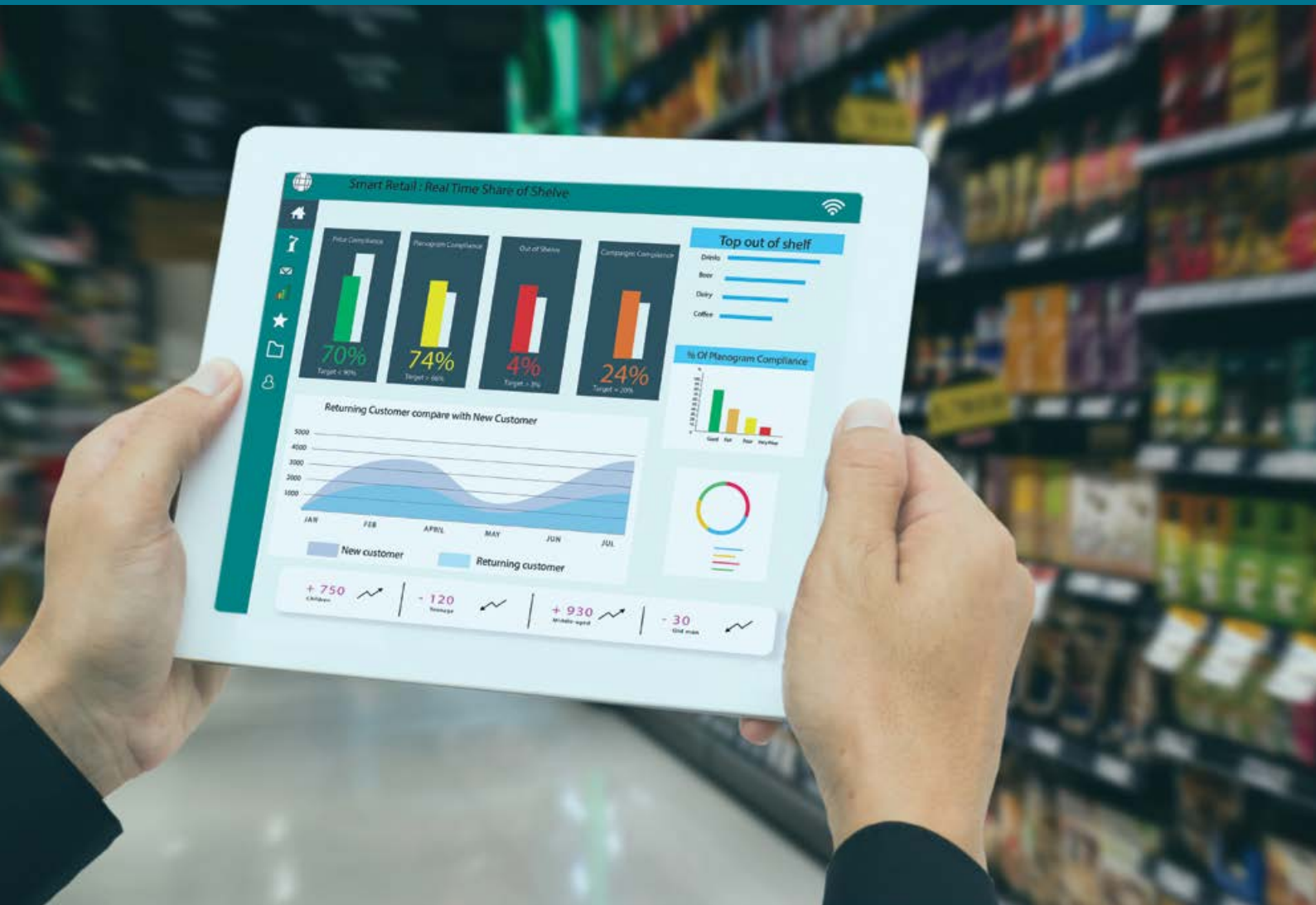
AI and Retail

Retail has been identified as one of the sectors that could benefit the most from AI. AI technologies can convert raw data collected from multiple sources to provide valuable insight into customer preferences and market intelligence.

Often, we do not realise the impact AI is having in retail, but AI inspired technology is disrupting retail both instore and behind the scenes. Everything from automated warehouses and stores, conversations with chatbots to analysing big data to personalised communications with consumers to wallet-free checkouts are enabled by AI. Offline retailers are using AI to level the playing field to compete with online operators by allowing their instore consumers to use their AI inspired technologies such as chatbots and in-store navigation solutions. AI provides opportunities to improve processes and customer engagements.

> **The next section looks at some of the more popular ways AI is impacting retailers.**

Popular Usages of AI in Retail

Retailers are turning to AI to better manage customer service by using chatbots to interact with shoppers. This approach lends itself well for a wide range of consumer products including clothes, furniture, and equipment where chatbots can extract information like size, fabric, brand, colour, and seasonal before suggesting something that addresses consumer's preferences. For example, consumers coming into North Face stores in the US looking for a new coat will be invited to engage with AI technology developed by IBM. The technology will make personalised recommendations after questioning the consumer on what they want the coat for, where will they be wearing the coat as well as the time of the year you want the coat for. In turn, these bots are collecting valuable data from the customers that can support future sales thanks to a constantly refined dataset. In May 2020, Lidl Ireland launched a WhatsApp Chatbot to help consumers find the quietest time to shop within their store during the COVID-19 outbreak. Shoppers send a message with the day and time they intend to visit, and it will instantly let them know whether that is a quieter/average/busier time to visit.

One area where AI is already having a significant impact is the supply chain where most mishaps are the result of human error. AI is helping retailers create better demand forecasts by reviewing data from consumers, competitors, and business market as well as the wider economy. Retailers can predict the impact on inventory as a result of changes in marketing initiatives they may implement. H&M uses an AI algorithm to review store receipts and returns to review purchases at each of its stores. This then informs which products to promote and how much stock of a certain product is required at different locations. Retailers are also using AI technologies to replenish stock items across multiple sites resulting in a more agile approach to fulfilment and distribution.

AI can help retail organisations make better use of their data, acting as a road map to improve how they navigate through the masses of data generated. Through AI, better conclusions and more personalised shopping experience for the consumer can be realised. Retailers are using data to create more targeted marketing campaigns based on location, preferences, buyer behaviour, and other demographics resulting in better conversion rates. AI can identify much more insight from data than a human would be able to and can pinpoint patterns in consumer data, allowing retailers to improve operational activities and customer experience[30]. When it comes to the emergence of AI in email marketing, there are many forms and practical use cases where AI can be leveraged including automation, personalisation, segmentation, send-time optimisation, content, and even subject lines[31]. Retailers are also using AI to personalise their website to reflect visitor profiles, previous purchases, and shopping behaviour. This should enhance the success of product recommendations provided to customers shopping online. A further marketing-related usage described by a forecourt retailer that contributed to this study involves using machine learning to review sales, competitive and economic conditions, and making recommendations for the price of petrol and diesel at their pumps. The software identifies relationships between various variables (i.e. competitive prices, economic conditions, cost of production and seasonal factors) as well as predicting an accurate return on investment figure. Grocery stores operating in Ireland are using AI technologies for demand forecasting. This software combines the retailers' historical internal data such as sales figures, promotional campaigns, product information with external data such as weather, holidays, economic conditions, and other special event data to predict the demand for each product daily.

AI can provide retailers with suggestions in relation to merchandising and store layout. It does this by analysing customer shopping habits and recommending what products to put next to each other, so consumers buy more. This can be done on a per-store basis so regional/local differences are recognised.

Recommendations to Retailers

» Do not rush into AI investment just for the sake of it. It is not a solution that solves all problems. Determine what problem/opportunity you want AI to address. Can the AI technology better address this? Is the technology available and within your budget? Talk to others that have used the software. This will provide you with information in relation to costs, recruitment, upskilling, and other changes required.

» Consider the impact any new AI technology will have on skills requirements. For example, predictive analysis technologies referred to above rely on the right skills within the organisation, to first of all, ensure the right quality internal data is available for the software and analyse the data produced by the technology.

» AI technologies can be quite expensive so start small and scale fast. Start your AI journey with a low risk case that offers immediate returns.

» The benefits offered by AI rely on large, clean, and well organised data sets. Before investing in AI, ensure the required data to benefit from AI potential is available.

» Retailers that contributed to this study suggested that much of the AI technologies they are considering or are currently using require bespoke development with "off the shelf" versions rarely available. This has restricted many of the smaller independent retailers from investing in this area. More affordable solutions are expected to become available in the coming years so smaller and independent retailers should keep an eye on this space. Chatbots are one of the more basic AI technologies your small business can invest in. The tech skills required to use this technology are becoming more basic with more user-friendly systems coming into the market.

Impact on Careers and Skills

Successful implementation of AI requires balance. Matching implementation of carefully selected AI technologies with talent and skills. The accelerated pace at which AI technologies are growing has created challenges as the growth needs to be supported by the right talent with the required skillsets in this relatively new domain. Many organisations are struggling to meet their demand for AI talent. This talent scarcity is a global phenomenon and is not confined to Ireland. It is also visible in more mature markets such as the UK, Europe, and the US[32]. Retailers that contributed to this study alluded to the fact that it can be more difficult for retail organisations to attract AI developers into their organisations with the competition posed by global tech giants operating in Ireland. The difficulty in retaining AI specialists was also highlighted as a major challenge faced by retailers.

A recent Retail Week survey suggested that 47% of retailers surveyed identified a lack of skills internally as the biggest barrier to AI implementation[33]. However, successful deployment of AI is not just about expert data science and engineering talent, but also the skills base across the business. Retailers need to ensure there is a basic understanding of the use cases and opportunities afforded by the multiple technologies within the AI family[34].

g) Virtual Reality & Augmented Reality

Introduction

Virtual Reality (VR) and Augment Reality (AR) are changing the way we live and work. These technologies are already being used in a wide range of organisations operating across multiple sectors including education, entertainment, healthcare, engineering, retail, hospitality, construction, and manufacturing.

Even elite athletes in different sporting codes are using VR and AR technologies to simulate different formations, motions, and plays. These technologies are enabling improvements in very diverse ways from allowing surgeons to train for life-saving operations on virtual operating tables to helping consumers quickly select their preferred makeup or test drive cars without ever getting into them.

Whilst there are similarities between AR and VR technologies, it is important to note the differences. With VR, users are completely immersed in a computer-generated reality similar to what you would experience in video games. Users often use headsets and gloves to experience an alternate world or reality. Users may experience a travel destination without leaving their home or learn what it is like to walk on the moon using VR equipment and technologies. And whilst their main appeal maybe for the gaming and entertainment sector, their potential can be exploited for a vast range of usages including enriching consumer experiences.

AR on the other hand is typically experienced using less sophisticated equipment such as a mobile phone. Many people are familiar with AR as a result of the 2016 Pokémon Go AR mobile game developed by Niantic in collaboration with Nintendo. As opposed to creating a virtual world, AR is more concerned with enhancing the physical world by superimposing images or objects using a smartphone. Whereas VR replaces what people see and experience, AR just enhances it.

Virtual Reality (VR)

Augment Reality (AR)

AR and VR in Retail

Both AR and VR technologies are gaining traction due to their impact and potential in intense marketing, gaming, brand development, and entertainment.

As retailers attempt to satisfy the experience sought from increasingly demanding and sophisticated consumers, investments in AR and VR technologies are expected to rise significantly. Consumer adoption of VR may be slower due to the need for specific equipment, high cost, and even personal issues such as motion sickness experienced by some people when using the technology.

AR and VR technologies offer retailers an innovative opportunity to showcase their products or services to customers in an engaging, interactive, and personal way. While online shopping has become commonplace, in many cases, people still want to try products in person before purchasing. AR and VR can combine the convenience of shopping online with the confidence that comes from trying product instores. These technologies will help provide knowledge-seeking consumers with a deeper understanding of the products they are purchasing while shopping. Retailers attempting to address health, safety, and hygiene concerns associated with trying clothes on in the store or returning products purchased online will also increasingly turn to AR and VR technologies.

Popular Usages of AR and VR in Retail

Retailers are turning to AR mirrors to reduce the amount of stock they carry and improve consumer convenience. Customers virtually try on outfits and then select the ones they prefer to physically try on. Similar technology can be made available to consumers without them ever visiting your store. L'Oreal has developed their Makeup Genius app which turns their phone into a virtual mirror. Beauty has traditionally been a difficult sell online. The benefit of using AR for beauty products is the customer can try different looks from the comfort of their home, adjusting colours and styles to suit their specific requirements[35]. Furniture and home appliance organisations are using similar technologies to give customers an impression of how their kitchen and other rooms would look and feel like before purchasing[36]. The app overlays virtual versions of the products onto the real-live image of customers' living spaces. Users can interact with various configurations of furniture and other items as if they were standing in the rooms.

Many retailers are replacing boring catalogues with AR inspired interactive formats that provide a much better opportunity for the consumer to preview a product. This has shown to significantly increase the chance of purchase. Similarly, other retailers are replacing traditional labels with AR labels which shoppers can access via their mobile phone to provide a wealth of digital information.

Retailers such as Nike are using AI inspired technology to reduce high shipping and return costs incurred due to products not properly fitting the consumer. In advance of purchase, the consumer is encouraged to use the Nike Fit app downloaded on their smartphone to scan their feet in less than a minute before recommending a shoe size and fit. Amazon has also found AR technologies extremely beneficial in lowering the number of product returns.

AR and VR can prove to be excellent tools for digital marketing purposes, providing engaging and intuitive content. In a crowded space where grabbing the attention of potential consumers is becoming increasingly difficult, retailers are benefiting from the ability provided by AR and VR to evoke interest and encourage interaction.

Retailers are also turning to virtual reality technology for training solutions in recent years as the costs of employees making mistakes in a live environment increase. This technology allows employees to be trained by simulating real-life environments. Walmart is using VR to immerse employees in real-life situations e.g. dealing with angry consumers, handling "Black Fridays" or managing underperforming employees to test their soft skills decision making and leadership capabilities.

Recommendations to Retailers

» Technologies such as AR and VR are becoming increasingly important in meeting the needs of more demanding and sophisticated consumers. Retailers now have to offer a strong reason for people to come to their store. The concept of a near-by convenience store may not be that attractive as it was a decade ago. The physical space and overall experience must set apart the brick and mortar stores[37]. As costs of AR and VR technologies come down, retailers of all sizes should as a start review some of the solutions AR and VR technologies can address in improving customer experience and ensuring destination retail.

» Focus on a solid business case for investing in AR or VR. Before adopting AR or VR, retailers need to determine if their existing offering (physical and online) is working satisfactorily. There needs to be a justification for investing in a new technology e.g. reduce costs, increase revenue, or improve processes.

» The outbreak of COVID-19 has changed the way people shop. Up until recently most shoppers would go to the shop, touch, and try products in advance of purchase and make comparisons with other products. Providing consumers with the ability to preview products along with a certain level of personalisation is key to successful retail. AR technologies can prove a safer option for trying out many products including cosmetics and clothes. Retailers need to explore the potential of AR in letting consumers virtually try products before purchasing.

» The successful uptake of AR or VR technologies will be largely dependent on how user friendly it is. This is dependent on several factors including how the user performs actions in the experience, the hardware used, the facilitation of the experience, and even the environment.

» AR and VR investments may be significant and therefore it is recommended you start small with a pilot project so its costs and benefits can be easier to measure. You should measure the benefits presented by the technology before making a greater investment[38].

Impact on Careers and Skills

AR and VR technologies are expected to impact more and more industries in the coming years and career opportunities in this area will grow dramatically. In addition to the technical skills including coding, software development, 3D modelling and design, those looking for a career in AR/VR will be required to be creative, good at problem-solving, analytical with strong interpersonal skills. Because many of the AR and VR technologies discussed above are quite new to Irish retailers, it is not surprising that respondents to this survey identified a lack of AR/VR expertise as a major barrier to growth in this area.

Conclusion

Retail is moving more and more towards a technology-driven industry. All the retailers that contributed to this study are making investments in technology over the next 1-2 years. Retailers are also not afraid to seek out technology-based start-ups to improve their business operations – after all, it can get them access to innovative ideas that might otherwise fall into the hands of their competitors. Almost 40% of the retailers that contributed to this research are already partnering with start-ups, while another 33% are looking for start-ups to collaborate with. Interestingly, several retailers that participated in the interviews are reselling technology they developed to other national and international retailers.

Every facet of retail is being increasingly impacted by technological advancements. The speed of this acceleration is set to surge in the coming years to meet the needs of demanding and sophisticated consumers. Retailers are also turning to technology in an attempt to make operations more efficient and reduce costs as margins come under pressure from all sides. Organisations should understand there are cost savings and business benefits to be found using these technologies but should build their case around a quantitative return on investment, rather than focusing just on cost[39]. In addition, employers should consider the likely impact new technologies will have on consumers and employees. The outbreak of COVID-19 is also speeding up the rate of adoption of new technologies amongst retailers as concerns for health, safety, and convenience intensify.

The impact the various technologies presented in this section are having on skills, tasks, and roles is gaining much attention. Some experts are suggesting that many jobs will be replaced by emerging technologies such as automation, robotics, AI and so on resulting in significant job losses for the retail sector. Other experts prefer to focus on the new positions that will be created. The likely outcome is probably somewhere in the middle. Whilst a number of the more manual roles in retail would appear in danger, new technological roles will evolve. Positions we previously associated with the technology sector are already becoming more evident in retail. The competition for hiring talent to fill these roles will be more intense than ever as every sector is being increasingly impacted by technology.

Retail employees will also be expected to take on more roles where they interact with customers. Although digital skills are becoming increasingly important within the retail sector, more and more employers are seeking out employees with soft skills, those that contribute to creativity, adaptability, interpersonal interactions, and resilience[40]. Employers that invest in these skills are more likely to gain a competitive advantage.

Section: 4

Retail Disciplines

Introduction

The section will review how technology is impacting the following key retail disciplines:

1. Retail Sales
2. Customer Experience
3. Retail Marketing
4. Visual Merchandising
5. Supply Chain
6. Loss Prevention
7. Payments

1. Retail Sales

Introduction

Retail sales have been revolutionised by technological advancements over the last twenty years. The rise of the internet, new technologies, increased broadband connectivity, and mobile penetration has flipped the traditional retail model on its head. Irish retailers across all subsectors have had to reimagine, rethink, and reshape everything about their business models to keep pace with the changing retail technological landscape and ever-evolving consumer paths to purchase.

Today's consumer is always connected. The internet has provided consumers with access to retailers globally, while mobile technologies have put information at consumers' fingertips, anytime and anywhere. With 96% of Irish consumers owning a mobile phone, of which 91% is a smartphone – it puts the consumer firmly in control of the pace at which retailers should adopt technology[41].

Over the last twenty years, we have witnessed the evolution of the traditional bricks and mortar retail concept, with the emergence of new retail formats, including:

» **Omni-Channel retailers:** Retailers that have a fully integrated customer-centric approach to commerce across all channels (including instore, online, social, marketplace, and catalogue) providing shoppers with a unified, seamless, integrated, and consistent experience across all touchpoints.

» **Multi-Channel retailers:** Retailers that are selling on multiple channels however do not have an integrated approach across all customer touchpoints.

» **Pureplay retailers:** Retailers that are digital natives, they only sell online and do not have a physical store.

» **Subscription Box Services:** Consumers pay a monthly fee and in return they receive a monthly box filled with predefined or a surprise selection of products. In recent years, subscription box services have experienced explosive growth with new market entries along with traditional and online retailers offering the service.

» **Access Over Ownership:** Consumer demand for convenience and choice has given rise to access over ownership retail formats such as lending or renting. This model has been increasingly seen in fashion, bicycles, and car dealerships.

» **Manufacturer to Consumer:** Suppliers and manufacturers selling direct to the consumer across all retailing subsectors has become the norm. Putting increased pressure on traditional retailers to maintain a point of difference and margin.

» **Consumer to Consumer (C2C):** Sales where private individuals can sell to each other. Marketplace platforms such as Etsy, Amazon, and Ebay are catalysts for growth in C2C.

» **Pop-up shop:** A temporary physical store locations that allow retailers to create a sense of exclusivity and an opportunity to test new markets relatively cheaply.

» **Discounters:** Creating their own place in the market, discounters have disrupted certain retail subsectors by establishing and maintaining a high quality/price ratio through private labels, delivering streamlined operations and limited assortments.

The growth catalyst for many of these new retail formats has been the evolution of the internet and digital commerce. The steady growth of payment-enabled websites, mobile, and marketplace selling has enabled a new way of doing business for retailers. The most successful retailers are combining their hard-earned retail instincts with technology to fuse the old with the new and create new ways of selling in a modern retail environment.

Agnostic - Instore and Online as One

Retailers must accept that customers do not just buy instore or online anymore, to the customer its all the same. The customer's path to purchases is not linear in that they only use online or they only use bricks and mortar, the two are so intertwined. Customers are online checking prices, reading reviews, checking out social media, comparing products, and virtually trying on products, before making a purchasing decision instore. On the other hand, retailers must accept that customers are coming instore and researching competitors' websites for additional product information, alternative sizes, and/or discounts.

To capitalise and to ensure that every sale is closed, retail sales professionals must view online as an opportunity to connect and convert customers as opposed to considering it as a threat. According to our research, a challenge faced by many retailers selling across multiple channels has been aligning organisational strategies. Many retailers have maintained a siloed approach for managing people, sales targets, discounts, pricing, marketing, and supply chain resulting in limited internal collaboration. There are separate teams responsible for different departments and there are limited opportunities for collaboration and sharing of knowledge between them.

Retailers must align pricing, delivery, discount strategies and develop new ways of ensuring employees feel involved, connected, and non-threatened by digital activities. Ongoing training, joint organisational sale KPIs for instore and online and sharing of organisation digital plans are a few strategies to achieve team buy-in. When retailers fail to achieve team buy-in, in this highly digitised economy, they run the risk of losing more than sales, they could forfeit customer trust, loyalty, and market share. It is recommended that retailers adopt an agnostic channel approach. They must break down internal communication barriers and create a collaborative, transparent, and agile approach if they are to capitalise on selling opportunities across different channels to its fullest potential. Shoppers do not view online, social, mobile and bricks and mortar as separate and neither should retailers. Retailers with tight online to bricks and mortar integrations will gain a competitive edge.

> **It is acknowledged that the technologies outlined below have multiple applications in retail subsectors, however, to identify how technology is impacting sales and its subsequent impact on skills, this report will review instore sales and ecommerce separately.**

Instore Sales

Introduction

The role of the salesperson has changed significantly in recent years. Not so long ago, it was enough for the successful retail salesperson to be a product expert, to know what their competitors were up to and to build relationships with their customers.

A salesperson is no longer just a person who sells products, job titles have been adjusted to what the position actually is nowadays. The traditional salesperson's role has evolved into 'Brand Ambassadors' where their purpose is to develop and maintain a positive company image by efficiently engaging with consumers, increasing brand awareness, and driving sales. The modern sales professional must understand the organisation's vision, values, various functions, and sales channels such as online and social.

As consumers migrate online to research, review and purchase goods and services, they are coming instore for click and collect services and to return goods purchased online, which bestows a new paradigm of responsibility on retail salespeople working in physical stores. As many Irish retailers do not have a separate inventory for online orders, the responsibility falls upon sales professionals instore to pick goods, and in some instances prepare them for shipping all from the shop floor.

Increasingly instore retail sales professionals need access and ongoing training in technologies such as:

» **Handheld terminals** that are connected to inventory so sales teams can check stock availability instore and across the entire real estate. The retail sales professional does not have to leave the customer, making it easier to close the sale. Also, as retailers increasingly fulfil orders from shop floor inventory, the handheld terminals can alert teams of new orders which need to be picked, packed and dispatched.

» **Cloud-based customer relationship management system** providing real-time visibility to salespeople on areas such as a customer's frequency of purchase, average units per sale, purchasing history, brand preferences, sizing preference, and average transaction value. This allows for deeper personalised connections with customers and opportunities to effectively upsell and cross-sell based on previous behaviours.

» **PC, tablet, or wearable tech** allows salespeople to keep abreast of marketing activities so they are informed and can better deal with customer queries providing a more connected instore experience. In addition, it allows salespeople to codify their product knowledge, using text or voice memos to record product features and benefits. Thereafter, this can be used by the website product listing team to improve online descriptions and to give marketing teams a deeper understanding of product benefits.

» **Mobile technology** such as apps provides a wide range of cross-functional applications that are highly beneficial on sales teams. Below is a selection of possible applications:
  - In a socially distanced society, retailers will be dependent on apps that can predict the queue length, customer footfall, and behavioural habits at different times of the day.
  - Stay informed by having immediate access to the organisational website and social media platforms.
  - Communicate effectively with customers using text, chat, email, and video conferencing.
  - App technology enabling customer temperature scanning, so when alert criteria are met, the mobile app signals a warning.
  - Facilitate customers to virtually try-on products using AR technologies.

» A growing trend amongst retailers is **Bring Your Own Device (BYOD)** where employees are encouraged to use their personal smartphones at work. Retailers benefit as it reduces the device procurement costs, gives equal access to technology with access to data in real-time across teams plus sales teams can provide customers with a more engaging instore experience. According to research published by Microsoft, 72% of customers said they experienced a better shopping experience when sales professionals use mobile technology to check product info, facilitated credit-card checkout, or inventory look-up[42].

» **Ecommerce instore services** such as Click and Collect and online refunds. As click and collect services present opportunities for salespeople to upsell and cross-sell, sales training strategies should be put in play to capitalise. In addition, sales teams are increasingly dealing with customer product refund requests. As ecommerce platforms introduce new payment solutions online, it varies the process for completing refunds instore – for example PayPal may have a different refund process than credit cards. Frontline salespeople should be equipped with the knowledge to deal with customers' requests competently and confidently.

> **In the next section, the emerging technologies relating to Instore Sales as identified by research participants will be presented.**

Technology Trends in Instore Sales

Cloud-based Electronic Point of Sale (EPOS)

In today's digital environment, it is critical that retailers have an effective EPOS solution. The findings from this research study suggest that retailers are looking for an all-in-one EPOS solution having integrations with their ecommerce platform, loyalty system, CRM system, payments, marketing, courier partners, and accounting. Many retailers have turned to cloud-based EPOS solutions for such capability. There are several advantages to using a cloud-based EPOS solution in that retailers can make changes centrally and they take effect across multiple stores almost immediately, which makes running multiple store locations seamless. Cloud-based technology allows retailers to access data on demand via their smartphone, tablet, and desktop[43]. Furthermore, cloud solutions are often viewed as more secure than traditionally internally networked and hosted EPOS systems. With cloud-based EPOS, payment integrations are more seamless, secure, and straightforward allowing retailers to offer consumers up-to-date payment options.

Likewise, AI technology is reshaping the power of EPOS systems. For retailers, data is their most valuable commodity. By infusing the power of AI to EPOS systems, retailers can gather and analyse huge amounts of customer data across different selling locations including instore, online, catalogue, chat, and social to derive valuable real-time insights. By utilising the data collected through AI, retailers can automate processes such as stock replenishment, predict sales targets, and identify trends.

Pricing Optimisation Software

Pricing optimisation software is facilitating dynamic pricing strategies for many retailers both instore and online. Dynamic pricing gives retailers the ability to automatically update their prices of products and services across multiple locations almost immediately. This technology is particularly prevalent in forecourts where stock levels, competitor pressures, margins, and market conditions can impact the selling price. Machine learning, a subset of AI technologies using a wide set of algorithms is constantly monitoring and updating autonomously. Retailers are implementing dynamic pricing strategies to protect and grow sales and profits and minimise organisational exposure to political, economic, environmental, and social factors.

IoT Smart Vending Machines

The concept of vending machines is not new, however, their use within the retail landscape is being reimagined. The IoT is revolutionising the traditional standalone vending machine. The IoT always connected smart vending machines can:

» identify stock outages;
» trigger replenishment strategies;
» identify dispensing issues and remedy;
» offer multiple smart payment options;
» monitor sales trends; and
» provide retailers a wealth of customer data.

Today you can buy just about anything from a vending machine with everything from hot food, gift hampers, face masks, sanitising wipes, make-up, phones, underwear, and ties to mention a few. An interesting application for internet-enabled vending machines post COVID-19 will be for click and collect instore collection services. IoT smart vending machines will act as a smart-locker where customers can retrieve products they purchased online by scanning a QR code or entering a pin code. Advanced technological advancements will allow for hand gesture navigation and foot-controlled navigation to avoid physically touching the screen or pin pad.

Another interesting application can be seen at Nike by Melrose who have integrated their smart vending machines strategy into their app usage and customer experience strategy. Customers simply scan a QR code via the mobile app, thereafter free merchandise such as socks or headbands are dispensed from the vending machine. Tiffany & Co. have introduced vending machines into their Covent Garden store selling perfumes. Smart vending machines have a wide variety of applications across retailing subsectors and adoption rates will gain traction as contactless shopping grows in popularity.

> **In the next section, the skills identified as being most important for Retail Sales professionals will be presented.**

Skills Required for Instore Sales

Sales are the backbone of retail. Therefore, the skills of frontline employees must be continually developed and optimised to ensure every opportunity to upsell, cross-sell, and to close sales are taken. Developing sales teams' confidence so they feel comfortable approaching customers, asking questions and making product recommendations is fundamental to the role. Understanding techniques in how to ask open questions, pick-up on the customers' tone of voice and body language are critical.

Retailers must develop product knowledge training to ensure employees are continually updated with relevant and deep product knowledge. Product knowledge training should explain the unique selling points of a brand or product including features, benefits, and purposes. Microlearning which is delivered online works well for product knowledge training because it ensures spaced repetition and continuity, which is far more effective than cramming everything into a single session.

The retail sales professional should be equipped with strong verbal and non-verbal communication skills. They should be able to practice active listening skills so they can better ascertain and respond to customers' needs. According to our research, retailers want to hire sales professionals that can empathise with the customer, to be adaptable, and to be open-minded to change. Retailers want sales professionals to have essential 'soft skills' such as emotional intelligence, creative thinking, time management, networking, teamwork, and conflict resolution.

Digital technologies are providing new ways for retail sales professionals to understand their customers' preferences and behaviours. Sales professionals must be technologically literate and data-driven. They should have ongoing training in systems including Microsoft Applications, EPOS, CRM, loyalty programme, and how to navigate the company and competitor websites.

Retailers know that developing customer loyalty is critical to business success. Retailers know the cost per acquisition is much higher trying to attract new customers than it is to retain existing customers. Retail sales professionals should understand

the different theories relating to loyalty, customer lifecycle management, and the customer lifetime value model. As the retail sales professional is the organisation's closest link to understanding the customer, they should be involved in idea generation activities with various departments including customer service, marketing, ecommerce, and supply chain. Retail sales professionals should understand how to develop ideas, uncover challenges and opportunities, collaborate with others, test, and implement ideas.

As the role between instore and online continues to blur so will the role of the instore sales professional. As customers continue to research products online and purchase instore, the retail sales professional must be familiar with the website and comfortable talking to the customer about the retailer's digital offering. They must be familiar with the website strategy, how it complements their role instore and overall sales targets, so they see it as an opportunity, as opposed to a threat.

In addition to the skills identified above, the following were identified as being most important for retail sales professionals:

- » **Active listening skills:** This is a crucial skill when dealing with customers. Understanding techniques to open conversations with customers, avoiding closed questions, and how to make product recommendations based on their needs.

- » **Communication skills:** Effective verbal and non-verbal communication skills are essential. Understanding body language, tone of voice, digital personality, power of words, and communicating with confidence.

- » **Financial knowledge:** Understanding basic reports and how to calculate fundamentals such as margins, discounts, gross margin, net margin, and sell-through. Sales professionals are goal and target driven. They need to understand how to develop a focused, unified, and target driven approach to sales targets.

- » **Product knowledge:** To deal with customer queries with confidence, product knowledge training is required on an ongoing basis, especially for retailers selling seasonal products.

- » **Technology awareness:** Ability to operate different devices such as mobile, desktop, and tablet. Acquiring EPOS operating skills in sales, refunds, payments, processing online refunds, click and collect is essential. The ability to access the internet, search and understanding of how to navigate and use the functionality to the company website.

- » **Microsoft Office proficiency:** Increasingly, salespeople are using digital technologies to correspond with consumers, internal teams, and suppliers. Hence, they require skills in Word Processing, PowerPoint, Excel, Teams, and Outlook.

- » **Customer relationship management:** The ability to identify customers and differentiate data to understand preferences, purchasing history, values and needs through the customer lifetime cycle. Understanding techniques to drive loyalty, retention, win-back lapsed customers and thereby increasing sales.

- » **Legal and data regulations:** Working practice knowledge of laws and regulations relating to consumer rights, sale of goods, and data protection regulations.

- » **Social media:** As brand ambassadors, basic social media training across various social media platforms is essential for employees to keep pace with how the customer is engaging with the business. Social media policy, digital personality and organisational tone of voice are essential. As employee social media advocacy programmes are increasingly being developed by retailers, this will become essential.

- » **Teamwork and collaboration:** Understanding the importance of teamwork, coaching others, having difficult conversations with customers, productivity, building healthy relationships in the workplace, time management, and corporate social responsibility.

Thought Leadership

AI in Ecommerce: Key Considerations

By Dr. Kevin McCarthy

RecommenderX

With margins growing ever tighter, consumer goods companies need now more than ever, to be driven by the insights hidden within their data. Borrowing techniques and processes from well-established industries like airlines and hotels FMCG companies are now starting to engage with the potential of Revenue Optimisation.

One View of all your data
Understanding product performance and making effective strategic decisions, is difficult, especially if clear data signals are unavailable or unreliable. Being data driven is hard and bringing together the multiple sources of data available (e.g. from Nielsen, Kantar, Dunnhumby, etc.) into one view of the truth is harder still.

New technology promises to automate the data processing step and output rich visualisations and democratise access to all levels within the organisation. Apart from the cost-savings and efficiencies of automating this process, the capabilities of such a solution could be game-changing.

Increased Sales
With the data and visuals sorted, dynamic insights into product performance all the way down to an individual store-level are possible. Sales representatives could identify opportunities and guide their daily interactions with store managers.

Pricing & Promotion Optimisation
Category and marketing teams need deeper and richer analysis of their products performance across the market from both their own ranges and those of their competitors. Additionally, promotion performance and pricing elasticity analysis could guide the optimisation of future promotion strategies and increase margins.

O'Brien Fine Foods using Advise- Revenue Optimisation for FMCG
O'Brien Fine Foods recently deployed Advise and they are already reaping the benefits. Head of Category and Insight, Stephen O'Neill states, "We had been searching for a solution to integrate our various sources of data to help streamline our insights process to enable more informed and quicker business decisions. The Advise platform gives us one view of our data, unifying the information and improving efficiencies, which means we will also realise cost savings as less time is allocated to data mining across the departments."

Ecommerce

Introduction

In today's hyper-competitive, constantly evolving retail environment, digital transformation is no longer a luxury; it is essential to long-term survival. According to a report published by Facebook in 2020, 59% of adults surveyed, plan to spend less time in stores or visit stores less frequently because of COVID-19, making ecommerce capabilities even more of a necessity[44]. The unstoppable rise of ecommerce since the turn of the century has transformed the retail landscape across the globe.

Key stats include:

» The value of Ireland's retail ecommerce market is growing with the market worth 2.2 billion euros at the end of 2019. The retail ecommerce market is projected to be valued at 3.8 billion euros by 2024[45].

» According to Eurostat, 67% of the Irish population shopped online in 2019, which is above the EU average of 60%[46].

» 84% of Irish consumers shopped with non-Irish websites in 2018, making them the biggest international online shoppers in the world[47].

» Statistics from Eurostat show the share of online shoppers has increased substantially among all age groups from the period of 2009 to 2019. With significant growth for the age groups between 16 and 54 years old. The highest share and the highest increase was among internet users aged 25 to 34 years (from 46% in 2009 to 79% in 2019), followed by the age groups 16 to 24 years (up from 41% to 73%), 35 to 44 years (up from 41% to 71%) and 45 to 54 years (up from 31% to 61%). The share of online shopper rose also in the group of persons aged 55 to 64 years, from 19% in the 2009 survey to 45% in the 2019 survey, as well as for those aged 65 to 74 years (up from 8% to 28%)[48].

At the start of the COVID-19 lockdown (March 2020), as all non-essential bricks and mortar retailers were closed, we witnessed the decimation of sales across non-essential retail categories. Consumer demand for necessities such as food, medicines, and personal care products moved them to online shopping in their droves. Irish businesses are ahead of their European counterparts with 39% of enterprises having the ability to make online sales, according to Eurostat[49]. Figures published by the Central Statistics Office, show that the percentage of turnover generated from online sales more than tripled from March 2020 to April 2020. Turnover grew from 4.5% in March to 15.5 % in April 2020. Whilst certain retail categories were in a position to capitalise, others that did not have a payment-enabled website were left scurrying to get online.

COVID-19 has laid down the gauntlet for retailers, the term "innovate or die" has never been more relevant. The time for complacency and procrastination amongst retailers in developing their ecommerce capabilities has well and truly passed. Irish consumers demand that retailers have a secure, mobile-first online presence offering convenience, speed, choice, and transparency. Retailers that fail to meet customers' expectations run the risk of not only losing a single sale but possibly the lifetime value of the customer. For Irish retailers to ensure their short-term and long-term survival they need to develop, manage, and continually optimise their website.

We must be realistic in that the money, time, and knowledge investment required to build and grow an ecommerce presence over time, is simply beyond some retailers. According to the findings from this study, there is a great deal of uncertainty amongst retailers of where to start when selling online. Retailers' apprehension is further compounded by low working capital, stretched margins, market uncertainty, increased rates, higher operating costs, and increasing labour costs. This was referenced very well by one of the research respondents who stated: "the notion that I will build a website and the sales will come rolling in is simply not the case, it takes a lot of money, time and long term commitment to growing an online customer base and sales". The respondent continued by adding, "as a small family retailer we know online is our future and we are committed to it, but for us it is a constant struggle to keep abreast of ecommerce tech and to test, analyse and improve". This sentiment was expressed by several retailers that participated in the research study. According to the experts, 90% of ecommerce projects fail in their first 120 days, highlighting the importance of having a well-developed purpose-driven digital strategy[50]. For retailers that are unable to commit to the long-term strategy of building and optimising their own website, they can consider other alternative channels, such as Amazon or eBay.

Amazon

Amazon has set the benchmark for consumers' expectations online. The user experience on Amazon Marketplace which offers choice, speed of delivery, price, and convenience has established customer expectations when shopping online. Combine that with additional services such as Amazon Prime, Amazon Echo, Kindle Books, and Amazon Dash; Amazon has every aspect of the customer journey well and truly covered. In Europe, there are over 1.1 million active sellers on Amazon Marketplace[51]. And with global revenues of $75.4 billion in the first three months of 2020, their sales continue to grow at an exponential rate[52].

Amazon offers Irish retailers immediate established global selling opportunities. Selling on Amazon can help retailers develop skills in content management system, product descriptions, images, keywords, packaging, pricing, and logistics. For innovative retailers looking for new sales opportunities, they can introduce drop shipping arrangements with suppliers, so goods are shipped directly by the supplier to the consumer. Whilst selling on Amazon and other marketplaces involve monthly fees and commission, it may provide a more attractive cost structure for certain retail categories.

As ecommerce is enabled by a wide range of technologies, the next section will review various practices and technologies highlighted as important by research participants.

Technology Trends in Ecommerce

Ecommerce Platform

For retailers that opt to create their own ecommerce website, time should be taken to develop an ecommerce development strategy which clearly outlines the key aspects of the digital business prior to selecting a platform or a web development provider. Taking this approach will ensure the technology is shaped around the business needs, as opposed to selecting the technology first and then shaping it around the business. A properly defined strategy will support in selecting the right ecommerce platform to deliver business objectives and long-term goals.

The findings from this research study suggest that one of the major challenges facing retailers is selecting an ecommerce platform in which to build their ecommerce website. Selecting an ecommerce platform with long-term business goals and current technological developments in mind, is essential. The research findings conclude that key ecommerce website development considerations should include:

- » Long-term maintenance costs and support contract;
- » Initial build costs, re-occurring fees and annual costs;
- » Licencing, ownership and data management;
- » Platform security;
- » Downtime of the platform;
- » Open-source or closed-source;
- » Web Hosting or Cloud Hosting costs and flexibility;
- » Integrations to instore technologies such as EPOS and inventory management, loyalty system and CRM;
- » Management of legacy SKUs;
- » Frequency of data feed updates;
- » Compatible data feed for social selling such as Facebook Catalog, Pinterest Catalog and Google Shopping;
- » Integration with Marketplace platforms;
- » Localisation capabilities – taxation, reporting, language, currencies, payment options, logistics etc
- » Integrations with online partners couriers, email providers, payment providers, social media links, blog, live chat and product reviews;
- » Personalisation;
- » Responsive design across mobile, desktop and tablet;
- » Mobile app capabilities;
- » Touchpoints required to list a product – manually and automated process;
- » SEO friendly and architecture structure;
- » Search capabilities such as voice, barcode, text, and image;
- » Customer account and login functionality;
- » User Experience across devices – flexibility with design layouts;
- » Listing products process and automation capability;
- » Navigation structure – e.g. categorisation, refinements, and sorting;
- » Embedded video capabilities;
- » Omni-channel and multi-channel capabilities; and
- » Reporting and analytics.

According to the research findings, retailers want to sell on an ecommerce platform that has a wide range of "out of the box" technological capabilities and features. Research respondents spoke of their frustrations with the unknown aspects of bespoke web developments as it tends to take more time and money than planned and there is no guarantee that the development will work.

Ecommerce Mobile App

Retailers must approach and design their online digital efforts with a mobile-first approach. All too often retailers are still designing their website for desktop, with mobile lagging as an afterthought. A mobile-first strategy is mission-critical to succeeding at ecommerce and online selling. For retailers to create a step up from a mobile optimised website, they must create an ecommerce mobile app. Increasingly, apps are seen not only as an alternative channel for online sales, but also as a critical tool in attracting new customers, growing loyalty, and gaining repeat custom. An ecommerce mobile app should provide features such as uncomplicated login options, consistent design and search experience, personalisation, live chat, wish list, and stripped back fast-payment options. Forward-thinking omni-channel retailers are thinking end-to-end and leveraging app data to gain insight into customer behaviours and path to purchase. As user preferences and expectations are continually evolving, ecommerce mobile app development must be viewed as a continuous, agile process with no clear-cut boundaries between analysis, development, and deployment.

Site Search - Natural Language, Visual and Voice-enabled

One of the most critical parts of an ecommerce website is having an effective search solution. Sales assistants help consumers find the products they want instore; search solutions fulfil that function online. From analysing website analytics, the correlation between site search and conversion is clear, with the conversion rate from consumers using site search trending much higher, than for consumers that do not use site search. Yet for many Irish ecommerce websites, it seems that site search is overlooked. Given the complexity of product catalogues and the varying ways in which consumers search for products, for example, a 'jumper' could be searched for using a variety of words including 'knit', 'sweater', 'crew', 'jersey' or 'pullover'. When retailers fail to display relevant products based on the customer's research term, it is highly likely the customer will leave the website and buy it elsewhere. An effective search product is essential.

A natural language search solution that allows for long-tail searches, colour searches, price searches, spelling errors, and synonyms is required as a minimum. Retailers such as Zara understand the importance of search to website conversion and have subsequently incorporated five different ways in which a customer can search for products, including text, image, stores, barcode, and voice.

Visual search and voice-enabled search is reshaping the future of search. It will make the process of searching for products or services easier and more intuitive[53]. Visual search relies on images instead of text, using AI to compare pixels and identify products, and then algorithms to suggest similar items to consumers[54]. Voice search relies on the device understanding natural language, long-tail keywords and term variations for similar types of products. With the increased use of AI voice assistants such as Amazon Echo and Google Home in Irish homes, voice search will factor heavily in consumer's path to purchase.

Supplier Integrations

To gain competitive advantage independent retailers are increasingly engaging in supplier collaborations. Such collaborations include 'Drop Shipping' which means retailers can accept orders online or instore, the retailer's EPOS is integrated with the supplier who on receipt of the order, ships the goods directly to customers. Supplier collaborations are a great way for retailers to increase their product offering across ranges, diversify into new retail subsectors, reduce stock holding, and free up capital so it is not tied up unnecessarily in warehoused products. For the supplier collaboration to work there must be a move away from the typical retailer-supplier relationship towards a dynamic, trusting, knowledge sharing, and transparent relationship. It is important to create a two-way integration from the retailer's and the supplier's inventory management systems to ensure only available products are sold and products are dispatched swiftly. Supplier collaborations such as drop shipping can be applied not only to a retailer's own website but also to marketplace selling and social commerce platforms.

Social Commerce

Social commerce allows retailers to sell products directly within their social media platforms. With more than 2.56 billion social media users globally and with one-in-three millennials using social media as their primary tool to interact with brands and companies, it is easy to see why social commerce is predicted to grow$_{55}$. It is important to make the distinction between social commerce and social media marketing. Social media marketing will typically redirect the customer to your online store or app to complete their purchase. With social commerce, the product can be sold directly on the social media platform. Completing the sale end-to-end on the social media platform provides the customers with a seamless, timesaving, and distraction-free experience which ultimately should improve conversion rates. Leaders in the social commerce space will be Facebook, Instagram, TikTok, Snapchat, and Pinterest – however, this will continually expand. Retailers that contributed to this study expressed concerns about inventory management, audience targeting, content curation, and online fraud but are excited about the opportunity it presents. Social commerce is set to grow significantly in the years to come and early adaptors that can streamline their processes will benefit.

Online Ecommerce Fraud

Online ecommerce fraud is one of the most challenging, demotivating, and costly aspects of growing a digital business. The cybercriminals are indiscriminate in that they will target retailers of all sizes and operating across a variety of subsectors. It is not the case if a retailer will be affected by online fraud, but when. Online ecommerce fraud can take many forms, including:

Internal theft:
- » Employees committing fraud by shipping out additional goods to customers or reducing the product's online selling price.
- » Sweet hearting by increasing discounts on categories.
- » Employees selling customer personal information for identity theft.

Identity theft:
- » Retailer hacked to obtain vast amounts of customer data such as name, addresses, telephone number, and email address, which can be used to complete false credit applications or other fraudulent activities.

Returns fraud:
- » Counterfeit goods returned in the place of branded goods.
- » Employees falsely processing returns and issuing credit on their own personal credit cards.
- » Wardrobing where goods that have been worn are returned for a refund.

Credential stuffing:
- » Attackers use mass amounts of collected usernames and passwords to gain fraudulent access to user accounts. As consumers often have the same username and password across multiple sites, it gives hackers easy access to personal information.

Payment fraud:
- » This type of fraud involves the use of stolen or counterfeit payment cards to make direct purchases.

As ecommerce sales continue to grow, manually checking every order for unusual activity, not only leads to errors and the blame game amongst colleagues, but it also slows the order processing time. Technological advancements in areas such as big data, data analytics, blockchain, deep learning, predictive modeling, AI, and cloud computing are all helping retailers automate fraud detection processes. The use of biometric data such as fingerprints, facial recognition and iris scanning to authenticate a user's identity at login on mobile devices are helping secure the customer's experience. Likewise, the use of behavioural biometrics and machine learning is increasingly being adopted to analyse human and device attributes, to automatically

identify trusted users, and to flag suspicious activities before transactions take place. The new regulations imposed by the revised Payment Services Directive (PSD2) and the requirement for two-factor authentication will continue to mitigate risk for both the retailers and consumers. When it comes to online fraud, retailers must always be on high alert. Trust is everything when it comes to gaining and retaining customer confidence and loyalty online, therefore every effort must be made to securely manage data and limit exposure to fraud.

Augmented Reality (AR) and Artificial Intelligence (AI)

Technologies such as AR and AI can intelligently bridge the gap between digital and physical worlds, by visually aligning virtual content with real-world context, thus providing endless possibilities in a socially distancing economy. Areas such as beauty counters will look somewhat different post-COVID-19 with social distancing restrictions and limited products on display. Shoppers will move online to get immersive product experiences. When tech such as AR and AI combine, they can analyse facial contours, face symmetry, skin colour, gender, age group, and ethnicity to make personalised and relevant product recommendations. These technologies can enable customers to virtually try on a wide range of products, adjust colours, and experiment with new looks, all from the comfort of their own homes.

L'Oréal, Sephora, Avon, Covergirl, and Estee Lauder are amongst the cosmetics houses that have the technology in play. Ikea has been a leader in the AR and AI space for many years[56]. The technology is particularly beneficial for big-ticket items such as furniture, kitchens, or flooring as it allows the customer to visualise products in their own space. Retailers that contributed to this study are collaborating with tech start-ups to develop their own proprietary AR and AI capabilities. AR combined with AI implementation will grow significantly as retailers look for points of differentiation and ways to give consumers more immersive experiences.

Order Fulfilment and Robotics

Order fulfilment is the process of pulling items either from the shop floor, or warehouse, or a mix of both, to complete a customer's order so it is ready for shipping. To be successful, online retailers must have their EPOS or inventory management system fully integrated with their website to maximise sales and avoid out-of-stock items selling. Retailers have adopted varying methods for fulfilling customers' orders including:

Picking from the shop floor:
  » Items sold online are fulfilled by picking items directly from the inventory on the shop floor.

Multichannel:
  » The primary approach is to fulfil ecommerce orders from the central distribution centre. If it is not available in the distribution centre, then the order is forwarded to a store with the most available stock for picking.

Smart warehouse picking:
  » Employees equipped with smart glasses navigate through the warehouse along optimized routes via the glasses' graphics display, enabling them to find the right quantity of the right item much more efficiently.

Automated warehouse picking:
  » Automated smart robots pick products to fulfil orders with no human intervention.

Retailers of all sizes are turning to technology to help minimise the risk of product unfulfillments, to reduce labour costs, and to increase productivity by reducing time spent picking individual orders. Robots and fully automated warehouses are increasingly being introduced to support with order fulfilment challenges. Automated technology in warehouses includes automated guided vehicles, autonomous mobile robots, aerial drones, and automated storage and retrieval systems. In recent years, Amazon has increased the number of robots completing the 'picking' task in its fulfilment centres from 30,000 to 55,000,

exemplifying the adoption rate by retailers in this technology. These advances are reflected in predictions that the global spend on robotics will be US$188 billion in 2020, representing a 100 percent increase since 2016[57]. In the grocery sector, Alibaba's Hema store offers shoppers a smart-phone centric experience. By scanning QR codes on products, the customer can discover additional product information, cooking instructions and much more. As each store doubles as a distribution centre, the customer's goods are immediately picked, packed, added to a ceiling-based conveyor, and delivered to customers living within a 3km radius to their home free of charge[58].

Onsite Reviews

Customer reviews are an essential part of any digital strategy. Customers trust other customers and value other people's opinions when researching products, services, and brands. The importance of integrating review gathering software such as Trustpilot or Feefo to a website should not be underestimated. By allowing customers to read reviews that are relevant to their shopping needs at the time, the customer journey is enhanced, and conversion rates increased. There are many benefits of implementing review technology including:

» Retailers can use the metrics obtained to make informed decisions and use as part of their continual improvement strategy;

» Contribute to teams monthly or annual performance reviews;

» Buyers can use insights to understand good and bad points relating to brands or products;

» Builds creditability as user-generated content;

» Increase sales; and

» SEO benefits.

Sizing Technology

To curb the returns rate on fashion apparel, improve margins, and reduce costs associated with managing returns, retailers are increasingly implementing sizing technology. Sizing technology allows customers to enter data such as their body measurements, shape, height, and age profile. In addition, the sizing technology analyses sales data and returns data, along with customer's top reasons for returning. Thereafter, when the customer opts to add an item to their basket, the technology will automatically make a 'best fit' recommendation. This technology works effectively for chain retailers such as Zara or H&M as they have their own sizing guides. The challenge for independent brands and department stores is the varying nature of sizing patterns across brands and products within the same range, making the effectiveness of sizing technology questionable. An interesting sizing technological application has been developed by Meepl who has combined technologies from visual computing, fabric simulation, AR, and AI to allow for a real-time 3D body scan. It allows customers to create their own personal avatars where they can try on clothing and change body sizes in a 3D virtual dressing room, providing customers with an immersive and authentic brand experience.

In the next section, the skills identified as being most important for individuals working in retail ecommerce positions will be presented.

Skills Required in Ecommerce

The skills required for ecommerce include business planning and strategic thinking, aptitude for technological terms, systems integrations with internal systems, and understanding of ecommerce platforms. Operational and project management expertise, along with Search Engine Optimisation and analytical skills are also crucial. The ecommerce professional should have excellent knowledge of digital marketing tools and paid advertising across social and search. They should have a working knowledge of marketplace selling and social commerce in all its various formats. System thinking should be developed so a holistic approach is taken when developing ecommerce strategy and systems integrations.

In addition, ecommerce professionals should have excellent analytical skills and financial capabilities. The ability to develop reports, analyse data and action improvements on an ongoing basis is essential as is the capability to manage and understand targets, budgets, margins, and total cost to sell. Strong time management and leadership qualities are essential. For ecommerce retailers, it requires skillsets in sourcing, testing, collaborating, and managing international providers whilst navigating cultural and language differences.

Ecommerce professionals should have an in-depth insight into customer experience management. They should have the ability to work closely with the customer service team to understand and share insights into how the customer is engaging across various touchpoints. In addition, they should have the ability to source, develop and evaluate analytics from various systems with the aim of understanding what matters to their customers, customer behaviours, preferences, and values across every touchpoint.

Furthermore, user experience (UX) design is essential if the retailer is going to create a website, app software, and service which meets the customers journey. UX design should have customer user experience at the core. UX design is a continual non-linear process that considers areas such as interface, navigation, design and user research, wireframes, architecture, image, usability testing, and content strategy. It is essential to take time to fully understand the user experience prior to building a website and on an ongoing basis. The ecommerce professional should lead all efforts that contribute to the smooth operation of the photography and product content team. Ensuring the process whether inhouse or contracted to external vendors follows objectives, SEO guidelines, priority, deadline, and budget.

In addition to the skills identified above, the following were identified as being most important for individuals working in retail ecommerce:

» **Ecommerce business development strategy:** Developing a future-proofed strategy which considers all elements of the business.

» **Platform selection:** Demystifying the different features and benefits of different ecommerce website platforms. Practical insight into the process of selecting a platform.

» **System integration:** Evaluating current retail management operations and the considerations for integration with systems such as EPOS for inventory control, CRM, Payment, and Loyalty. For example, is the data shared in real-time.

» **Marketplace selling:** Evaluating marketplace platforms and feasibility from a business perspective and continually develop and grow sales opportunities across platforms.

» **Internationalisation:** The ability to research, adapt and expand digital activities for global markets. Considering language translation, payments, dialect, customer sentiment, target audience, customer expectations, global marketing, local laws and regulations, customs, sourcing logistics, inventory management and banking. Planning to ensure entry into the new market is seamless and set up for growth.

» **Supply chain management:** Researching vendors, negotiation contracts and pricing, and scalability. Understanding supplier collaborations such as drop shipping and channels to sell product.

» **Google analytics and financial reports**: Understanding of Google Analytics metrics and terminology in order to continually drive sales, growth, and customer satisfaction. Conversion optimisation analysis on an ongoing basis is essential.

» **App development:** Insight into considerations for native and responsive apps.

» **Website design:** Blending design and function with commercial goals across devices, including mobile, desktop, and tablet.

» **Virtual merchandising:** Ensuring categories, product layout, product descriptions, videos and product recommendations are relevant, work effectively online, and enhance the user experience.

» **Change management:** The ability to design change with customers, teams, and organisation in mind. Knowledge of concepts such as Lean and Six Sigma, responding to pace of change, business process re-engineering, managing resistance, and creating workflows.

» **Innovation:** Understand the principles and methods of idea generation and development, such as system thinking, design thinking or creativity. The skills to integrate ecommerce into the organisational culture.

Thought Leadership

AI in Ecommerce: Key Considerations

By Valter Andersson

Product Manager at Nosto, Ecommerce Professional and Public Speaker

Artificial intelligence (AI) is helping to transform many aspects of ecommerce, from powering chatbots and robot-driven warehouses to supporting personalised online experiences. However, it is by no means a magic bullet and there are a variety of considerations to keep in mind.

First, understand that when people discuss AI in retail, what they usually mean is machine learning - a subset of AI in which algorithms are trained to learn and get better at performing specific tasks based on the patterns they identify in data. Machine learning algorithms take time to learn about your customers or different aspects of your business so do not expect instant results. The results improve with exposure to more data, so ask your AI supplier to be clear about the timescales before you can expect a positive impact.

Additionally, be aware that AI relies heavily on human involvement. It needs people to apply it correctly and train it on the right data. No amount of chatbots or machine learning can drive up online conversions if visitors are simply not interested in your products or are not in your target market. It takes human retail experts to recognise from the data that you are attracting the wrong or unengaged visitors to the site.

AI should be focused on achieving concrete business goals. Begin with areas where you can drive the biggest impact with minimal effort and disruption. If you want to improve aspects of the online user experience, for example, start with the home or checkout page, where changes can drive the greatest benefit. Then move to less visible or active parts of your site. As with any new technology, build a strong business case for AI that is based on the metrics that matter to your company, and work with a supplier that not only understands the technology, but also has deep experience in ecommerce and retail.

Thought Leadership
Growing Online

By Mick Crean
Founder, Operations Director, and CTO at MicksGarage.com

MicksGarage.com is a technology and logistics company that sells car parts in Ireland, UK and the rest of the world. We build our own software systems and manage our own cataloguing. This is one of the reasons that we are able to grow and build our business in the way that we have.

Technology/Software/Automation
Ecommerce is all about technology. From day one we went about building our own software. This approach does not suit every ecommerce business but for us it was a necessity for several reasons. Firstly, we were dealing with car parts and very quickly we knew we would be dealing with millions of parts and cross matching. This requires very large databases and there really is nothing off the shelf that was able to handle this for us. Secondly, we knew that by building our own systems we could differentiate ourselves from the competition. We could add anything that we needed to add and we could do it at lightning speed, if we want to change a warehouse process or even add new functionality to our website we can do it very quickly.

Skills
A huge array of skills are required to run an ecommerce business, but most can be acquired on the job. To build software you need programming skills, for finance you need accounting skills. for localisation it is obvious that you need local language skills. However, we also hire in other areas such as SEO, IT, payment systems, warehouse operations etc. Also, when dealing with cross border transactions it is important to understand your statutory obligations regarding taxes, returns etc.

Loss Prevention
One of the more important aspects of our technology is our fraud prevention and customer protection module. Every ecommerce site will need to look at ways to mitigate this sort of fraud as it results in loss of cash, products and time. Our system checks hundreds of different data points on every transaction and has reduced fraud to a very tiny percentage of sales.

Own Website v Marketplace
About 95% of our sales are on our own website. We do not see marketplaces as being a vital part of what we do at the present time. When we get a customer online they are our customers, on the other hand any customer you get on marketplaces are owned by that marketplace and it's much more difficult to market to them. On top of that, those marketplaces have a very high cost of sales and they can change rules on a whim. In extreme cases, your account can even get closed through little or no fault of your own. While those marketplaces have their place, it is a much healthier balance to drive more sales through your own channel.

Localisation
We have not invested heavily in language localisation as yet. This is because we see so much growth in English language locations, eventually we will have to invest in language localisation, however with over one million products on our website this will be a real challenge.

2. Customer Experience (CX)

Introduction

The concept of customer experience or CX is the sum of all interactions that a consumer has during the customer lifecycle with a retailer's products, services, employees, and brand both online and instore. Customer experience is all-encompassing with the definition given by the Harvard Business Review in 2010 being as relevant today as it was then, the "sum-totality of how customers engage with your company and brand, not just in a snapshot in time, but throughout the entire arc of being a customer"[59].

Over the last number of years, we have often heard retailers say that 'we are a customer-centric organisation' or 'we put the customer in the centre of everything we do' – but what does it mean and how is the holy grail of being a customer-centric organisation achieved? The reality for many despite their best efforts is that customer experience is overpromised and under delivered[60].

The foundation of great customer experience starts with having the right organisational culture. Organisational culture is all about having a system of shared beliefs, values, and vision where employees feel they are a part and a contributor to the wider organisational ecosystem. The belief that all actions should be centred around the customer must be embedded into the backbone of the organisation. Simply stating that exceptional customer experiences are a primary focus will not be enough to make it happen. Connecting the employees and customer experiences gives retailers context into customer experience and generates ideas for improvements. To cultivate a culture of customer-centric behaviours requires collaboration on the part of the leadership team and key influencers, as well as frequent communication, education, and ongoing reinforcement.

Jesper Brodin, President and CEO of IKEA Group said, "in a fast-changing retail environment, we continuously strive to develop new and improved products and services to make our customers' lives a little bit easier"[61]. Increasingly, retailers are turning to technological solutions to fulfil the commitment of improving the customer experience. Over half of the respondents (55%) that contributed to this research indicated that they plan to make a moderate to significant investment in technologies to assist in customer intelligence over the next 12 months.

Customer Relationship Management

Irish retailers have long used Customer Relationship Management (CRM) systems and loyalty programmes to improve the customer journey and to obtain greater insight into customer behaviours. However, according to many of the retail employers that participated in this research study, CRM systems are often outdated, underutilised and provide mass amounts of dark data (unused data) and trying to create individual customer profiles is almost impossible. Retailers must consider what CRM and loyalty mean in their organisation. Retailers must place urgency on ensuring the customer lifecycle is understood, culturally everyone buys-in to the customer journey, and the systems are integrated so data is properly aligned. Retailers must clearly define master data management and governance approaches across the organisation. When considering CRM, retailers must not only develop a "tech only" perspective but should also consider perspectives like strategy, analytics, privacy, and legal to ensure it fits with the retailer's customer-centric approach[62].

AI will increasingly play a vital role in CRM. AI will enable retailers to capture the customer journey regardless of where it transpired, including instore, online, social media, email, phone, and chatbots, creating a single source of truth regarding customer engagement. AI will detect duplicates, irregularities, anomalies in the data set and eliminate manual entry of data to CRM systems, allowing employees to focus on valuable customer-centric activities. AI enables predictive lead scoring which can be incorporated to show prospective customer lists based on weighting factors such as frequency of purchase, average sales, margins, and brand categories. Sales teams can then access this valuable real-time customer intelligence, assisting in the delivery of relevant hyper-personalised engagements.

Hyper-Personalisation

Hyper-personalisation is about so much more than just addressing customers by name or simply capturing the customers' names, locations, age profiles or purchasing history. Retailers that will deliver the highest quality of hyper-personalisation are consolidating data across their entire organisation including EPOS, loyalty programmes, ecommerce, social and other systems to provide a single view of their customer. To achieve this, retailers are not throwing out their existing systems but are looking to emerging technologies that work to enhance the value of their existing systems, requiring minimal investment and straightforward integrations. It involves combining transactional data such as individual purchasing behaviours across platforms, brand preferences, sizing information, returns information, and lifetime value. Along with social data such as lifestyle and social media engagement, it provides retailers with a much clearer picture of customer engagement. Hyper-personalisation can equip retailers with the insight to elevate the customer experience through genuine human and emotive interactions that transcend the physical, to the digital world.

Customer Journey

Consumer's expectations for speed, convenience and personalisation are reaching new heights. Retailers who are trying to create long-term meaningful customer experiences are increasingly looking to digital solutions, to empower them to deal with the digital consumer. The prerequisite to engaging in technologies such as CRM systems, loyalty programmes, artificial intelligence, data analytics, mobile app, social, and ecommerce tools is to be fully understand and map out the customer's journey across the various touchpoints. Retailers that embrace technology in isolation and do not take a customer-centric approach by mapping the customer journey may find the technology creates as many problems as it solves. Retailers must understand what drives customer behaviour, engagement, and path to purchase if to successfully deliver financial value and beneficial digital transformation. Internal and technological silos must be broken down to create awareness of the organisational standard for customer experience[63].

In the next section, the emerging technologies in Customer Experience as identified by research participants will be presented.
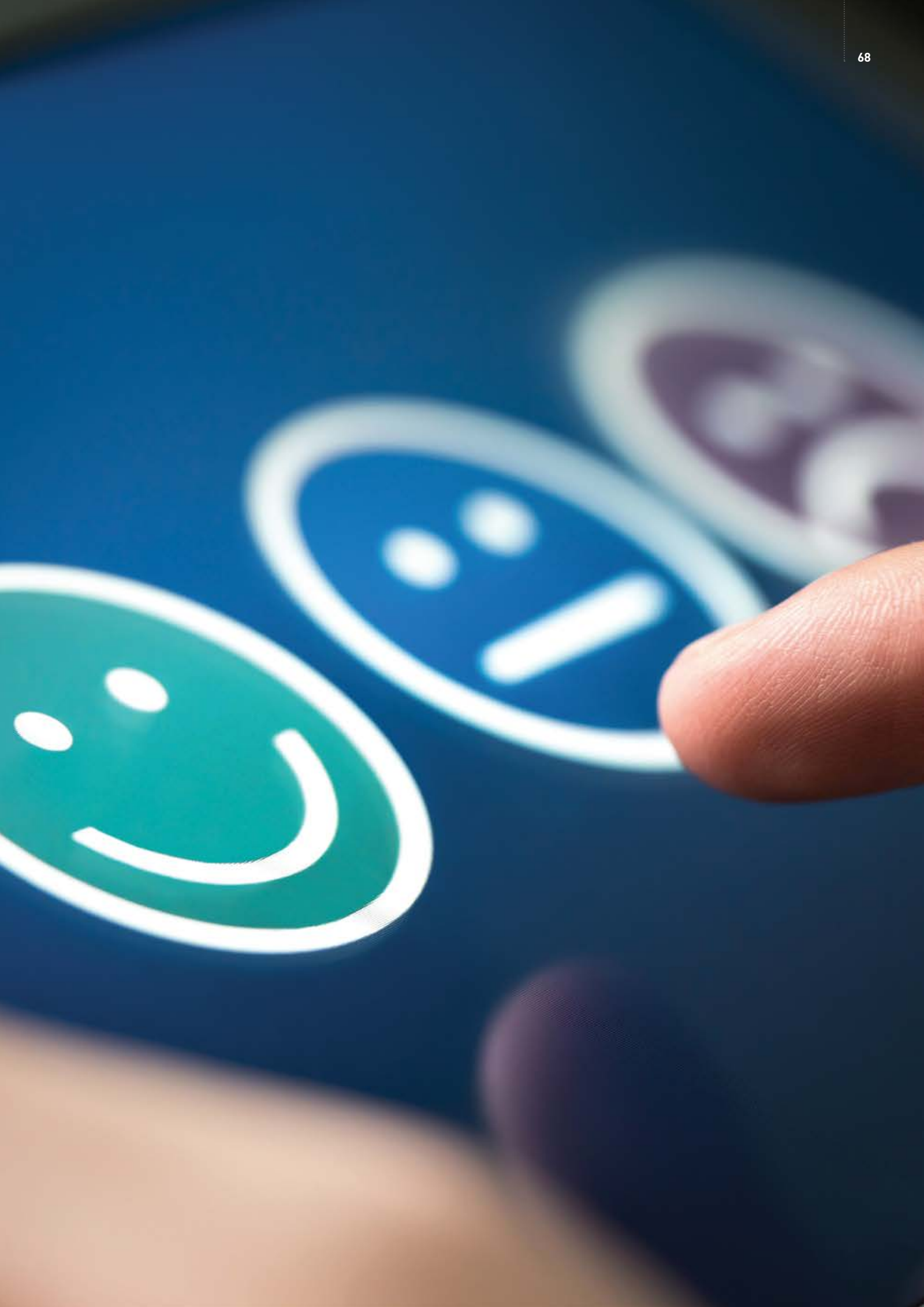
Technology Trends in Customer Experience

Augmented Reality and Virtual Reality

AR and VR will continue to gain traction in retail as their application becomes fully realised and cost to implement falls. Consumers are already familiar with the power of AR through applications such as Snapchat and Instagram filters on their smartphones. As the technology is easily accessed by consumers, it makes the adoption of AR increasingly attractive. Retailers will provide customers with immersive augmented and virtual reality technologies allowing them to experience the brand, events, and products in ways they never thought possible. It will be used to bring products alive, helping consumers visualise what the product will be like in their own homes prior to purchasing. Retailers such as IKEA and cosmetics brand Sephora have launched their AR app which allows customers to personalise and visualise products in their own environments. IKEA's Kitchen Planner lets users "place" cabinets and other items in their rooms, customise materials and colours, and generate a complete shopping list. Sephora uses facial-mapping technology in their app which enables customers to "try on" certain products. By incorporating AR technologies into their online and mobile presence, retailers can satisfy customers' desire to visualise their options pre-purchase[64]. With COVID-19, it will be critical for retailers to implement technological solutions such as AR and VR to bring the customer closer to their products and services.

Cognitive Computing

In recent years there has been a surge in Irish retailers implementing chatbots on their websites, mobile apps, social messaging apps, and telephone services. A chatbot is an AI software that can simulate a conversation with a user in natural language through messaging. Whilst chatbots have reduced the queries handled by customer service teams, they often are underdeveloped and fail to deliver conversational customer engagements. Often the language is not natural, or they cannot deal with exceptions or unique problems leaving customers feeling frustrated. However, the emergence of cognitive computing which is a combination of machine learning, AI, and big data will enable 'real' connections for chatbot technologies. Examples of this technology include smart home devices such as Alexa and Siri, which create conversational, intelligent, and relevant interactions with their owners. We can expect to see smarter use of chatbot technology become more mainstream, where human-like interactions and smart product recommendations will be the norm and increasingly customer service agents' jobs will become automated.

Mobile Apps

To create a seamless customer experience, retailers are developing their own brand focused apps that consider and consolidate the different aspects of the customer journey. It should provide customers with the opportunity to view loyalty points, review subscriptions, research products, gain discount coupons, personalise preferences, pay for goods, access their account information, select home delivery booking slots and much more. Customers are notified about special events and can search for products and review stock levels across multiple store locations, conveniently from their mobile phones. For retailers to create a mobile app that is worth the storage space on consumer's mobile phones, they must take a collaborative approach when building. Cross-functional collaboration with different internal departments such as marketing, sales, supply chain, merchandising, IT, and finance is essential if the end goal is to create a real-time engaging mobile app that elevates the customer experience.

Video Conferencing

Amidst the COVID-19 pandemic, people around the world relied on technological solutions such as Zoom, Teams, Facebook Messenger, and Loom to connect with their family and work colleagues. The desire for video conferencing solutions will show no sign of declining as customers increasingly use these tools as opposed to sending emails or engaging in live chat. Video conferencing provides retailers with an opportunity to connect face-to-face with their digital customers. It will open vast opportunities for retailers, to have live one-to-one product consultations where they can provide product recommendations, cross-sell, problem solve, and close sales transactions. Video conferencing allows retailers to connect on a very personal level with their customers.

In the next section, the skills identified as being most important for Customer Experience professionals working in retail will be presented.

Skills Required in Customer Experience

94% of research respondents said customer experience was an extremely important skill in the modern retail environment.

As retail continues to evolve, with ever-changing consumer behaviours, globalisation, and the rapid development of new technologies, the role of providing exceptional and consistent customer experience in retail will take on greater importance. Customer experience professionals must be connected and involved in the strategic proposition of the business. Delivering exceptional experiences across all touchpoints is no longer a "nice-to-do", it must be engrained in the fabric of the retail organisation's culture.

In retail, there has been a wave of new customer experience roles caused by consumers rising adoption of digital technologies. New job roles including website and social media customer support, live chat support and CRM experts have surged over the last decade. Instore developments and the rise of ecommerce and subsequent services such as click and collect, inventory checking for drop shipping and returns has meant that customer service professionals must be equipped with the skills to efficiently deal with various types of digital queries and interactions. Customer experience professionals must have a working knowledge of the retailer's EPOS system, website, social media platforms, and CRM system if they are to do their job effectively. Increasingly, retailers are implementing AI powered helpdesks and ticketing solutions that create a single go-to point for customer communications. Customer experience professionals must have excellent IT skills and the ability to set up workflows and triggered responses, ensuring customer's messages are replied to swiftly and correctly.

Amidst all the new apps and technology, it is vital that retailers do not lose sight of the importance of good, old-fashioned Irish customer experience. Emotional intelligence plays a pivotal role for customer experience professionals in their ability to engage with customers on a human level. The ability to make the customer feel connected to the retailer and valued is essential. Empathy, self-awareness, listening skills, problem-solving skills, proactive attitude, and friendly mannerisms are essential skills. Having the ability to connect with customers in an honest and genuine way will help customer experience professionals build relationships, trust, and repeat custom.

Customer experience professionals must have the ability to collaborate with internal teams to ensure the organisations brand values, tone of voice and personality are conveyed across all platforms, by all team members. In addition, customer experience professionals must have the capability to resolve problems and turn negative situations in positives ones. Customer experience professionals should understand customer loyalty frameworks and how customer experience contributes to the overall customer lifetime value.

In addition to the skills identified above, the following were identified as being most important for people working in retail Customer Experience roles:

- » **IT:** Retail employees working in all aspects of retail must hold the necessary IT skills to deal with increasingly sophisticated and demanding consumers. Frontline retail staff will be equipped with tablets and mobile devices and provided access to various IT systems.

- » **Data integrity:** Retail employees working in customer experience must fully understand the responsibility of managing customer's data. Retailers need to rethink how they use consumer data, how securely they store it, how they value it, and how they should deliver value against it. Consumers are increasingly wary of how their data is being managed both instore and online by retailers, so ongoing training on data protection regulations is required[65].

- » **Behavioural psychology:** Applying the principles of behavioural psychology will enable retailers to understand, improve and optimise customer interactions across every touchpoint. Understanding why customers make the financial decisions they do when buying a product is a skill that will become very valuable for customer experience professionals.

» **Product knowledge:** Customer experience personnel require continuous upskilling on the key features and benefits of products sold. This is core to establishing consumer trust, confidence, and satisfaction in the retailer both online and instore. The ability to persuasively convey without coming across as 'pushy' is a skill that is developed through experience.

» **Sentiment analysis:** Understanding how customers feel about your brand, service and products is imperative in today's highly competitive retail landscape. Analysing customer-generated data such as social comments, likes, forums, reviews, tweets, etc. to understand what consumers are feeling with regards to their customer journey is essential in driving improvements to customer experience and ultimately return on investment.

» **Social platforms:** Engaging with social platforms is an essential component of any customer experience strategy. It is essential to have a working knowledge of different social platforms and the ability to translate the organisational tone of voice online. Having the skills and competencies to effectively listen, respond, apologise, and communicate in a timely manner is also critically important.

» **Corporate social responsibility (CSR):** Regardless of organisational size or retail subsector, the commitment to positively impact society and the environment with transparent CSR strategies are closely linked to customer experience. Incorporating CSR activities into customer experience efforts, such as special charity events, community supports, and ethically manufacturing can positively impact consumer sentiment and purchasing behaviour.

» **Conversational copywriter:** The ability to write conversational, engaging, and relevant text for humans is essential. Writing customer communications so they are in line with the organisational tone of voice and ensuring content is original for both digital communication and chatbot development is essential.

» **Time management:** Customer queries such as email, phone or social comments should be replied to promptly and knowledgeably. Customer experience practitioners need to work efficiently to ensure there is optimal use of time by concentrating on high-value organisational goals.

» **Emotional intelligence:** Understanding how self-management, self-awareness, self-regulation, self-motivation, and empathy contribute to providing excellence in customer's experience is extremely important. This includes the ability to successfully communicate verbally and non-verbally, mastering tools to interpret customer emotions in any situation, and subsequently control their own response and emotions.

> "People will forget what you said, people will forget what you did, but people will never forget how you made them feel" - Maya Angelou.

Thought Leadership

The Human Aspect of Customer Experience

By Charlie Boyle

CEO Customer Service Excellence Ireland

Technology and its part in the future of retail is a given factor as we navigate through digital disruption. Retail is of course not alone in its need for technology since every sector has benefitted hugely from the many advances we have witnessed over the past 5-10 years. Retail has however embraced the ongoing and continuous technological capabilities at pace.

Retail too often is divided between 'bricks and mortar' and 'online'. The reality is that it is no longer both in competition with each other, but instead be seen as complementing each other. Traditional retail requires more engaging and entertaining experiences. There is likewise the need to view technology as a support to the human element and not a replacement of human engagement. We need to avoid falling into the fear of the sometimes-heard scaremongering, that technology in retail will replace humans. Technology will most likely replace the menial tasks carried out by retail staff, but this will allow the sector to develop staff through to more senior positions as will be required. This will add value.

In terms of training and the needs of retail by 2025, technology and the associated 'hard' skills will be required in a continuously fast-paced sector. Alongside that will exist a strong and an ongoing need for 'soft' skills development. These human skills needs which will include emotional intelligence, problem-solving, sales and leadership will allow for the all-important balance between the advancing need for technology alongside the consumer need and expectation for relationships and human engagement. If we work smart to create this balance and achieve excellence in both technology and the human touch, the customer experience will be enhanced to a level where we all want retail to be.

The opportunity to get this right is in front of us. It is not technology versus the human aspect, it is technology supporting the human aspect. Balance as always is vital.

3. Retail Marketing

Introduction

The retail marketing landscape has changed rapidly and dramatically. Driven by technological disruption over the last twenty years, the choice of marketing media retailers can utilise to connect with customers has grown exponentially. Traditional marketing channels such as radio, TV, billboard, newspapers, and flyers still have a part to play in connecting retailers with specific customer demographics depending on the campaign. However, in today's hyperconnected world, it is organic and paid marketing that is undeniably driving marketing communications[66].

Organic marketing, otherwise referred to as inbound marketing is used by marketers to develop customer engagement and brand advocacy through authentic and value-driven content over an extended period. Examples of organic marketing content include blogging, social media, video conferencing, SEO, video content, product descriptions, reviews, emails, podcasts, and forums. This differs from paid marketing which allows retailers to target specific audiences by promoting ad content based on the marketing objective, whether that be conversion, brand awareness, lead generation, or consideration. Pay-per-click (PPC) advertising is a model of paid advertising where retailers pay when a user clicks on their ad or content. There are different types of PPC advertising which include search ads on platforms such as Google, Bing, Yahoo, Google display advertising, Google Shopping, affiliate marketing, remarketing campaigns, and social advertising.

According to results published by the IAB PwC Online Adspend Report, digital advertising spend in the Irish market for 2019 reached €673m, reflecting a growth rate of 17% year on year (YOY). Display advertising grew by 30% to €326m in 2019, which was driven by the growth of social with a 39% YOY increase, whilst video experienced a 42% YOY growth rate. Search advertising holds 45% total share of the Irish digital advertising market, with an Adspend of €306m and boasting 7% growth on 2019 figures[67].

Irish people consume mass amounts of advertising and marketing messages across all devices, at a rapid pace. The challenge for marketers for both organic and paid marketing is keeping pace with digital innovations. As new platforms and mobile devices are launched and digital marketing technologies innovate at a rapid pace, marketers need to constantly update and evolve their skillset if retailers are to remain relevant.

Content is still King!

The quote "Content is King" was originally cited by Bill Gates in 1996. It is as true today as it was then. Content marketing in today's retailing landscape must be strategic, informative, authentic, planned, collaborative and natural. Irish retailers are investing time and resources into developing a mix of high-quality search optimised content. Respondents added that they are faced with the ongoing challenge of developing new content, whilst at the same time the total cost to sell products is increasing and margins are falling. Respondents to this study indicated that they are involving their employees with their content marketing strategy through how-to videos, podcasts, blogs, and online product descriptions. Having employees involved means content is often produced quicker, the brand message is on point, it opens the content up to a wider audience, it reduces costs and delivers an authentic experience to the customer. Furthermore, as customers are increasingly turning to the internet to research products, for inspiration, guidance, and product information, marketers are adapting their content strategy to address customer's problems, which are otherwise known micro-moments.

Social Commerce

Social media has transformed retail marketing with 71% of Irish businesses having a social media presence[68]. Platforms such as Facebook, Pinterest, Instagram, Snapchat, and TikTok have enabled retailers to connect with customers on a level that is not possible with traditional marketing formats. Social media has allowed retailers to increase brand awareness, remain relevant to audiences, generate leads, complete competitor research, offer customer service, gather reviews, and so much more. The ability to engage in organic and paid strategies with ease has offered retailers immediacy, flexibility, and pace in which they can communicate with audiences.

Irish retailers are increasingly syncing their website product catalogues with social media platforms such as Facebook and Instagram to facilitate shoppable 'buy now' content. This enables retailers to tag products featured in posts, allowing customers to view product details, then redirecting the user to a separate landing page, such as the retailer's website to complete the purchase. Shoppable social content is being upgraded with end-to-end social commerce. Social commerce, discussed further in upcoming technologies, will enable users to discover, explore, and purchase goods all within the social platform. Social media in all its formats will continue to transform digital commerce and retail marketers must keep pace if they are to remain relevant. They must continue to evolve their understanding of the customer by analysing the data provided by social platforms using tools such as social listening, data analytics, and social sentiment analysis.

Neuromarketing

Social sentiment analysis has increased in priority for many retailers. Retail marketers in their search to understand their customers' motivations and emotions are increasingly turning to neuromarketing. Neuromarketing uses insights from neuroscience, social psychology, behavioural economics, applying them to measure and improving the effectiveness of product design, branding, and marketing practices. For marketers to have the ability to understand how customers respond to certain colours, lighting, packaging, images, call-to-actions, content, messages of convenience and trust, have become a top priority. Retail marketers want to understand how neuromarketing strategies such as "framing" prompts them to engage with the brand further. The field of neuromarketing is relatively new. However, it will play an important part for retailers to understand human decisions, emotions, and motivations in an increasingly digitised world.

Generational Cohorts

In recent years, marketers have been driven by demographic cohorts such as Millennials, Generation Z, Generation Y, Generation X and Baby Boomers to understand consumer sets. This involves creating a generalisation on core customer preferences, actions, attitudes, beliefs, and values across a cohort of customers based on their birth year. According to a report published by Microsoft, Gen Z (aged between 5-25) are the first generation of digital natives, as they grew up playing electronic devices and using mobile phones. They are hyperconnected, socially and globally-minded, crave individualisation, price-conscious shoppers, and will have no hesitation in switching to a different retailer if they can find it cheaper[69]. They also value community retailers that genuinely embrace purpose and sustainability.

A report published by Quindle describes Generation Y (aged between 26-40), otherwise known as Millennials as sentimental shoppers: they are willing to pay more if it is for a cause, they want to feel close to a brand and co-create products, they are tech-savvy and early adopters, and feel responsible to share feedback and rely heavily on reviews from peers as opposed to advertisements[70]. Generation X (aged between 41-55) tend to have high media consumption of TV and Facebook, they tend to be loyal to the brands, are less likely to diversify in their tastes, and will complete research online but prefer to transaction in person. Generation X is also less concerned with the opinion of others or getting validation from their peers[71]. Baby Boomers (aged between 56-76) tend to have the highest consumption of traditional media such as newspaper, radio, and television. They also tend to have a higher disposal income and traditionally use technology to keep in touch with family. They tend to research products online prior to purchasing instore, but post COVID-19 will see Baby Boomers increasingly purchase goods and services online.

Generation cohorts can be helpful to marketers in gaining an understanding of what is important to different groups of people based on their phase of life. However, customers are defined by so much more than their date of birth, and generation cohorts miss the important distinction of the individual specific needs of customers. One size does not fit all when it comes to marketing. Customers want a personalised experience, they want to be recognised as individuals, and treated in a way that makes them feel appreciated, unique, and understood[72]. To deliver towards an individualistic customer experience, retailers are increasingly utilising technology to move beyond demographics to understand how people behave when they shop[73]. The time of clustering shoppers by type, generation, or even gender is over.

Data-Driven

Technology is providing retailers with access to mass amounts of operational, transactional, and behavioural data enabling them to touch new horizons in customer segmentation[74]. The challenge however for many marketers is making sense of the floods of data streaming in from different customer touchpoints. As the process of generating reports, aligning data sets, analysing data to create actionable insights is mostly a manual process, it makes segmenting customer data an impossible task. The problem with manual reporting is it takes too long to understand who the customers are, what they are doing, and what they want[75].

Through technological advances including advanced-analytics, AI, automation, and centralised customer data-platforms (CDP), retailers are moving away from mass amounts of misaligned customer data and towards a structured single view of customer data. For example, a CDP system is a unified database that centralises customer data from instore, online, app, socio-economic providing a single view of each customer across all organisational interactions. This capability provides a granular view of each customer, enabling approaches such as micro-segmentation.

Micro-segmentation

Micro-segmentation technologies are enabling retailers to uncover key characteristics of customer segments that are driving organisational KPIs. Retailers can divide customers into smaller groups for advanced personalised contextual communications based on the channel they previously purchased from, time of purchase, frequency, average transaction value, sizing preferences, profitability, behavioural visualisations, and so much more. Digital marketing utilisation of micro-segmentation includes personalised in-app messages, email campaigns, text messaging, and website landing page messaging. Micro-segmentation marketing is key to growing sales revenue and building customer trust and credibility within niche retail categories.

Personalisation is not a new concept for retailers but many struggle to get it right. For many retailers, the additional time, resources, and money required to engage in personalised marketing activities makes it unfeasible. According to our research, many retailers do not have the resources to create specific campaigns, design different visual graphics, create unique content, and call-to-actions for each personalised campaign across a maze of digital marketing platforms. Whilst it is aspirational, it remains unrealistic. As the gap between retailers that are utilising data to drive personalised marketing strategies and those that are struggling to keep up with technological developments widens, it will make it increasingly difficult for those retailers to remain relevant.

AI, automation, and machine learning are providing the much-needed insight to enable ultra-personalisation instore and across ecommerce platforms. Marketers are using such technology online to deliver personalised product recommendations, content personalisation, retargeting emails, mobile app personalisation, on-site pop-ups, product merchandising, and much more. The challenge for marketers is leveraging technology to connect the consumer with the brand whilst balancing rising costs and delivering exceptional customer experience across all marketing activities.

Digital marketing is moving at a breakneck pace, requiring marketers to be constantly developing new strategies and evolving techniques to make them work for the organisation.

In the next section, the emerging technologies in retail marketing as identified by research participants will be presented.

Technology Trends in Retail Marketing

Social Commerce

Social commerce gives customers the ability to make purchases directly on the social media platform instead of redirecting to the retailer's website or going instore to make the purchase. Emulating the format of China's WeChat, social platforms such as Instagram, Facebook, TikTok and Pinterest are evolving to provide customers an end-to-end browsing and payment experience all within the social platform. For example, the Facebook Commerce Manager gives retailers a suite of tools such as checkout, inventory management, order information, pay-outs, and much more, enabling retailers to sell products across Facebook and Instagram. Since the start of COVID-19, there has been an urgent need for retailers to create and increase their digital presence. Social commerce offers a viable and connective alternative to creating a brand website. According to a report published by Wunderman Thompson Commerce, social commerce will surpass brand websites, marketplace, social media, and physical stores in importance by 2029[76].

Voice search

As discussed in the ecommerce section of this report, voice search is changing how consumers research, discover brands and purchase goods online. The penetration of smartphones and digital assistants such as Google Home and Amazon Echo in Irish homes has given easy access to voice search technology. A recent report published by Salesforce indicates that 67% of Millennials and Gen Z prefer to use voice-activated personal assistants to connect with companies[77]. Voice search means retail marketers must develop SEO strategies to ensure they do not lose ranking for important keywords and terms. As part of their voice search strategy, retailers are considering:

- » Natural spoken language, which tends to be longer than typed search terms. Creating long-tail conversational content;
- » Mobile-first approach;
- » Site speed;
- » Micro-moments answering the who, what, where, when and why of questions asked by customers researching online;
- » Local-search listing optimisation such as Google Listing; and
- » Site structure.

Real-time Big Data

Retailers realise that they need to align data sets from legacy systems and different customer touchpoints to gain a holistic view of the customer's journey. Data is only useful if it can be reduced to actionable information which helps form real-time decision making. Real-time big data analytics helps retailers use data to drive useful business intelligence, answering the questions, "What just happened?", "Why did it happen?", "Where did it occur", and "What are we going to do next?". Currently, retail marketers are leveraging big data analytics in many ways to understand return-on-investment, forecasting, product placement planning, heat mapping and dynamic pricing.

Beacon Technology

Beacon technology was first launched by Apple in 2013, and since then beacons have gained huge traction in retail as their application has become further understood. Beacon technology is helping retail marketers create a cohesive online-to-instore-to-app shopping experience. Using proximity technology, the beacons transmit a Bluetooth signal, establishing a one-way connection with mobile devices within their operational range. In turn, this provides retailers with granular analysis of the customer's movements and interests whilst allowing for personalised content to be delivered directly to their smartphone. Retailers are using beacon technologies to deliver targeted discount offers based on browsing behaviours instore and online, promote events and to change images on digital screens to reflect customers interests. Beacon technology will increasingly become an important conjugate in aligning digital marketing objectives across touchpoints.

In the next section, the skills identified as being most important for retail marketing professionals will be presented.

Skills Required in Retail Marketing

Retail marketing is constantly evolving amidst business technologies, globalisation, and changing consumer expectations. According to our research, 74% of retailers plan to invest in their digital marketing efforts over the next 12 months. The challenges for marketing teams to remain relevant and connected to their target markets are immense.

Our research shows that the size of the retail organisation where the marketing professional is employed has a significant impact on how they view the required marketing skills. For SME retailers, where much of their marketing activities such as text messaging, press adverts, social media, blogging, and content creation are completed inhouse, having practical skills are essential. Ongoing training for marketing strategy, organic and paid advertising techniques, analytics, graphic design, and content writing is also viewed as a key requirement. Marketers working in larger retail organisations require skills in understanding how to apply technologies such as IoT, machine learning, AI, and big data and how to apply learning to automate manual tasks.

According to our research, in-demand skills for marketing professionals include data analytics, data security, data privacy, consumer psychology, personalisation, segmentation, customer experience, artificial intelligence, and machine learning, to name a few. Marketing nowadays is data-led, and marketing professionals must be able to gather, analyse, and act on insights if they are to leverage the true potential of the promotion or branding campaign. As automation and machine learning plays a bigger role in marketing over the coming years, it will significantly reduce the manual and repetitive tasks completed by marketing professionals.

Marketing is being challenged by successive waves of disruption. Marketing professionals must adopt a tribal approach to innovation and continuously challenge the status quo through idea generation and improvement strategies. They must be proficient in change management strategies and have the ability to bring people with them.

The ability to effectively collaborate with various internal teams and external stakeholders (influencers, digital agencies, suppliers) is critical for marketing professionals. Regardless of the size of the retail outlet, marketing works best when silos are broken down and there is cross-functional collaboration. The marketing professional must have the ability to communicate effectively with all stakeholders including employees on the shop floor, sales, supply chain, ecommerce, and merchandising. Marketing is weaved through every function of the organisation and retailers must adopt a coordinated and constructive approach to campaign development. The marketing professional should complete ongoing product knowledge training and collaboration with procurement teams to get closer to the products/brand's features, benefits, and values. Marketing professionals must demonstrate excellent verbal and non-verbal communication. They must be able to translate the retailers brand values, brand personality, and tone of voice across all marketing communications.

In addition to the skills identified above, the following were identified as being most important for retail marketing professionals:

» **Creativity:** Creativity is the most important skill for retail marketers as they try to keep pace with innovation, changing consumer preferences and a highly competitive retail landscape. Creativity gives purpose to intelligence gained through data insights. It is essential in developing strategic marketing plans, developing a presence in new marketing channels, product development, and identifying future opportunities and challenges.

» **Idea generation:** New ideas are the lifeblood of retail and the key to innovation. The ability to cultivate a culture where the process of brainstorming, developing, actioning, communicating, and reviewing ideas become the norm is essential. The ability to align cross-functional teams to create new opportunities is also very important.

» **User experience:** This involves understanding how consumers are engaging with your business across multiple touchpoints. Understanding of theories, principles, and psychology underpinning user experience, and being able to put insights into practice to improve how the customer is experiencing the brand is required.

» **Graphic design:** It is essential to have graphic design capabilities to reduce content creation costs and to be able to respond with pace to new campaign iterations. Understanding design for social media, creating and using brand style guidelines, and sourcing images from suppliers are also essential.

» **Goal driven:** Given the diverse margins across product categories in retail, it is imperative that campaigns are reviewed based on campaign objectives and profitability. Metrics such as customer lifetime value, cost per acquisition, conversion, total cost to sell, return-on-advertising-spend (ROAS) plus others are fundamental skills in this space.

» **Content writing:** This involves creating a consistent brand narrative across traditional and digital channels with compelling storytelling that is going to engage with the customer and elevate brand positioning.

» **Search engine optimisation (SEO):** Retail marketing practitioners need to be able to develop a consistent and current approach and discipline to SEO best practices. This includes having an understanding of how SEO impacts organic search, keyword research, link development with suppliers, SEO concepts and strategies for measuring, benchmarking, and optimising.

» **Paid search advertising:** This includes having a good understanding of paid search advertising formats across different platforms including Google, Bing, and Google Shopping, comprehending key terminology, financial metrics such as return on ad spend, and strategies for optimisation. Clarity on how automation and machine learning will impact paid search and how to optimise is also required.

» **Social advertising:** This includes an ability to create advanced paid social strategies across different social platforms. Understanding budget management, custom audiences, optimising call-to-actions, A/B testing, pixel configuration, social commerce, UTM codes, and understanding analytics is also essential.

» **Marketing analytics:** An understanding of the key retail fundamentals is essential to deciphering the mass amounts of data that marketers are exposed to. Understanding metrics across different platforms including Google Analytics, email marketing, SMS, social analytics such Facebook and social sentiment analysis tools such as Hootsuite is also required.

» **Time management:** The ability to use time wisely to effectively determine which tasks are the most important, which can generate immediate results, and which can deliver return-on-investment is essential in the fast-paced world of internet marketing.

» **Collaboration:** Strong collaboration and conflict resolution skills are necessary to lead teams that are working instore and on online retail operations. The ability to design cross-functional collaboration emphasising the importance of communication, delegation of responsibility, shared vision, campaign clarity, and ownership.

» **Neuroscience and neuromarketing:** Marketers need to understand how neuroscience impacts consumers' path to purchase, user experience, design, and advertising campaigns. Consider motivations and emotive reactions in digital and physical space. Cultivate principles in team leadership and cultural change strategies.

> **"You can't manage what you can't measure."**
> - Peter Drucker

Thought Leadership

Future Digital Marketing Trends from a Retailer's Perspective

By Caroline Dunlea

CEO, Core Optimisation

Where the future of digital lies within retail, and how the post-COVID retail world looks in general is no doubt on every retailer's mind at the moment. Online retail, and the application of a commercial strategic growth model to it, has never been so important as when brick and mortar retailers closed their doors, and the virtual tills were the only tills left accepting payment.

Who was ready? Who kept a steady online income? Who grew their online channel? Who had the infrastructure and logistics in place? Or who realised they had a website and an ecommerce system, but no visibility due to digital marketing not being a priority up to now?

When we look to the future of digital within the retail world, we can imagine endless possibilities. Already, we see augmented and virtual sales tools which are bringing products to life. We see personalisation as a key customer engagement tool. We see secure, frictionless payment methods such PayPal, Google Pay, Amazon Pay or Apple Pay. We see an omni-channel approach to sales, leveraging smart solutions and technologies that are being offered from major players such as Google Smart Shopping, Google Lens "Style Ideas" or Amazon Go.

There will undoubtedly be an acceleration in the volume of online sales over the coming years, with retailers putting more emphasis and resources into their online store to increase digital sales, improve their digital marketing strategy and enhance their digital ecosystem (including supply chain and logistics).

What remains the same in my opinion is the importance of the customer experience. If you offer your customers a better than expected online experience, a visually beautiful and speedy website with a variety of payment solutions, a personalised service with a loyalty system and a rapid delivery service, you will be well on your way!

The future of digital will be different for every Irish retailer, depending on where they are within their digital journey. I am hopeful that those retailers who might have lagged behind with poor non-transactional websites have now (or at least are in the process of) upgrading their website and ecommerce systems to transact online. Consumers are borderless. Consumers want to have the freedom to research and purchase their product of preference regardless of location. There is a huge opportunity for our Irish retailers to sell, not only to their domestic customers, but to cast their net wider and to start planning for international markets. With Brexit looming, Irish retailers could make strong online gains by positioning their brands in front of a European market. Tools like Google's Market Finder are a great place to start reviewing.

Remember online enables us to sell to the world!

4. Visual Merchandising

Introduction

Retailers are thinking beyond the front-line salespeople and customer service agents when redefining their customer experience strategy and placing visual merchandisers at the centre of it all[78]. Visual merchandising is all about planning and developing strategies to ensure products instore and online make a positive impact with the consumer and optimum sell-through is achieved.

Visual merchandising delivers the retailers "purpose" to the consumer through the development of creative and innovative displays, designing planograms to optimise space, maintaining store standards, inventory management, on-site demonstrations, and utilising technology to enhance day-to-day activities. Savvy retailers know that customers travelling to a store want more, they want both emotional and physical experiences and the role of the visual merchandising professional is to create "retailtainment"[79].

Technology Enhanced

Technology has been disrupting the everyday practices of retail merchandisers over the last ten years. In retail today, the data obtained from EPOS, loyalty systems and CRM systems are playing a central role in informing the visual merchandiser's job role. Retail merchandisers are increasingly generating and analysing data within their job role to gain insight into organisational performance and customer behaviours.

Evaluating sales performance by departments, categories, brands, time, and special promotions allow for a better understanding of brands or promotions that are performing, return by square foot as well as understanding customer behaviours. Visual merchandising professionals need analytical and financial skills to effectively plan product displays, develop product category adjacency plans, develop brand and product assortments, and react in a timely manner to emerging trends.

Artificial Intelligence (AI)

In the future, as AI and analytics integrate to create meaningful insights, visual merchandisers will have access to both real-time and predictive information, which will transform the role of the visual merchandiser[80]. AI technology is also set to provide consumers with a more tech immersive experience. Interactive mirrors or virtual fitting rooms will become more commonplace in the future allowing consumers to compare different products and outfits without actually having to try them on. The interactive mirrors enable customers to visualise how outfits or individual products would look on them. By simply scanning an item's barcode and standing in front of the interactive mirror as virtual garments are projected onto the customer's reflection. This technology can create a personalised profile for the customer, record the customer's measurements and body shape, style preference and make product suggestions based on previous purchases either made instore and online. Customers can also share images with their social networks to get instant feedback from friends. In addition, virtual fitting rooms can be paired with a personal digital assistant that makes recommendations based on information provided by the customer. Whilst this technology is available, it remains very expensive and often is only found in retail concept stores[81].

Concept versus Commercial

In search of visual wonders, retailers are investing heavily in concept store formats. Investments include digital signage, interactive user testing stations, smart lockers, smart shelving, gaming, personalisation, and creating art exhibitions. The race to develop the next in concept store design is often aimed at aligning the brand with changing consumer expectations and desire for exciting and engaging shopping experiences. However, one challenge that retailers face when it comes to concept stores is that they can be costly, and the layout is often at the determent of sales. The challenge for many visual merchandisers is balancing creativity with commercialisation.

Creativity is one of the most important skills required in retail. The ability to reinvent retail space and product proposition in the fast-changing retail environment, to deliver exciting and innovative designs is a real talent. However, as margins continue to tighten across all retail subsectors, there will be a balancing act for many Irish SMEs when considering creativity versus commercial viability. Visual merchandisers of the future will need to have a strong understanding of financial targets, margins, and forecasts. Visual merchandising professionals should be involved in leadership meetings so there is synergy between organisational and merchandising objectives.

> **In the next section, the emerging technologies in visual merchandising as identified by research participants will be presented.**

Technology Trends in Visual Merchandising

Neuromarketing & Artificial Intelligence (AI)

Neuromarketing addresses the psychology behind consumer buying habits and preferences both instore and online. The field considers how areas such as colour, visual, audio frequency, light, and smell, influence the customers buying experience on a neurological level. Visual merchandisers in the future will have automated insights gained from neuromarketing and AI to understand consumer sentiment based on how they engage with the brand. The use of facial coding using cameras, galvanic skin response (GSR) and biometrics that measure heart rate will provide visual merchandisers with instant insight into consumer reactions to better understand the effectiveness of product placement and creative designs.

Mobile Technology – Tablets and Smart Phones

As retailers adapt to keep pace with the changing retail landscape, they will look at ways of consolidating their stock holding across their entire real estate using real-time technology. In addition, they will develop new supplier collaborations to increase their virtual product offering. The placement of tablets and mobile technology throughout the shop floor will facilitate endless aisle options providing customers with an opportunity to research, review and purchase from a broader range of items, which are not physically available instore[82]. The changing nature of product procurement and interconnected retail strategies will mean the lines between the virtual world and the physical retail world will continue to blur. Visual merchandising professionals will increasingly turn to mobile technologies to ensure they seamlessly integrate to ensure a frictionless customer experience.

Digital Signage

Digital signage has been around for a while, but it is set to be transformed in the coming years. The increased use of business intelligence through networked systems opens up new opportunities for retailers to improve their business operations and customer experience. For example, in retailing subsectors where product prices fluctuate such as forecourts, they are combing internal data and data from external stakeholders to determine pricing, which is automatically updated across the entire real estate at the same time. Smart use of cloud-based digital signage will provide visual merchandisers with a new level of agility and continuity.

> **In the next section, the skills identified as being most important for visual merchandising professionals working in retail will be presented.**

Skills Required in Visual Merchandising

As the custodian of retail creativity, the visual merchandising role is centred around planning and developing innovative and customer-centric strategies to enable the retailer to ultimately excite the customer and maximise sales. If retailers are to leverage the full benefits of merchandising within their organisation, they must become more agile, cross-functional and collaborative, creating a culture where ideas are cultivated and shared.

In addition, retailers must migrate away from a traditional visual merchandising approach and adopt a strategic style as opposed to focusing on the day-to-day execution. Furthermore, retailers must be digitally minded taking an interconnected strategy for sharing merchandising knowledge, creativity, placement and promotions across ecommerce and marketing teams. More than ever, a holistic visual experience across all customer touch points is vital for retailers' brand equity. To be fit for tomorrow's retail landscape, visual merchandising professionals must be financial, analytical, and digitally minded. They must have the ability to leverage data to support decision making and develop creative personalised strategies depending on brand, promotion, or event. They must be able to harness data to boost the bottom line and continuously adapt to the fast-paced nature of retail.

In addition to the skills identified above, the following were identified as being most important for visual merchandising professionals working in retail:

» **Creativity:** A natural talent for design, colour and style are fundamental, with an active imagination and interest in design and future trends.

» **Analytical:** Increasing the use of structured and unstructured data requires the visual merchandising professional to be able to analyse data, to identify trends and potential risks and opportunities.

» **Communication:** Excellent communication skills are essential to ensure effective communication and negotiation with all internal and external stakeholders.

» **Computer literacy:** Working knowledge of different computer applications used within the retail setting is essential and basic understanding of innovative technologies impacting job roles such as AI, IoT, digital signage, and biometrics.

» **Commercial awareness:** An understanding of internal and external influences on consumers considering the competition, changing consumer demands as a result of political, economic, social, and technological influences.

» **Precision problem solving:** Maintain accurate records, report discrepancies, and make key trading decisions to increase sales and profit.

» **Display design:** Understand the effective use of display in merchandising, recognising the effectiveness of store layout, lighting, fixtures, window presentations, graphic design, instore displays, and overall store environment.

» **Retail math:** Ability to complete and understand mathematical functions to drive change, such as analyse sales figures, evaluate inventory, understand targets, margins, sell-through rates, pricing strategies, and cost of goods sold.

5. Supply Chain

Introduction

There is a technological revolution occurring in the retail supply chain. Consumer demand for speed and convenience are the biggest drivers for this transformational change. Retailers' existing supply chains are being stretched to capacity as a result of shorter product cycles, increased product ranges, rising costs, tightening margins, and the rise of digital commerce. According to the findings from this study, 56% of Irish retailers plan to invest in new supply chain technologies over the next 12 months. Investments include new warehouse facilities, robotics, automation, data management, and AI.

Changing Models

The traditional linear model in which instructions flow from supplier to producer to distributor to the consumer, and back, are being disrupted. The retail supply chain is moving towards a more digitised, automated, transparent, agile, highly efficient, and always-on model[83]. Retailers are seeing each part of the supply chain, considering design, procurement, assortment, warehousing, and logistics as being equally important in their supply chain ecosystem. The evolution and redefining of supply chain capabilities have become possible with the Industry 4.0 revolution.

Supply Chain 4.0 is a bundle of technologies that have emerged or are emerging, that can be applied to different stages of the supply chain such as design, planning, production, distribution, logistics, and consumption. The most frequently mentioned Supply Chain 4.0 technologies are the IoT, big data analytics, 3D printing, advanced (autonomous) robotics, RFID, AR, blockchain, AI, and cloud computing[84]. These advanced techniques/technologies create a continuous flow of information between the retailer and supplier developing a real-time, collaborative, transparent, and informed supply chain. For retailers looking to embrace digital solutions, the path has never been easier. Many of these emerging technologies work to enhance the value of legacy systems, involve minimal investment, have low requirements for integration, and have payback periods measured in weeks not months[85]. According to a contributor to this study, "we are using real-time APIs to enable old tech, we have invested in legacy systems that still do their job very well but by layering APIs helps lengthen their lifecycle, maximise our return on investment and achieve real-time results".

Changing Times

The need for agility and greater flexibility in supply chain management became apparent during the coronavirus pandemic which highlighted how vulnerable many retailers are to disruption. This is further compounded by Brexit looming on the horizon. Whilst many retailers have responded by building new structural agility and evaluating every aspect of their supply chain for potential disruption and risks. According to our research, there remain high levels of uncertainty and ambiguity on the long-term and short-term implications of Brexit and COVID-19 on their business[86].

As retailers prepare for potentially challenging times ahead, supply chain improvements can be a significant growth driver. Retailers must use these uncertain times as a catalyst for change in their supply chain management processes, with those that move quickly potentially reaping the highest rewards. It is important for retailers to manage risk and protect margin when the future looks unsettled[87]. Analysing supply chain activities across procurement, assortment, warehousing, and logistics with the aim of identifying new innovations and cost-saving measures could be the difference between success and failure in the potentially turbulent times ahead.

For the purpose of this research, current and emerging trends across four separate phases of supply chain management will be discussed: **procurement, assortment, warehousing, and logistics.** The skills for supply chain management professionals working in retail will be provided at the end of the section.

Procurement

Introduction

Over the last twenty years, retail procurement management has changed significantly. Consumers' demand for newness and choice has transformed how retailers approach product sourcing, suppliers, and the manufacturing process.

As discussed previously the linear supply chain is gone and is replaced with a more connected, agile, and productive supply chain that enhances the procurement process. The over-dependence on a few core suppliers is no longer an option for retailers. As a result of retailers having access to new global markets, shortening product lead times, high volume of SKUs, and manufacturers selling direct to consumers combined have compelled retailers to innovate.

Several examples of procurement developments are presented below:

» **Develop private labels:** Retailers are increasingly developing their own brands to achieve more control over the entire creative, planning and production process. They can control the end-to-end procure-to-pay process. It gives retailers more creative control of brand positioning, creating points of difference, and the ability to produce stock levels to suit their business whilst providing opportunities to reduce costs and widen profit margins[88].

» **Supplier collaborations:** A strategic shift away from seeing each supplier in a silo, adopting a shared, flexible, and transparent relationship to drive efficiency, scalability, and effectiveness.

» **Sustainability:** Sustainability credentials are of vital importance. Procurement teams realise that consumers demand transparency around the production process, ethical accountability, and total insight to the impact of the brand/product on the environment. Retailers such as Tesco, have a Sustainability Team which sits within their procurement division. Sustainability will remain an increasingly important feature in all retailers' procurement strategies[89].

» **Drop-shipping:** Retailers are realising that they do not need to warehouse a product to sell it. They are collaborating with manufacturers and brands to expand their product offering instore, online and across various marketplaces. According to our research, Irish retailers are increasingly exploring drop-shipping opportunities outside their traditional retail vertical. They are looking at models that have disrupted other sectors such as Airbnb and Uber for inspiration. For example, the largest hotel company in the world is now Airbnb, and it does not own any hotels; the largest car company is Uber and it does not own any cars, and the largest publisher is Facebook and it does not publish anything[90].

» **Customisation:** Consumer desire for individual expression and to sidestep mass-produced products has given rise to product customisation. Increasingly, retailers are implementing customisation services to instore and online to create a real point of difference. Customisation requires a rethink as products are produced after purchase and not before, allowing retailers to meet the individual needs, whilst reducing costs in waste materials, stock management, and transportation[91].

» **Circular economy:** Consumer dedication to reducing their waste are moving towards a reduce, reuse, and recycle approach to buying products. Retailers are upcycling and repurposing materials. For example, Nike's "Grind" program uses old shoes and manufacturing waste to develop usable materials in alternative ways such as gym floors, clothing, and playground equipment.

In the next section, emerging technologies in procurement as identified by research participants will be presented.

Technology Trends in Procurement

AI and Cognitive Computing

Retailers are reinventing their end-to-end workflows and are looking to technologies such as AI and cognitive computing to realise the full potential of humans and machines working together. AI is the simulation of human intelligence processes by machines. Procurement teams are using AI to streamline constantly changing data sets, align structured and unstructured data, predictive analysis, and self-correction mechanisms. Self-correction mechanisms are increasingly being adopted by retailers in their manufacturing plans to identify potential machine malfunctions and automatically schedule the specific services needed with the aim of reducing downtime and costs[92]. Retailers are looking to cognitive computing to harness and deploy intelligence to procurement teams to simulate reasoning to copious amounts of data, supply greater visibility, and support intelligent human-like actions.

Cloud Computing

IBM has identified cloud applications as one of the top three technology investments for Chief Procurement Officers over the next three years[93]. With retailers facing pressure to move faster and adapt to threats and opportunities with pace, they require a single source of visibility across the organisation. They require real-time data across multiple devices which includes insights on assortment, inventory optimisation, warehousing, goods in transit, and sales information on instore, online, social, and marketplace. They require real-time data at a high level, as well as at a transactional level to determine granular insights to achieve improved procurement strategies, gross margin, and sell-through rates.

3D Printing

The application of 3D printing in the retail sector has become more apparent in recent years. Retailers are exploring 3D as an alternative to traditional manufacturing processes. They are considering 3D printing solutions as a means to produce goods inhouse from raw materials, minimising waste, and to facilitate product customisation services. The on-demand printing capabilities of 3D offer retailers high levels of flexibility and agility to innovate as well as avoiding costly redesign processes as production is completed end-to-end instore. In addition, 3D printing has the potential to reduce transportation, logistic, storage and handling costs making it environmentally friendly, whilst also improving margins[94]. 3D printers have the potential to transform retail manufacturing and in particular provide SME retailers a unique opportunity to create innovative products and provide customisation services to their consumers.

Assortment

Introduction

A product assortment strategy is central to every retail business[95]. Gone are the days when retailers could establish their product assortment based either on 'gut instinct' or persuasive sales reps. While traditional retail assortment-mix and planning focus on the product, today's most successful retailers put the customer at the center when making retail assortment planning decisions.

To attract their shopper's attention retailers are adopting a demand-driven, customer-centric assortment optimisation strategy[96]. Retailers are using technology within their supply chain to understand what customers want, when they want it, and where they want it.

AI and data analytics are helping retailers deliver a more responsive and automated approach to assortment and replenishment. Retailers are using AI for geospatial analysis, assortment planning, automated reordering, and space optimisation within their assortment strategy. According to a research respondent which operates nationally, they are using AI to remove the manual aspect of order replenishment. The AI technology automatically generates an order for out-of-stock goods, removing the manual repetitive process - making the retailer more efficient allowing them to focus on value-add activities.

The lacklustre and predicable product assortment across certain retail categories (such as beauty, fashion, and footwear) has been caused primarily by the mass rollout of chain stores, franchises, and concessions across Ireland. A research respondent noted that "there are great opportunities for independent retailers, where products are handpicked and aligned closely to their customers' wants, needs, and expectations. Retailers that can offer a point of difference and excite their customers whilst maintaining margin and use technology to eliminate manual tasks, will be winners in the retail game". The challenge facing all retailers is the relentless pursuit of improved margins. With increasingly demanding consumers, growing competition globally, and the rise of discount retailers, there is a higher propensity to discount than ever before. Retailers are acknowledging that discounting is a "race to the bottom" and it is a game that they cannot win. More and more retailers are looking to their assortment strategy as a means to elevating their consumer's perception of the brand and overall product value, thus reducing their tendency to discount.

In the next section, emerging technologies in assortment as identified by research participants will be presented.

Technology Trends in Assortment

Data Analysis

Data analysis plays a central role in assortment mix and planning for retailers. Retailers are gradually moving away from manual processes and considering technological advancements in data analysis to support real-time intelligent information on all aspects of the assortment strategy. Stock accuracy is of critical importance when procuring/replenishing and fulfilling orders, making it critical to monitor these processes. The need for real-time updates of on-hand, on-order, in-transit, and open-to-buy products across the entire real estate is essential in an omnichannel retail environment.

Intelligent Content Extraction

Intelligent content extraction gives retailers the ability to gain insights from unstructured data. It allows retailers to quickly extract data from documents such as contracts using AI powered advanced character recognition, machine learning, and natural language processing[97]. It considers the fields and attributes of the unstructured data to deliver structured and deep insights that retailers can use to improve workflows and the bottom line. It provides retailers with the ability to optimise routine operations and significantly increase workflows and productivity.

Data Visualisation

Dealing with large data sets can be hard for humans to decipher actions, whereas data visualisation presents data in a format that is easier for the human brain to comprehend more quickly. Data visualisation takes unappealing text reports and makes them interactive visual dashboards, making it easier for teams to digest and action information. As data visualisation combines with augmented reality, it will create 3D immersive experiences, making it highly immersive to translate data in real-world scenarios – such applications in assortment will be augmented floor space planning.

> ❝❝ "The human brain can process images 60,000 times faster than text"[98]

Warehousing

Introduction

In the world of modern retailing, the warehouse is considered to be the heart of retail operations, therefore it is essential that it runs smoothly to ensure accuracy, efficiency, pace, and traceability. Our research reveals that many Irish retailers' warehouses still involve a great deal of manual search activity.

Manually searching for products can be a slow error-filled process. The rise of digital commerce has added a new layer of complexity to the role of the warehouse. Whilst inaccuracies with cycle counts and out-of-stocks have always been an issue for retailers, often it was dealt with as an internal matter. Today, ecommerce has put a massive spotlight on inventory management errors as orders which are unfulfilled and subsequently cancelled, gain negative customer reviews, impact consumer's trust, brand reputation and repeat custom. It is essential for retailers to have a fully integrated inventory management system that is syncing as close to real-time with the website to ensure only available products sell. In addition, there should be ongoing training to ensure products are receipted correctly onto systems, pricing tickets are aligned with the right product, access to 'open keys' on the EPOS are limited and employees understand the importance of good housekeeping.

As ecommerce grows, retailers are looking for agile approaches to inventory management and fulfilment. Bricks and mortar retailers are moving away from warehouse fulfilment to a more agile approach with the aim of avoiding excess inventory, eliminate unfulfillments, gain higher sell-through rates and gain faster turnaround. Retailers are implementing endless aisle, drop-shipping, and ship-from-store systems to leverage stock availability across the entire real estate. Retailers are unifying their inventory to align location, click and collect and delivery information so the optimal supply point is used, increasing speed whilst reducing delivery and manpower costs.

Technology is disrupting every element of the warehouse function and will become more accessible to SME retailers as the cost of automated technologies become more affordable.

> **In the next section, emerging technologies in warehousing as identified by research participants will be presented.**

Technology Trends in Warehousing

Inventory Management Software

Retailers are looking beyond their EPOS system for inventory management processes and considering inventory management software as an end-to-end solution. In an omnichannel retail landscape where retailers are managing multiple selling locations as well as multiple back-end systems, they are wanting to consolidate backend systems and optimise workflows. Inventory management software brings together a wide range of functions including EPOS, ecommerce, suppliers, drop-shipping and returns management, finance, CRM, logistics, reporting, and much more. For retailers trading in multiple countries, it offers bilingual and multicurrency options. Cloud based inventory management systems offering mobile app technology and accessibility across devices such as tablet and mobile devices give greater visibility and flexibility to employees working at all levels within retail. According to our research retailers are leveraging APIs and API-led connectivity to modernise and repurpose legacy systems such as EPOS through the implementation of inventory management software.

Blockchain

"Tracking a product via blockchain takes 2.2 seconds, versus seven days via paper"[99]

As a foundational technology, blockchain has the capability to completely transform supply chain. Whilst blockchain is not a new concept, its application within various retail contexts are only starting to be understood. Blockchain is a distributed highly secure digital ledger that allows multiple parties to maintain copies of the same information in different locations, which can be held in an open or closed network. It has numerous applications - agreement/contracts, product traceability, provenance verification, payments and so much more. It eliminates the issue of dispute as everyone in the chain has the same version of the ledger. In addition, blockchain seamlessly deals with cross-border transactions and complex issues arising from compliance regulations and taxation. Blockchain technology is expected to grow rapidly in the coming years, with the global blockchain market projected to reach a value of $20 billion by 2024[100].

Robotics and Automation

According to our research, 33% of respondents have invested in robotics and automation over the last 12 months. Robotics and automation technologies are increasingly becoming mainstream technologies as retailers try to streamline warehouse and fulfilment processes. Whilst robots are used in many different applications, they appear, at present for many Irish retailers, to be complementary with human labour and have a distance to go before they will be completely autonomous. Across the warehousing function, there are numerous robotic and automation applications including:

» Receipting incoming pallets, and automatically separating product cases and allocating storage space;
» Automating mixed case fulfilment;
» Selecting optimal dispatch routes;
» Shop floor shelf scanning and automated replenishment; and
» Picking and packaging customer orders.

The adoption of robots will increase in the coming years across retailers of all sizes. Their "always-on" nature means they can work faster and for longer when compared to humans. According to a report published by Microsoft (2019), robots travel up to 25 mph and can retrieve one product per minute—approximately five times faster than a human can pick products on foot[101]. As part of the digital transformation of the warehouse function, robots will play a starring role.

Internet of Things – Wearables and RFID

Internet of things (IoT) technologies such as wearables and RFID are providing innovative solutions to improve inventory management processes. Wearable tech, wrist and finger barcode scanners and smart glasses which enable workers to identify packages by looking at them, are increasingly coming into the fore. RFID offers retailers a new level of inventory accuracy and real-time data and enabling faster and more agile responses to order replenishment requests and unexpected events. As the cost of RFID continues to become more affordable it will become more commonplace amongst Irish retailers.

Logistics

Introduction

The role of logistic management has been elevated to strategic level importance for many retailers in recent years. Logistic processes have become increasingly complex, involving inbound logistics (goods from manufacturers and suppliers), outbound logistics (goods to consumers), and reverse logistics (returns from consumers).

The varying and complex nature of logistic management means retail employees are implementing innovative technologies to streamline processes, reduce costs and increase speed. To remain competitive in an increasingly competitive and globalised economy, retailers are implementing both inbound and outbound logistic initiatives such as:

Inbound Logistics initiatives

» Retailers collaborating with other retailers to share logistic costs – i.e. refrigerated transports, freight containers. Reducing costs and reduces the carbon-footprint of the brand.

» Integrating systems with trusted third-party logistic partners for end-to-end services.

» Electronic Data interchange systems.

» Using AI based algorithms monitoring freshness of goods and redirecting to closer-proximity stores to maximise shelf life.

» Slotting Optimisation for optimum space utilisation.

Outbound Logistics (Last-Mile Delivery) initiatives

» Next day delivery has been upgraded to same-day delivery in urban areas.

» Delivery to the car boot of customer cars.

» Improved Click and Collect services with goods ready for collection with an hour of ordering online.

» Contactless delivery and kerbside delivery increased in importance since COVID-19.

» Self-driving autonomous vehicles – Ford and Walmart in the US have partnered to test grocery delivery.

» Drone delivery.

» Collection lockers.

» IOT Vending Machines.

The exponential growth in digital commerce over the last decade has elevated consumers' need for speed and immediacy. This point was highlighted by a respondent who stated, "we consider the last mile operations as the defining point in the sales process, one which we cannot afford to get wrong. Customer loyalty is fickle, and we know that customers will benchmark our service based on the last service we provide them with – which is often delivery".

Whilst retailers have made efforts to optimise the last-mile delivery, they are struggling to streamline reverse logistic otherwise known as customer returns process. According to our research, 61% of retailers said dealing with returns has a negative impact on their business. Respondents cited issues such as serial returners, counterfeit goods, goods being soiled or worn, extended returns periods, and issues with costs as their primary issues. The total cost to handle reverse logistics has retailers rethinking the value in offering services such as free returns.

Emerging technologies in logistics will be presented in the next section.

Technology Trends in Logistics

Drones

Drone-based delivery is coming closer to reality. Chinese retailer, JD.com launched a drone delivery programme which can carry packages up to 30kg and can fly at 60mph[102]. Retailers such as Amazon are launching 30-minute drone delivery options and Uber Eats is testing drone delivery in urban areas[103]. Whilst we may be dismissive of the roll-out of drones in Ireland in any meaningful way, it will increasingly become a viable option post-COVID-19 for some retailers as they seek safe and contactless options for last-mile delivery.

Autonomous Delivery

The technological advancements in AI and machine learning are powering intelligent, autonomous systems that can streamline logistic processes. Autonomous technology involves moving goods without human intervention and is expected to grow at pace. With the increased need for contactless delivery post-COVID-19, retailers will increasingly consider the viability of autonomous robots to complete the last-mile delivery process. On the streets of China during the pandemic lockdown, self-driving vans delivered food to customers' homes[104]. Autonomous delivery technologies such as autonomous freight trains, autonomous cargo ships, and autonomous trucks are still in testing, however driverless transport will continue to increase in relevance.

Global Positioning Services (GPS) Technology

GPS solutions provide retailers with enhanced visibility to navigate, track, and locate goods in transit. It allows for improved fleet management, enhanced accountability, improved resource management which leads to reduced costs and improved efficiencies. From a customer's perspective, it provides real-time insight to the location of their parcel. GPS tracking options are being incorporated into mobile app solutions, giving customers 24/7 visibility on their order status.

> **The skills identified as being most important for individuals working in various roles within supply chain management will be presented in the following section.**

Skills Required in Supply Chain

As the retail sector continues to advance their supply chain management processes to enhance accuracy, agility, transparency, and connectivity, they will increasingly become dependent on technology to aid teams working in procurement, assortment, warehousing, and logistics. Technologies such as blockchain, predictive analysis, sustainability, beacons, robotics, and automation will become commonplace.

This technology requires specialised talent to design, integrate, implement, maintain, operate, and continually optimise – which are not readily available. Skills in collaboration, negotiation, problem-solving along with change management are crucial.

Research has shown that retailers will increasingly drive towards sustainable supply chain management processes. Supply chain management professionals should have the skills to examine the organisation's environmental and carbon impact and develop improvements across each phase of the supply chain. They should be able to develop and implement and review comprehensive sustainability programmes which outline standards for both themselves and their suppliers.

The adoption of technological advancements such as automation and AI will gradually eliminate manual repetitive tasks allowing teams to move to more value-add roles. Technology integration will increasingly cause job displacement through supply chain management. Research participants highlighted that individuals working in supply chain management are valued talent as they know business processes from so many perspectives, and every effort should be made to retain and retrain.

Increasingly retailers are utilising temporary workers to assist in the supply chain during peak trading times. Many retailers in the grocery subsector adopted this approach to cope during the COVID-19 lockdown. Retailers need to consider a broad range of induction training requirements along with security considerations when engaging with freelance or temporary workers.

In addition to the skills identified above, the following were identified as being most important for individuals working in supply chain management:

» **Supply chain 4.0:** Understanding of different technologies classified under supply chain 4.0 and how they relate to various supply chain processes.

» **Supply chain management fundamentals:** Understanding the different areas of supply chain and the development of strategic approaches for instore, online, social, and marketplace selling.

» **Supply chain technologies:** Understanding of various supply chain management software technologies and the task they perform within supply chain management.

» **Systems integration fundamentals:** Understanding of key elements of successful system integrations and how to optimise legacy systems.

» **Strategic thinking:** Equip teams with practical knowledge to develop ideas into action and are always looking for opportunities for business development.

» **Sustainable development:** Understanding of sustainability and corporate social responsibility (CSR) is essential. Understanding regulations such as Ireland's 2030 sustainable development goals, social compliance, and systems and eco-design requirements in the EU are fundamentals.

» **Risk management:** The ability to identify, assess, and control social, political, economic, and technological threats with the aim of reducing organisational exposure to supply chain disruptions.

» **Aligning innovation and disruption:** Ability to align stakeholders, processes, products, and services to develop an innovative culture that is always seeking growth opportunities.

» **Financial management:** Inventory cost management, develop procurement budgets, inventory evaluation methods such as specific identification, FIFO, and LIFO and weighted average ability to calculate and understand key retail metrics.

» **Design thinking:** The ability to apply design thinking methods to opportunities and problems in order to generate innovative solutions as well as enhance the organisations innovation capability.

» **Customer-centric:** As retailers move towards a customer-centric procurement strategy as opposed to a product-led one, the ability to apply a customer-centric logic to supply chain management activities and develop frameworks to better understand customers' needs is essential.

6. Loss Prevention

Introduction

With the emergence of new sales channels, changing consumer behaviour and increased organised crime along with tighter profit margins, the role of loss prevention professionals in the retail paradigm has never been so important. A report published in 2018 by Sensormatic found shrinkage across retail stores in Europe stood at 1.83% of revenue, with a retail loss value of approximately €26billion[105].

Research published by Mazars in 2020 reveals that Irish businesses are experiencing financial loss due to occupational fraud and abuse, where the average financial loss was between €10,000 and €20,000. 12% of Mazars research respondents reported financial losses greater than €500,000, primarily relating to the theft of cash and goods and issues relating to payroll, expense fraud, invoice fraud, and conflict-of-interest fraud[106].

These staggering figures put in perspective the rationale for retailers across all sub-sectors to have loss prevention strategies in place. Retailers of all sizes are exposed to the risk of fraud on a daily basis from consumers, employees, and suppliers. This coupled with the rising and complex fraud issues caused by cyber-attacks means that no retailer is immune to dangers posed. According to our research, 65% of respondents are making a moderate to significant investment in loss prevention technologies over the next 12 months.

Technologies including tagging systems, EAS and loop alarms, RFID, EPOS and data analytics, and CCTV surveillance are being considered as solutions. Implementing these technologies does pose challenges. As one interview respondent reported, "many of the modern-day technologies are very expensive and simply unattainable for smaller retailers. Providing exceptional customer service, developing employee awareness with ongoing training on loss prevention and providing whistle-blowing opportunities is the common approach to loss prevention". The starting point for all retailers regardless of size is to have a clearly defined organisational loss prevention strategy which defines all aspects of retail loss including inventory control, sweet-hearting, hot-spots, cash loss, stock-outs, shortages in deliveries, commercial loss in late deliveries and administrative error.

Fraud impacting the retail sector is becoming more sophisticated everyday with fraudsters changing their tactics at lightning speeds. According to our research, retailers identified the risks posed by organised crime, internal fraud, identity theft, and cybercrime as primary areas for concern.

Organised Crime

The increasing numbers of organised groups and novice shoplifters is a real threat for retailers on a daily basis. Dealing with instore incidents such as smash-and-grabs, gift card fraud, forgery, counterfeit products, and foil-lined booster bags are only a few of the security challenges. More sophisticated organised criminals' ploys include pilfering from consignments and warehouses. Organised criminals are targeting retail as it is viewed as a stable income stream and they are prepared to use violence or the threat of violence to ensure compliance by retail employees[107]. Whilst some retail employees may be coerced into engaging in illegal activities, it should be noted that in some cases retail employees are colluding with criminals or acting in their own interest.

Internal Fraud

Internal fraud caused by employees has always been a problem in retail. Whilst there are conflicting views on the exact percentage, it is believed to account for approximately 35% of all retail fraud. A recent report published by Forbes found that businesses employing less than 150 employees are often the most vulnerable to employee theft[108]. The types of fraud committed include everything from sweet-hearting, warehouse theft, stealing cash and products, to elaborate inside jobs which staff are complicit in facilitating identity and courier fraud. As retailers employ technologies and procedures to detect employee theft, employees are also evolving and coming up with increasingly devious and complex methods.

Identity Fraud

According to research conducted by CIFAS, identity fraud is at an all-time high which is primarily attributable to high levels of personal consumer information available across social media platforms, planted staff working in retail organisations and careless protection and administration of customers personal data. Identity fraud is more prevalent than ever[109]. The ethics surrounding the processing, validating, managing, and storing of data along with GDPR regulations is presenting unprecedented challenges for retailers.

Cyber Crime

While digital communications and ecommerce have boomed in recent years, they have experienced explosive growth during the COVID-19 pandemic. The sudden nature of the COVID-19 lockdown across society meant retailers were completely dependent on technology to connect and sell to their customers. Whilst retailers scurried to create transactional websites, and other digitally advanced retailers were overwhelmed with the volume of orders and implementing new safety protocols regulations – addressing fraud considerations and the implementation of fraud detection software became a low priority for many.

Cyber-criminals are targeting retailers of all sizes using a wide range of highly sophisticated and ever-changing methods. Such fraudulent methods include card-not-present - payment with stolen credit cards, website and email phishing, website pagejacking, and merchant identity fraud.

An increasing issue for loss prevention teams is the risk posed by ransomware attacks. 20% of Irish retailers have been victims of ransomware attacks[110]. Ransomware attacks occur when cyber-criminals encrypt all business data and lock it with a unique key. The data remains unusable until the business pays the ransom in exchange for the key that unlocks the data. With the cybercrime economy valued at $1.5 trillion dollars annually, it is not surprising that highly professional and capable individuals are making online hacking their full-time job. The increased use of technologies by both consumers and retailers will bring a new set of challenges and skill requirements for loss prevention professionals.

According to our research, individuals working in retail loss prevention tend to be responsible for the bricks and mortar side of the business and are not involved in assessing risks associated with online trading. In today's retail landscape, retailers must take a unified and holistic organisational approach to manage loss prevention risks. Retailers must aim to create a collaborative culture where knowledge sharing is normal across departments and teams. To be prepared for the digital disruption that is occurring across every aspect of retail, loss prevention professionals will be heavily immersed in technology on multiple levels in order to keep pace with the activities of cybercriminals.

Emerging technologies in retail loss prevention will be discussed in the following section.

Technology Trends in Loss Prevention

Biometrics

As retailers seek solutions to secure the password-based login pages on websites they are turning to biometric technology as a solution. The biometric tech allows users on mobile devices to login to their accounts via facial recognition, voice recognition, or fingerprint scanning, replacing traditional password-based security. Apple's Touch ID is an example of fingerprint scanning in operation. The biometrics software can measure the unique biological factors when authenticating users limiting exposure caused by logins and passwords.

Data Analytics

According to our research, many Irish retailers are using Excel sheets to mine data generated from various systems such as EPOS for post event analysis. Data analytics is not a new concept in loss prevention but gone are the days when retailers are depending on Microsoft Excel reports to find anomalies. Retailers are moving towards advanced data analysis techniques such as link analysis, AI, deep learning, data visualisation, and predictive modeling. This allows retailers to establish patterns, anomalies and attribute issues to specific stores, departments and ultimately back to the source. Fundamental to retailers reaping the success of data analytics activities is to know what they want to obtain from the data and have clear processes in place in which to act on.

RFID and AI Combined

RFID technology allows retailers to track and manage merchandise at a single product level, providing detailed information about the product throughout the supply chain as well as instore, making it easy to see exactly when and where missing items went astray. Taking the large amount of item-level information that RFID produces and combining that with the automated processing power of AI, delivers a higher level of intelligence for retailers. The ability to generate value from the information collected throughout the supply chain will give loss prevention specialists the ability to view risks in real-time across the entire organisational ecosystem.

> In the next section, the skills identified as being most important for loss prevention professionals working in retail will be presented.

Skills Required in Loss Prevention

As gatekeepers to organisational profits and organisational reputation, loss prevention professionals require relevant skills and competencies across a wide range of disciplines so they can take a total loss approach across instore and online.

According to our research, loss prevention professionals will need to be strategic thinkers as opposed to tactical thinkers. They must have the ability to effectively use their intuition, show leadership, manage risks, and challenge the norm. Communication is key. It is essential that people working in loss prevention have the ability to effectively communicate and listen to people working at all levels of the organisation.

Loss prevention professionals must be able to develop and nurture a collaborative, trusting and productive environment where processes and procedures are continuously evaluated for risk and improvements. The findings from this study suggest that the ability and willingness to engage in a community of practice where learning is shared and obtained and implemented from other retail loss prevention professionals, is essential. The ability to foster a cross-functional approach across departments such as finance, customer service, supply chain, marketing, human resources, and ecommerce.

Just as technology is revolutionising the retail sector, it is transforming the role and skills required by loss prevention professionals. The future role of loss prevention will be immersed in technology. The increasing adoption of AI, data analysis, data security, beacons, video analytics along with cybersecurity means that loss prevention professionals will have to leverage technology to remain relevant. In the future, there will be a growing expectation that all loss prevention professionals embrace and understand the technology and adapt to the needs of the business. It is essential to have a working knowledge of every customer touchpoint, including ecommerce, social activity and marketplace selling. Loss prevention professionals must become well-rounded business leaders requiring broad business acumen knowledge.

In addition to the skills identified above, the following were identified as being most important for retail loss prevention professionals:

» **Policymaker:** The ability to develop, implement, and audit policies and procedures to ensure risks are identified and managed whilst ensuring organisational compliance.

» **Critical Thinker:** Investigate information subjectively to form a reasoned judgment, record, and resolve to a high standard.

» **Consumer Rights:** Understanding employees and consumer rights when investigating or pursuing an organisational loss.

» **Analytical:** Attention to detail and the ability to review streams of data to identify possible errors relating to loss or theft.

» **Auditing:** Undertaking audits across various platforms whilst using different data sets and the ability to apply learning to drive change within the organisation.

» **Communication:** Dealing with multiple stakeholders including employees, customers and Gardaí and the ability to communicate effectively and succinctly is imperative.

» **Leadership:** Establish an organisational culture where loss prevention standards and compliance to regulations are paramount across various organisational departments.

» **IT Security:** Understanding of secure software development, intrusion detection, risk mitigation, cloud security, and identity and access management[111].

» **Collaboration:** The ability to converge teams around a common goal of asset protection developing a culture of trust and productivity.

» **IoT Fundamentals:** Understand the different elements of IoT and how to leverage them to support loss prevention initiatives.

Thought Leadership

The Impact of COVID-19 on Retail Loss Prevention

By Alison Allen

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Retail loss has a considerable impact on a retailer's profitability. Attributable to shoplifting, fraud, internal theft, wastage, administrative errors and vendor fraud, the impact of retail loss on the Irish economy is ordinarily significant. In these uncertain times when growing revenue is challenging, business leaders must adopt cost reduction strategies in order to survive and eventually thrive. Therefore, understanding and managing retail loss is an increasingly important consideration in a pandemic environment.

Malicious causes of loss have traditionally proved to be the largest contributors to the overall retail loss figure. As yet, there is no research to ascertain whether the level of shoplifting and employee theft will rise or fall. The economic climate may drive criminal intent, however, with stores less crowded and with entrances and exit doors often manned by staff, the risk may in fact be less. Furthermore, cash theft by employees may also reduce. Most retailers are now encouraging contactless payments, therefore there will likely be a dramatic decrease in cash takings. The uncertainty and inability to predict how future loss levels will be affected dictates that it will become increasingly important for loss prevention leaders to closely measure and monitor all known causes of loss. Therefore, a better understanding of unknown losses can be gained and strategies can be built to address these accordingly.

Whereas stores were once the lifeblood of retail, consumer habits have now switched to online shopping and click and collect. For many businesses this has meant an exponential growth in ecommerce. To this end, the management and accuracy of inventory will become increasingly vital. Maintaining accurate stocks will increase the productivity of an online operation and grow sales. Alongside this, there is a growing risk of various types of online fraud. Transactional monitoring technologies and strategies to prevent fraud will become a key consideration for business leaders.

Most importantly, businesses must ensure that a loss prevention plan is built and that delivery of the plan is properly resourced. Undoubtedly, the loss prevention function will evolve during the pandemic. Roles will become less focused on the traditional practice of catching criminals. Instead, loss prevention professionals need to widely consider all elements of the business and where they can best add value. Analytical skills will become increasingly important and the abilities to work cross functionally, collaboratively and to be adaptable to change will be critical to the successful delivery of the loss prevention plan.

7. Payments

Introduction

In recent years, retailers are starting to view payments as a central part of their value proposition. According to our research, 75% of participants have invested in their payment technology over the last 12 months. Implementing the right payments strategy to optimise conversion both instore and online is an opportunity for retailers to gain a real strategic advantage[112].

Retailers are exploring new ways, online and offline to engage with consumers, but adopting a frictionless and seamless checkout experience is not without challenge. Navigating through the various types of payment solutions and providers, managing systems integrations, understanding complexities with merchant and issuing banks whilst ensuring compliance, can be a difficult road to navigate for many retailers.

Cashless Society

Less than 10 years ago, it would have seemed inconceivable that cash could soon be a thing of the past in Ireland. As a country traditionally fond of using cash, we are at the tipping point of a behavioural transformation. The combination of the contactless payment limit being increased from €30 along with changing consumer preferences, convenience and evolving technologies are creating a retail landscape where cash is no longer king. We are entering a cashless economy where the rising adoption of mobile contactless payment options such as Apple Pay, Amazon Pay, Google Pay, contactless debit card payments, tokenisation, and blockchain is paving a new way for payments in the retail sector. According to a report published by Visa, contactless payments account for a third of all face-to-face Visa transactions in Ireland, predicting Ireland will be a cashless society by 2030[113]. The trend towards a cashless society has been accelerated due to COVID-19 and changing consumer shopping and banking practices. As a result, Ireland could be a cashless society as soon as 2026.

Cash Management Solutions

Whilst the circulation of cash is in decline, it remains part of the day-to-day operational consideration for retailers when preparing floats and bank lodgements. Research conducted with retailers as part of this study indicates that they are constantly aiming to streamline the labour costs, security, fraud, and theft risks associated with handling cash by implementing robust cash handling procedures. The introduction of cash management solutions such as coin and note recyclers and float automation solutions are high on the retailer's agenda. Retailers view cash management technological solutions as a way to reduce the number of employees who handle cash and increase the accuracy of cash handling activities, leading to fewer losses and an improvement in the bottom line.

Contactless

In the wake of COVID-19, retailers are reshaping all aspects of their operations to ensure both customer and employee safety. Retailers will be increasingly introducing contactless operations which limit contact from employee to employee, and employee to the customer. The requirement for new mobile payment solutions to mitigate the risk of lengthy queues has been expedited to that of critical importance. Self-service kiosks which have been a common feature in Irish retail stores will become more commonplace. Alongside this, retail employees will have access to mobile point of sale units and consumer-facing mobile apps so teams can process payments on the shop floor. Avoiding friction at checkout will continue to be one of the biggest conundrums for retailers as they make efforts to ensure customers do not walk out empty-handed instore because of long and complicated checkout processes[114].

In China, the Hema chain of retail stores owned by Alibaba is leading the way with cashierless supermarkets. Shoppers are in control through-out their shopping experience allowing for zero contact with employees. Customers can pay via facial recognition at special face-scanning kiosks. In addition, Hema shoppers can complete their sales via the Hema app. The Hema app not only functions as a payment solution but considers the customer journey end-to-end. It allows customers to log their purchases information, saves delivery information, preferences as well as providing rich data on the origin and nutritional value of products as well as cooking recipes. Another retailer ahead of the curve on end-to-end contactless shopping is Amazon.

In 2016 Amazon diverged into the physical store space, with its Amazon Go store concept. The "just walk out" technology is a scan-and-go application, the consumer serves as the cashier and conducts the transaction using a mobile device. When shopping instore the consumer has no contact with Amazon Go employees, they simply register prior to entering the store, select the items they want to purchase and leave without going through a checkout process and the payment is automatically deducted via their smartphone[115]. Amazon's Just Walk Out technology automates the entire checkout process with a system of cameras, weight sensors, and AI to recognise products each consumer take from or return to shelves, and then connect the data to the correct customer account.

As the world of digital payments continues to evolve and expand as a result of new innovative solutions, we will see biometrics, facial recognition, voice recognition, smart vending solutions becoming more prominent in the world of payments in the coming years.

Emerging technologies in payments will be presented in the following section.

Technology Trends in Payments

Mobile Payments

New mobile digital payment opportunities are being developed at an exponential rate. In recent years retailers have rapidly upgraded their payment infrastructure to accept digital wallets or e-wallets such as Apple Pay, Amazon Pay, PayPal, and Google Wallet. Research conducted by Retail Week reported that 22% of 18 to 24-year olds prefer mobile payment options[116]. Biometric payment options such as fingerprint, voice, or facial authentication will increasingly become mainstream in mobile payments. In China, WeChat which is known as an instant messaging and social media platform has been transformed with the introduction of WeChat Pay, a digital wallet that allows users to make mobile payments and send money between contacts[117]. In the coming years, expect to see Facebook, Messenger, Instagram, and WhatsApp evolve in a similar way.

Credit Card Tokenization

With credit card tokenisation, consumers when shopping online can store their card credentials with a merchant or retailer without the risk of exposing actual card account details. Credit card tokenization technology replaces cardholder's information, such as account numbers and expiration dates, with a unique digital identifier that can be used for payment without exposing a cardholder's more sensitive payment information. Hiding customers' confidential payment information, tokenization provides the consumer with an added layer of security and a faster more convenient checkout experience. Tokenization technology allows retailers to implement 1-click checkout experiences, which can easily and securely facilitate reoccurring payments required for subscriptions or instalment payments. Online Amazon has been leading the way with its innovative 1-click payment solution making the path to purchase for consumers fast, easy, uncluttered, and secure[118]. Credit card tokenization is not a new concept but one that will be more readily opted by retailers in the coming years.

Cryptocurrencies

There has been increased hype around cryptocurrencies such as Bitcoin – a decentralised digital currency that enables payments to anyone, anywhere in the world which operates without a central banking authority. The mainstream adoption of cryptocurrencies amongst consumers is somewhat down the line as there remains a lot of confusion about how it actually works. However, retailers should be aware that cryptocurrencies are on the horizon. With J.P. Morgan Chase and Facebook both announcing that they are launching their own cryptocurrencies, it is a clear indicator that cryptocurrencies will feature in the future of digital payments.

> **In the next section, the skills identified as being the most important for individuals working in retail payments will be presented.**

Skills Required in Payments

According to our research, payment management is a task that is currently undertaken by various people within Irish retail organisations including the owner, the financial controller, the office manager, cash clerk, or the ecommerce manager. As described by one respondent, "new payment solutions instore are nearly always led by our merchant bank, we never considered it to be of strategic advantage".

Whilst there is no evidence to suggest retailers should appoint a payments manager, there is however a clear need for aligning responsibilities attributed to payment management to one particular employee's job responsibilities.

The job duties of the cash office person are constantly evolving. Traditional responsibilities such as reconciling takings, investigating and resolving overs/unders promptly, bookkeeping, preparing bank deposits, and managing till floats, are evolving to include dealing with merchant banks, online banking and analytical tasks. The ability to find and detect patterns in the data with the aim of uncovering potential opportunities or risks is essential. The ability to communicate effectively with others such as the loss prevention team to revolve issues effectively is imperative. In the instance where loss prevention practices are not in place, retailers should consider developing the cash office person's role to incorporate loss prevention skills.

For many retailers, payments is an area that has been neglected, failing to see how it fits into the overall customer experience and value proposition. Keeping pace with changing payments landscape, collaborating with payment providers for improved rates and managing chargebacks is essential. Payment management should play an active role in cross-team and company-wide projects to ensure it supports the short-term and longer-term business strategy. Furthermore, developing cross-functional collaboration to ensure payments is aligned with loss prevention, ecommerce, and the customer experience proposition across all touchpoints are imperative.

Compliance with regulations will be an increasingly important aspect of payment management. For example, the revised Payment Services Directive (PSD2) which came into law in September 2019 has outlined new compliance criteria for retailers as well as providing customers with additional rights. The ability to review and enhance existing processes and procedures to meet changes in legislation and regulations, which are complementary and aligned to continuous improvement in organisational efficiency is critical.

In addition to the skills identified above, the following were identified as being most important for individuals working in retail payments:

» **Numeracy:** An efficiency with numbers is essential to ensure accuracy when processing cash for floats, balancing takings, banking lodgements, and balancing statements.

» **IT:** Require a strong working knowledge of specific IT systems and system integrations to set up and optimise payment solutions to drive sales.

» **Compliance:** Comprehensive understanding of national and international regulations such as PSD2 to ensure compliance associated with different payment types.

» **Data management:** To mitigate risks associated with the ever-changing payments landscape, loss prevention specialists need to have a comprehensive understanding of data management, security, and compliance.

» **User experience:** The ability to focus on user experience to create competitive advantage and user-centric payment options.

» **Time management:** The ability to review work patterns and how to plan and schedule a time to increase productivity and efficiency.

» **Business statistics, analytical and problem-solving skills:** The ability to master spreadsheet functions, generate reports, and analyse information to identify problems and opportunities for improved efficiency.

» **Effective written and verbal communication:** Promote effective, clear, and concise communication skills across all internal and external stakeholders.

» **Fraud detection:** Understanding the different types of fraudulent behaviours instore and online. Developing detection skills to prevent loss and preserve customer trust.

Thought Leadership

Irish Consumer and Buy-Now-Pay-Later

By David Campbell

Head of eCommerce, humm by flexifi

The payment landscape in Ireland is growing more complex. Changing customer expectations, online shopping, and emerging technologies are increasing the pace at which new payment providers are entering and disrupting the Irish payments market. New payment providers are pushing the boundaries at which established banks operate and providing retailers and consumers more flexible payment options.

Exciting innovations and collaborations are happening in the sector, for example in-car payments, where consumers do not have to leave the comfort of their own cars to pay for goods and services. Car manufacturers, payment providers, and technology providers have been collaborating in providing seamless, secure, and convenient car-payment options. We will see this technology implemented initially in forecourts and drive-through services.

Blockchain will continue to grow in favour with retailers for cross-border cashless transactions as the nature and use of blockchain becomes fully understood over the coming years. Artificial intelligence and machine learning capabilities will continually redefine our analysis and understanding of payments in the customer journey. From offering alternative personalised payment options based on previous transactions, understanding trends, ATV's, avoidance of abandoned carts, fraud detection, and much more.

Buy-now-pay-later payment options have accelerated in popularity in Ireland in recent years and especially during the COVID-19 lockdown period as consumers increasingly shopped from home. The buy now and pay later options provided by humm by flexifi offers retailers a convenient, no-hassle way to close sales. All the while, customers can own the goods immediately and pay low-cost instalments over a period that suits their lifestyle. As demographics such as GenZ continue to demand new and flexible payment options, retailers must adapt.

The pace at which we are moving to a cashless society has accelerated with the fallout from COVID-19. As consumers are continually encouraged to pay with contactless options, it is altering the consumer's mindset around carrying cash. Contactless, mobile, and invisible payment options will increasingly become the norm. Whilst for retailers their existing infrastructure makes it easy to adhere to emerging trends, whilst for others it requires more strategic consideration and review. Retailers cannot afford to lose customer confidence, trust, and loyalty, and offering out of date payment options is one way to do it. Retailers need to continually consider payments in their overall value proposition and ensure it meets their customer's ever-changing needs.

Conclusion

"We are only as good as our people!"

There is no doubt that each discipline that we researched as part of this study is being redefined. Impacted by ever-changing consumer expectations and the incessant speed of technological developments, retail roles and responsibilities are constantly changing.

Retail workers that are empowered by new technology are becoming agents of change across the retail ecosystem. According to our research, retail employees that are utilising technology as part of the everyday, feel that it elevates their sense of purpose, responsibility, and interest in their role. Technology is helping people working in different areas of retail deliver a real point of difference for the customer and develop areas for business growth and differentiation.

The implementation of smart technologies and automation will take care of routine and repetitive tasks freeing up employees to focus on customer-facing activities. That means, retail employees can be retrained and upskilled to work in other areas of the business. For example, retail sales professionals become brand ambassadors offering shoppers a whole new level of personal attention and product knowledge. Warehouse teams can be upskilled to work in ecommerce.

The rapid digitisation has huge talent implications for the retail industry. The scale of transformation requires a new type of workforce, one that is equipped to translate the reams of digital data into actionable insights. People currently working in each of the roles discussed above will need to learn new competencies to stay in their current role, due to the change in skills required, or adding certain competencies for career progression. Retailers are increasingly looking to effectively reskill and retrain people working in their business with technology capabilities. According to one respondent, "it is easier to train a retail employee with technological skills; than it is to train a technologically minded person into the ways of retail". Retailers must rethink their approach to training and development and allow ongoing opportunities for team members across all retail disciplines to upskill. In fact, upskilling should be compulsory for all retail employees. The digital transformation occurring in retail today demands a rethinking of learning practices, requiring a much more agile system that reinforces a culture of continuous learning.

Having reviewed the impact technology is having on the various functions within retail, the following section will provide a detailed discussion on the implications of these technologies on careers and skills.

Section: 5

Implications on Careers and Skills

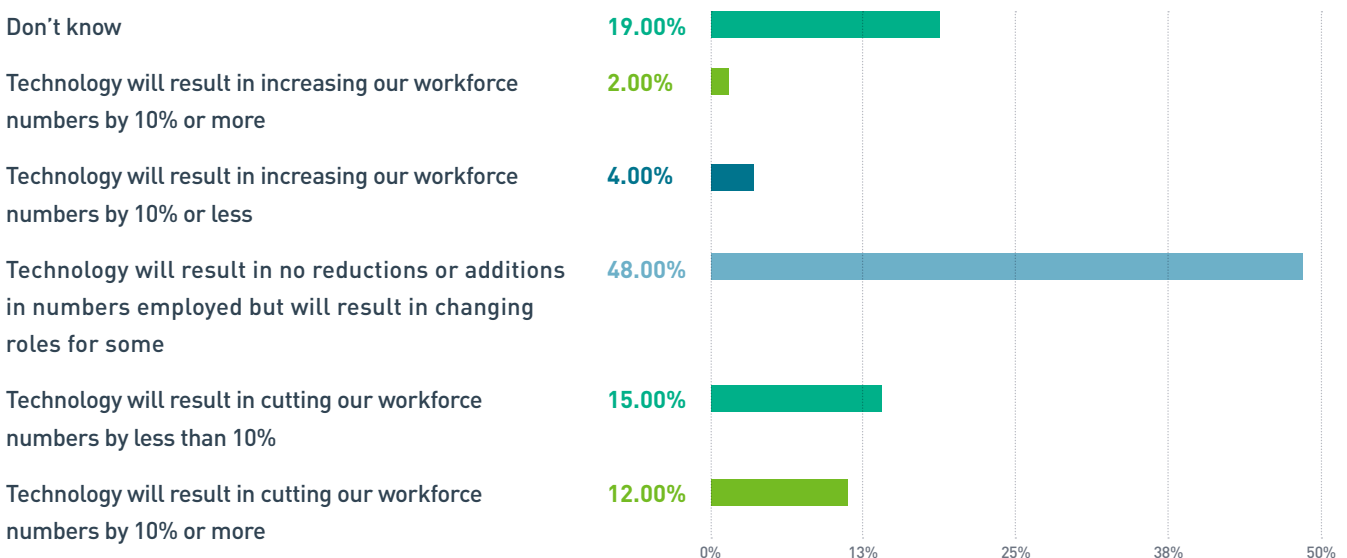**"Skills are the new currency so let's invest!"**

Introduction

According to a recent Expert Group on Future Skills Needs (EGFSN) report, one in three jobs in Ireland are at high risk of being disrupted by the adoption of digital technologies. Much of the disruption, however, will result in changes to job roles and tasks performed by individuals rather than job losses[119]. In all sectors, roles that are routine or involve significant repetitive execution are most at risk while the demand for employees with creative skills and emotional intelligence will grow[120]. Much of this disruption is being driven by automation.

PwC forecasts 44% of UK wholesale and retail jobs are at potential risk of automation from robotics and AI by the mid-2030s[121]. Meanwhile a study conducted by McKinsey Global Institute has shown that about half of the activities in retail can be automated using current, at-scale technology. However, the change will be less about job losses and more about the evolution of new jobs requiring reskilling. Furthermore, the report suggests that only about 5% of all jobs can be fully automated with current technology, and automation will also lead to the creation of new jobs as companies invest in growth[122].

The findings for this report identified that 12% of respondents stated that technology will result in cutting their workforce by 10% or more with 15% of respondents suggesting technology will result in cutting their workforce by less than 10%. Furthermore, this study found that almost half of respondents (48%) predict that technology will result in no reductions or additions in their organisation. Only 6% of respondents suggest that technology will result in increasing the numbers employed in their organisation with the remaining respondents unsure. These results are presented in the chart below. Figure 5.1

Figure 5.1: How technology will impact employee numbers in your organisation.

Which of the following statements best describes how you believe technology will impact employee numbers in your organisation?

Don't know	19.00%	
Technology will result in increasing our workforce numbers by 10% or more	2.00%	
Technology will result in increasing our workforce numbers by 10% or less	4.00%	
Technology will result in no reductions or additions in numbers employed but will result in changing roles for some	48.00%	
Technology will result in cutting our workforce numbers by less than 10%	15.00%	
Technology will result in cutting our workforce numbers by 10% or more	12.00%	

0%   13%   25%   38%   50%

The research also identifies the roles within retail where there would be an increased need for in the next five years. The graph below provides the responses from the online survey. Figure 5.2.

Figure 5.2: In your opinion do you believe that there will be an increased need for the following roles in your organisation over the next five years.

In your opinion do you believe that there will be an increased need for the following roles in your organisation over the next 5 years

Role		Percentage
Health and Wellbeing	Yes	80.00%
	No	20.00%
Supervisory/Managers	Yes	80.00%
	No	20.00%
eCommerce Specialists	Yes	78.00%
	No	22.00%
Merchandising	Yes	75.00%
	No	25.00%
Data Analysts	Yes	75.00%
	No	25.00%
Cloud Computing	Yes	73.00%
	No	27.00%
Loss Prevention Managers	Yes	71.00%
	No	29.00%
Customer Facing Roles	Yes	69.00%
	No	31.00%
Software Developers	Yes	67.00%
	No	33.00%
CSR Directors	Yes	45.00%
	No	55.00%
Customer Psychologists	Yes	43.00%
	No	57.00%
Warehousing	Yes	43.00%
	No	57.00%

Interestingly respondents identified health and wellbeing positions amongst the most needed in the next 5 years along with supervisory/management roles. The focus groups also highlighted the importance of health and wellbeing positions in retail as mental health and wellbeing issues become more apparent in the sector. Respondents to the online survey also indicated that there will be an increased need for a wide range of technology-related roles in the coming years with ecommerce and data analytics featuring highly. Overall, the findings would suggest that several areas within retail (roles involving repetitive and mundane tasks) will see reductions in the number employed, but this will be somewhat counterbalanced by the addition of new roles including health and wellbeing and technology-related positions.

Changed Role of the Retail Employee

Technology and automation will free up the workforce from routine and repetitive tasks allowing them to focus more on customer-facing activities providing a new level of personalisation and improved customer experience. Retailers need to take into consideration that consumers have access to in-depth product knowledge and expect a higher level of expertise from retail employees. This will mean that retailers will have to equip their staff with extensive ongoing product knowledge. They will also have to empower them with a wider range of roles and responsibilities resulting in a more elevated position within the organisation.

In the coming years, retail employees will spend more time on activities that machines are less capable of, such as managing people, applying expertise, and communicating with others. They will spend less time on predictable physical activities and on collecting and processing data, where machines already exceed human performance[123]. The profile of the retail workforce will also change. More skilled and knowledgeable employees will expect to earn increased wages, possibly pushing hourly rates up by about 20 percent. However total wages are likely to fall as automation and technology help shift the balance of labour spend toward value-added and customer-facing work[124].

COVID-19 has resulted in the convergence and hybridisation of traditional retail, resulting in retailers branching out to new areas and product lines. For example, retailers adapted their product offering to meet customer demands, and have gone from focusing on selling groceries to adding new product lines such as health and hygiene, flowers, and other gardening equipment. Other retailers have extended into the cooked food and outdoor furniture market. This has resulted in upskilling employees in these areas. We can expect to see more of this in the coming years.

Entry Level Retail Skills

1. **Communications and Interpersonal:** Respondents suggested that many of the key tasks expected from retail employees require good spoken, written, listening, and body language skills. These skills are required when engaging with customers and other stakeholders including colleagues, suppliers, and the general public. The ability to hold a conversation with a customer and understand their requirements is extremely important. Employees need to develop the skills that set them apart from the technologies that are disrupting work and remember that it is our human skills that will always give us the edge. However, many of the survey respondents suggested that it is these human skills that new entrants often lack, and these can be difficult to develop. Good interpersonal skills provide the foundation for ensuring good customer experience and helps with the selling process. The role of some retail employees will start to look increasingly like a concierge normally associated with the hospitality sector. This will mean interpersonal skills/traits such as friendliness, relationship building, and outgoing will become essential.

2. **Common Sense:** Common sense was identified as an extremely important trait by the focus groups. Although difficult to define, it includes being able to make the right decision, having certain levels of discipline, understanding expectations, and being able to do things without been told. Managers that contributed to the study explained that they do not have time to watch over the employees all day and expect them to take responsibility for their actions without the need for instruction so faster decisions can be made.

3. **Product Knowledge:** Customers are more sophisticated and informed than ever and expect retail employees to add to this knowledge. Over a third (34%) of Irish consumers said that ensuring sales employees have deep product knowledge was critical to improving the instore experience[125]. This poses a significant challenge to retail employers and employees. It is important to provide employees with access to and training in mobile devices where they can source this information quickly and respond to customer requests and requirements. Employees should have ongoing product training which is in line with the retailer's procurement strategy which informs team members about the features, benefits, FAQs, and USPs relating to products/brands.

4. **Digital:** The importance of basic digital/IT skills for all level employees has been well documented in this report already. As retail embraces more and more technologies, employees at entry-level will be required to know the basics and have an ability to learn new digital skills quickly. As stores introduce technology to their shop floors, frontline staff will be required to show consumers how to use technology. This will place additional emphasis on the importance of being confidently able to use instore technologies.

5. **Willingness to Learn:** New entrants to a retail organisation are expected to understand good practices in relation to selling, customer experience, merchandising, security, and much more. Customer-facing employees must be motivated to learn and show an enthusiasm for acquiring new skills. Retailers should consider this when selecting new members of staff.

6. **Problem Solver/Creativity:** There will be an increased need for employees who know how to think on their feet and problem solve in the most uncertain and ambiguous situations. As technologies or entire jobs become obsolete, workers who can adapt and learn how to solve new problems and be creative will thrive[126]. This was something that featured highly in the interviews, online surveys, and focus groups. Retail employers now expect employees to be creative in coming up with solutions to address consumer and organisational requirements. Employees will also be expected to do more with less and therefore being creative is more important than ever.

7. **Ownership:** Respondents to the study highlighted the importance of entry-level employees having the confidence to take ownership for their work. They do not want to employ someone who is only going through the motions. They want someone who takes pride in their work.

8. **Idea Generation:** Retailers are increasingly engaging frontline employees in structured idea generation programmes. Frontline employees should be exposed to concepts such as blue-sky thinking, mind mapping, and social listening and equipped with the skills to develop and communicate thoughts and concepts with others.

9. **Sales:** Sales are the backbone of retail. Frontline employees should be equipped with the skills to confidently engage with customers and have techniques to close sales, upsell, and cross-sell. The ability to actively listen to the customer and make relevant recommendations based on their needs and the ability to make the customer feel valued is essential.

10. **Personal Presentation:** Retailers stated that they require front-line employees to have the right attitude to their professional presentation.

Supervisory Level Retail Skills

According to the respondents, supervisory-level employees will need all the skills identified for entry-level employees along with the following:

1. **Managing People:** Retail employees are often promoted to supervisory level based on their performance on the shop-floor. This however does not guarantee success at mid-level management. Many of the respondents highlighted the difficulty their employees experience making the transition from shop-floor to supervisory level. To take on the role of supervisor, employees need good managing people skills in areas such as motivation, managing conflict, and performance management. One area that merits special mention in this theme is employee wellbeing. Respondents have suggested that this will become more important in the coming years and supervisors need to be close to their staff and ensure they have adequate health and wellbeing initiatives.

2. **Business Acumen:** Respondents also highlighted the importance of business acumen at this level and noted that supervisors often make decisions in relation to how they manage people that are at odds with the commercial interests of the organisation. The managers that contributed to the study stressed the need for supervisors to consider the bottom line/implications to profits for every decision made.

3. **Time Management:** An area that was identified as a difficulty for many new supervisors relates to time management. Taking on the role of supervisor means you are responsible for several employees and functions and being able to manage time and projects becomes increasingly important. Respondents highlighted the importance of being able to plan your day and week, and the ability to allocate sufficient time to all responsibilities.

4. **Change:** Retail is changing at such a fast pace and requires supervisors to be open minded and willing to accept change when required. Supervisors need to be change ambassadors within their organisation/department to ensure their team members can embrace any new initiatives.

5. **Flexible and Resilient:** Supervisors will be expected to take on unforeseen roles and responsibilities and are required to work extra hours at short notice. Things often go wrong without any warning and require quick fixes so being resilient is important. This will require a more agile supervisor who can adapt quickly and make decisions in real-time.

6. **Ability to Learn Quickly:** The dynamic nature of retail means that the retail supervisor needs to be someone who can acquire new skills quickly. They will be exposed to new technologies, trends, and practices regularly, and having the ability to grasp these quickly is vital.

7. **Tech-Savvy:** Quite a few respondents claimed that the modern-day retail supervisor needs to be tech-savvy and capable of making sense of data. He/she may be expected to train entry-level/shop-floor level employees on the workings of technologies within the store. Every aspect of retail including supply chain, selling, customer experience, payments, merchandising, security, and marketing is being increasingly impacted by technology. The retail supervisor needs to keep up to date with advances in these areas.

8. **Customer Loyalty:** Supervisors should understand customer loyalty frameworks and how customer experience contributes to the overall customer lifetime value. In line with this, they should have absolute clarity on the retailer's responsibility when managing customers' data. As consumers are increasingly wary of how their data is being managed both instore and online by retailers, it requires ongoing training on Data Protection Regulations[127].

9. **Behavioural Psychology:** Applying the principles of behavioural psychology is a skill required by supervisors to understand, improve, and optimise their teams' interactions with the customer. Understanding the driving factors behind customer decisions will allow middle management to drive sales and customer experience.

10. **Legal Issues:** Understanding employment rights and consumer rights and other regulations and laws relevant to their role and type of retail outlet are essential for the retail supervisor. Having the confidence to deal confidently with issues as they arise is crucial.

Senior-Level Retail Skills

In addition to the skills identified above, the following were identified as being most important for those holding senior management positions within the retail organisation:

1. **Emotional Intelligence:** Being able to understand and manage your own emotions as well as the emotions of others is important for every industry and was recognised as being vital for the modern-day retail leader. As mentioned above, retail is a fast-dynamic industry and leaders' emotions will be tested daily, which impacts decision making. Being able to control these emotions helps with problem-solving and ensure better decision making.

2. **Managing Relationships:** Being able to establish and maintain relationships with key stakeholders is fundamental to success for effective retail leadership according to contributors to this study. Senior figures within retail engage with multiple stakeholders including suppliers, wholesalers, customers, employees, financial institutions, trade bodies, and numerous other associations. Reaching agreeable terms and conditions with these stakeholders is somewhat influenced by the leader's ability to manage relationships. This includes the ability to negotiate favourable conditions for the organisation.

3. **Vision and Judgement:** The senior managers within the organisation need to have a long-term strategic view of where the organisation needs to be going. They need an ability to predict and respond to what is happening in the micro and macro environment. Retail performance is impacted by so many factors including technology, changing consumer behaviour, economic and political influences. The leaders within the organisation need to be able to digest all this data and make sense of it to identify opportunities and address challenges. Senior figures are going to be exposed to increasing amounts of data and those equipped with the skills to read and act on this will have an edge. Obviously, cognitive skills including originality and creativity are going to be more important for senior managers in an increasingly complex world when deciding on the strategic direction the organisation should take.

4. **Digital and Tech Savvy:** The respondents to the survey recognise the changes the retail sector is currently going through and that in many cases, traditional approaches for leading the organisation will no longer be viable. Modern day retail leaders need to recognise the changing retail landscape and embrace new technologies and practices that might in some cases challenge the overall culture of the organisation. Being digital savvy will without doubt help leaders navigate the changing retail landscape.

5. **Willingness to Invest in Training and Education:** This one is not really a skill but rather an acceptance. To succeed in the modern-day retail environment, retailers need to significantly invest in training and development and this commitment needs to come from CEO level. As retail becomes more of a knowledge-intensive sector, the skills needed to succeed become more advanced. Without this investment, it is very difficult to imagine how retailers will compete with national and international operators. In addition, top talent will want to work in an organisation where programmes to further develop their skills are available and opportunities to showcase their skills are provided.

6. **Disrupt or be Disrupted:** Retail leaders must continuously seek innovative solutions to organisation opportunities and challenges. They must develop a culture where questioning the status quo is welcomed and there is a collaborative approach to innovation.

7. **Risk Management:** The ability to identify, assess and control social, political, economic, and technological threats with the aim of reducing organisational exposure to risk across all touchpoints is important for senior level managers in retail. Whilst COVID-19 has presented unprecedented challenges for retail leaders, Brexit is also very much in their focus.

8. **Sustainability:** According to the findings of this research, an emerging skill required by leaders is navigating the issues relating to traceability and the organisation's environmental and carbon footprint. Retail leaders must develop strategies to ensure compliance with Ireland's 2030 Sustainable Development goals along with defining the organisational short-term and long-term approach to sustainability.

9. **Digital Transformation:** It is essential that retail leaders have knowledge in technologies impacting retail. Industry 4.0 technologies will continue to play a bigger part in retail therefore it is essential that leaders understand the opportunities and threats presented. They must have a transformative vision that brings teams alongside their vision. One of the primary reasons for digital transformation failure is poor leadership.

10. **Customer Orientated:** Customer experience must come from the top down to frontline workers – not the other way around. Leaders must have a customer orientated approach when developing processes or implementing new technologies.

Conclusion

Many experts believe that retail will create fewer low-skills positions in the coming years but at the same time will generate new and higher skilled jobs. Automation in particular is expected to disrupt the sector. Manual jobs such as packing and shelf stocking will see a decline, while jobs concentrated in customer engagement and technology will increase[128]. The set of skills required to perform effectively in retail are changing. A blended mix of interpersonal/human skills along with digital competencies will be required more than ever in the modern retail environment.

The challenge facing Irish retailers however is that these sets of skills are already in high demand from all sectors within the economy and attracting and retaining this talent will become more difficult. Over 30% of respondents to this survey identified a lack of talent as a key barrier preventing them from investing in new technologies. There is no set formula to tackle this problem but providing learning and development opportunities, competitive remuneration packages, promotional opportunities and an environment where employees can thrive is a good start. The findings from this section will help inform recommendations for both retail employers and providers of education and training.

Section: 6

Recommendations for Employers

Introduction

A major objective of this report is to present the emerging technologies disrupting the retail sector and the impact this has on careers and skills. Recommendations for retail employers in relation to specific technologies have already been provided in Section Three and Section Four of this report and therefore will not be presented again in this section. This section will instead present a number of more generic recommendations to employers with a special focus on training, education, and skills.

1. Acceptance

Retailers need to accept that technology is and will continue to disrupt the sector. Very few retailers will be unaffected. To meet consumer expectations and ensure efficient business operations, retailers now are almost forced into embracing emerging technologies if they are to compete successfully. Change is inevitable, however, change unexplained to employees creates tension. To gain acceptance employers must clearly explain the purpose behind any investments in technology. Good change management strategies require ambassadors and change agents to create acceptance amongst employees.

2. Alignment

Any investment in technology needs to consider the consumer perspective and be aligned with process improvement. From the onset, the purpose and objectives of the technological development should be clearly defined and agreed upon with all stakeholders. To ensure a collaborative approach is realised, employers should consult with the relevant internal and external stakeholders impacted by the proposed technology. Employers should consult with their employees/employee representatives in advance of making any investments, respect their concerns, and keep them informed. Remind them that it is not a battle between people and machines. It is about improving performance through collaborating with technology and freeing up employees to perform more important roles within the organisation. If possible, retailers should go and meet with other retail organisations that have already embraced the technology to gain a better understanding of how it works.

3. Organisational Culture

The successful implementation of emerging technologies along with effective skills and talent strategy is very much dependent on the culture of the organisation. It is important to understand the significant role played by organisational culture. It encompasses values, assumptions, beliefs, policies, procedures, controls, rewards, rituals, routines, and power structures. Any business decision, including investments in technologies and skills, requires a supportive organisational culture. Depending on the organisation, the cultural components can act as barriers to change or enablers for change. Organisations, where change and innovation are welcomed, will find it easier to implement new technologies. In addition, there needs to be a culture of cooperation and collaboration within the organisation. The culture that exists or needs to exist within the organisation should be aligned to the modern retail landscape and recognise changing consumer preferences.

To address the skill requirements identified throughout this report, the organisation should ensure a culture exists that supports lifelong learning. Although many companies argue that a culture of lifelong learning exists within their organisation, it is often the case that this is not backed up by evidence. To truly have a learning culture within their organisation, retailers should have the following in place:

» Employers should have organisational values and objectives that specifically refer to the importance of learning and development. These values and objectives should not just be aspirational but should be evident to all employed within the organisation. An adequate budget identified for training and development initiatives should also be in place.

» Retailers require learning strategies that are closely aligned with business strategies and objectives. This is extremely important and is a major reason why many training initiatives do not achieve their potential. Training and development initiatives require outcomes that are coherent with overall organisational objectives and policies. If for example, your organisation wants to further develop its ecommerce offering, what implications does this have for skills and job roles within your entire organisation. It may mean moving some employees from one function to another and perhaps recruiting ecommerce specialists. It will also probably involve changing the roles and responsibilities of employees. This would have major implications on skill requirements for people throughout the organisation. Employers also need an understanding of the current skills amongst employees as well as a comprehension of where skill gaps exist so this can be addressed in a timely fashion. For larger organisations, it may be necessary to invest in training and development software to handle the data needed to record current and future skill requirements. Each employee should have learning objectives they should achieve, and they need to be monitored regularly.

» Employers should consider appointing a dedicated resource within the organisation to coordinate training and development. This person should have adequate budgets and insight into the working needs and technology plans of all departments. This will enable them to address education and training requirements promptly. This position should be a senior role within the organisation to demonstrate the importance of training and development within the company. For smaller retail organisations who cannot justify a dedicated resource, a senior figure within the company must take responsibility for coordinating training and development initiatives.

» Unless training and education has the support of leadership within the organisation, it rarely receives the attention it deserves. In some cases, senior managers focus too much on the bottom line – revenue and profits. However, it is the knowledge, skills, and competencies of the employees that will determine these figures.

» Training and education initiatives should be highlighted in internal communication messages. Too often, the very people that need access to the training are unaware of the availability of training/education opportunities available to them.

» To ensure a culture of lifelong learning, successful completion of training and education programmes are recognised and acknowledged. Training and education achievements should be celebrated and rewarded.

All retailers, regardless of size need to ensure a lifelong learning culture exists within their organisation. There needs to be an acceptance that retail is becoming increasingly knowledge-intensive and to succeed, an investment in training and development is required. This is discussed further in the next section.

4. Training and Development

Retailers need to prepare for the future of work where technology is going to play an increasingly important role. Any investment in technology is likely to involve investing in training for the employees who will be using it. Retailers are developing an attribution model that aligns data from learning, measuring how it is impacting organisational performance. Retailers are joining up the dots between training and impact on their business to understand the true value.

An important first stage in achieving this is conducting a skills analysis of the current workforce to identify gaps that need to be addressed. Digital skills will likely be required across the whole organisation including front-line employees as opposed to concentrated in management positions. Retailers might be surprised to learn that a large share of the training they require might not necessarily be tech-related. Human skills along with traditional retail skills should also be addressed.

Retail employees need to be empowered to make decisions themselves. But with empowerment comes the need to equip employees with the knowledge and competencies to make the right decision. These empowered employees should also have access to tools and devices to quickly retrieve in-depth information about products, inventory availability, view customer purchase history and preferences to better facilitate cross-selling and upselling.

The importance of personalisation for addressing customer requirements has been stressed throughout the report and retailers need to adopt a similar approach when reviewing skill needs. It is unlikely that all employees will need similar training considering they have different competencies, knowledge, and responsibilities. The employer should have targeted learning goals in mind that are linked to organisational objectives and KPIs. For example, retailers that contributed to this study have policies in place ensuring each member of staff is exposed to e.g. 50-100 hours of formalised learning every year. To ensure that learning occurs, employers must be actively monitoring employees learning progress monthly.

In relation to the design of the training, the majority of retailers that contributed to this study prefer a blended approach to addressing skills that combine workplace learning, classroom, online and independent learning. It is crucial that all the components of the learning are coordinated and not designed or delivered in isolation. Also, ensure the various expertise within the organisation are involved in the design to ensure the training is contemporary and addresses overall organisation objectives.

Employers will also have to decide can they deliver the programme internally or would they better engage with an external provider.

Internal

Retailers are also investing in their own training academies and hosted learning management systems and microlearning programmes to deliver training. According to our research, this approach to training provides retailers with increased agility and continuity of message, when delivering training across multiple sites. This allows them to deliver the training in a cost-efficient manner whilst allowing for a degree of personalisation. To elevate the prestige associated with internal learning, employers should consider collaborating with Retail Ireland Skillnet who can provide industry certification for training delivered internally.

Retailers are adopting a gamification approach to training (e.g. using a digital board game to achieve training objectives) which significantly boosts engagement and completion rates. Online training can be cheaper and more convenient, but it needs to be engaging. When considering the delivery of training, retailers often fail to utilise the expertise already available within their organisation. Retailers should consider using a mentoring approach to support learning achieved from the classroom/online environment. It is also extremely important that the employees undergoing the training realise the importance of it and don't see it as a tick box or an excuse to get a day away from the workplace.

External

If choosing an external body to deliver the training, retailers should invest considerable time selecting a suitable provider to collaborate with. In addition to understanding retail, the external training provider should have expertise in the area sought to be addressed by the training. The external training provider should be passionate about the collaboration and recognise the importance of the investment to your organisation. Retailers should consult with other employers that engaged with the external training organisation. Employers should also establish good relationships with Retail Ireland Skillnet/other local Skillnet Networks, Institutes of Technologies, universities, education and training boards (ETBs), and private providers to help address their training and education requirements.

Many training and education providers are keen to partner with employers in a wide range of areas including training, research, recruitment, internships, and placements. Maintaining a close relationship with local education and training providers will present retailers with an opportunity to promote to students and graduates the numerous benefits and prospects of working in retail. Traditionally training and education focused mainly on those seeking employment. However, in recent years the focus has switched to targeting those in employment. Fortunately, within Ireland, there is significant government funding available to retailers seeking to upskill their employees. Retail Ireland Skillnet can provide up to 60% funding towards training costs – www.retailirelandskillnet.com. In addition to Skillnet funding, ETBs, colleges, and universities all have various funding initiatives which employers can avail from. For a "one-stop-shop" approach to learning more about the various services available from local education and training providers, employers should engage with their local Regional Skills Forum Manager.

5. Collaboration

Too often decisions about technology happen in silos. Employees in various functions should be consulted. Consider the impact to HR, finance, supply chain, selling, and so on. Set up a project team combining representatives from these functions to discuss any investment in new technology. Maintaining effective communications within the organisation is key. Each function should be consulted, and their concerns addressed before the technology can be implemented successfully. The respondents to this study have highlighted the challenges facing retailers in relation to cross-functional collaboration. Without the support and involvement of the senior figures within the organisation, such collaboration can be difficult to coordinate. Investment in technology does require unprecedented levels of collaboration. Assigning ownership of any investment in technology to technology experts within the organisation runs the risk of neglecting the needs and preferences of the people most affected by the new investment, namely consumers and employees. In addition, technologies should not be viewed in isolation.

Retail organisations should also engage with other retailers when reviewing and developing new technologies. This pooling of knowledge, ideas, and resources is common within the tech sector and should be better utilised by the retail sector. Creating communities of practices amongst retailers is a great way to share experiences, failures, and shorten the learning curve. It may even mean collaborating with a competitor to achieve a common objective. Organisations prepared to partner in such a way need to take a long-term view and overcome competitive barriers to collaboration.

6. Talent Acquisition and Retention

One of the major challenges identified by respondents to this study when implementing technologies relates to acquiring employees with the skills to utilise the technology. Knowledge and understanding of technology will become an increasingly important consideration when recruiting new staff at all levels of the organisation including senior roles. Retailers need to ensure harmony between technology and human resources. Employers will need to determine how much of the talent required is available internally and what they need to source externally. Where possible, retailers should upskill/reskill existing employees into tech roles as opposed to just recruiting externally. People who have a blend of retail acumen and technology will excel.

Retailers face intense competition from all sectors for sourcing and retaining employees with digital skills. It is important that retail organisations offer a competitive compensation package, an environment where tech employees are empowered to express themselves along with access to continuous training and development opportunities. A recent study by Retail Week into what retailers can do to attract and retain employees found that 54% of Gen Z respondents would choose to work for a retailer if it was located close to their home, school or university. Meanwhile, a quarter of respondents, identify apprenticeships and graduate schemes as one of their top two reasons for choosing to work for a certain retailer[129].

Retail is becoming a more attractive sector to work in due to the growing influence of technology which is replacing many of the mundane tasks. This can help the retailer attract and retain talent. In addition, retail does provide an excellent site for developing the increasingly important transferable human skills needed in the modern workplace and this should be highlighted when promoting to new recruits. Furthermore, employees want opportunities for career progression and seek evidence that the organisation does promote from within. Work-life balance is becoming more important for the new generation of employees and organisations need to incorporate some initiatives to support this. This study has found that retailers who offer flexible working conditions (e.g. job-sharing, job rotation, flexitime, ability to gain extra annual leave days, home working) do have better staff retention rates.

The "gig" economy model of a shared workforce between sites or even organisations is taking off in many economies including the UK and US, and we can expect it to evolve further within Ireland in the coming years. COVID-19 has accelerated the pace at which retailers are utilising gig economy workers in Ireland. However, managing the gig economy employee can be difficult especially in relation to ensuring all staff have the required training and guarding against the potential loss of proprietary knowledge. Therefore, choosing workers and roles needs to be carefully considered.

Furthermore, technology will not only have an impact on the talent required and skills needed, it may also involve the redesign of jobs, the way teams are assembled, and how performance is reviewed and rewarded. The modern retail employee must understand the organisation's vision, values, various functions, and sales channels such as online and social.

Conclusion

Retailers need to accept that technology is going to have an increasingly greater impact on their business in the coming years. COVID-19 has laid down the gauntlet for retailers and the term "innovate or die" has never been more relevant. The time for complacency and procrastination amongst retailers in developing their technological capabilities has well and truly passed. Digital commerce, the convergence of siloed systems and the implementation of Industry 4.0 technologies will continue to disrupt the recruitment and upskilling of retail employees at all levels.

The training and development function within the retail organisation will become more important than ever and will need to be staffed by competent individuals who understand both tech and retail. Any investment in technology needs a corresponding investment in training and upskilling. A culture of lifelong learning within the organisation should also exist if training and upskilling objectives are to be met. To attract and retain talent, retailers are going to have to ensure they have adequate upskilling opportunities available. Regardless if the training is delivered internally or externally, it should be closely aligned with overall organisational objectives and the modern retail environment.

Section: 7

Recommendations for Education and Training Providers

Introduction

One of the objectives of this research study is to present a list of recommendations to education and training providers in relation to the skills and competencies required to perform effectively in a modern retail environment. This would in turn inform education and training providers when designing and delivering programmes for the retail sector.

It has often been said by retailers, that despite being the country's largest employer, the sector has only limited retail-specific training and education offerings. This is surprising given the sector's presence in every town and village across Ireland. This report highlights how technology is impacting various retail disciplines and the implications for future skills. The report also provides recommendations in relation to the design and delivery of training and education programmes that work for the retail sector.

> The purpose of this section is to present a list of recommendations to providers of education and training to enhance their current offerings for the retail sector.

Accessing Training and Education Programmes

Retail employers that contributed to the online survey were asked to select the level of difficulty their organisation has in sourcing relevant training for a variety of retail roles. The results are presented below.

Figure 7.1: Level of difficulty your organisation has in sourcing relevant training.

Please select the level of difficulty your organisation has in sourcing relevant training for the following roles...
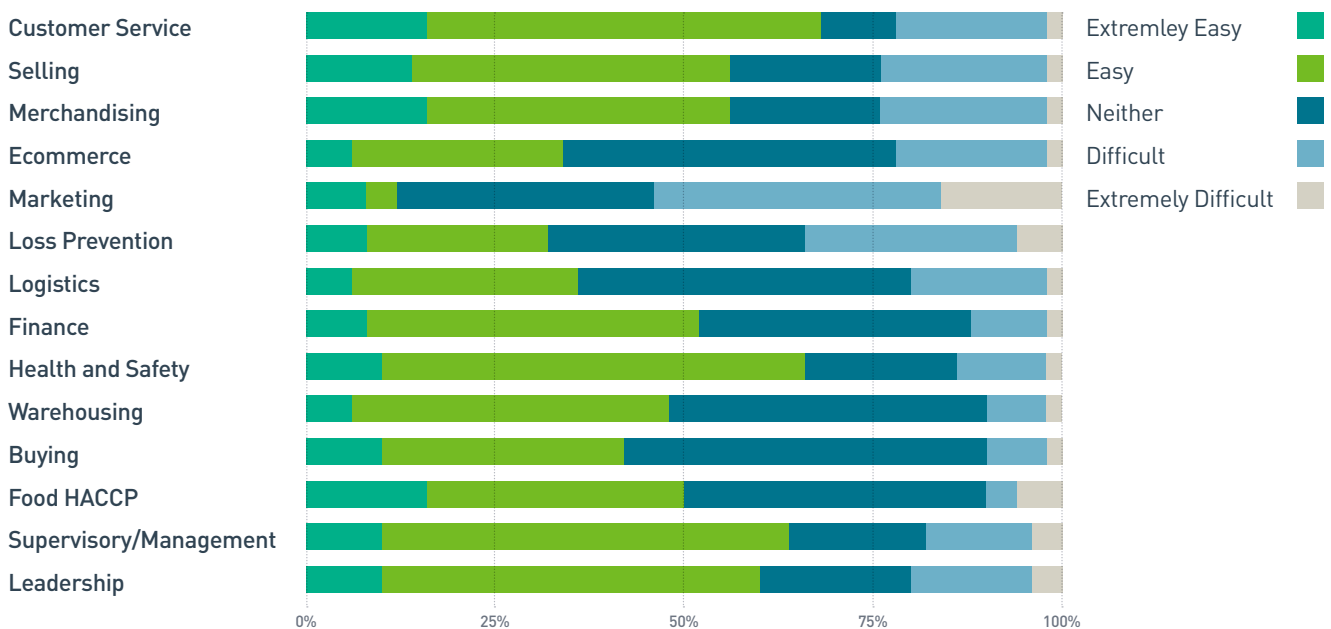
The findings from our research as presented in Figure 7.1, indicates sourcing training in areas such as customer service, health and safety, supervision/management, and leadership were the most accessible whilst marketing and loss prevention training were identified as the most difficult to source. The focus groups agreed with the online respondents to the survey in relation to sourcing training but also identified wellbeing training as an area difficult to source.

The focus groups which contributed to the study provided further insight into the relative ease in which retailers can avail of retail training programmes. The focus group findings also indicated that retailers have trouble accessing training bespoke to retail or their organisation. Furthermore, the findings from the focus groups also suggested that education and training providers need to rethink how they deliver retail training programmes. Retailers want programmes delivered at a time, place and pace that suits their organisation and leads to minimal disruption to the shop-floor. Most respondents indicated their preference for a blended delivery model combining classroom, online, and workplace learning. When asked about the importance of certification/accreditation, the focus groups suggested than learners were more interested in certification than employers. Employers were more concerned with the acquisition and application of knowledge and skills in the workplace. In addition, employers felt that accreditation can sometimes make the training more expensive, take longer to develop and deliver, and can be less flexible in relation to content.

Recommendations

1. Focus on Developing Digital, Human, and Traditional Retail skills

The respondents to this study were very clear in emphasising the importance of developing three sets of skills for the modern retail environment – digital, human, and traditional retail skills.

Figure 7.2: Three Key Skills for Retail.

» **Digital:** The rapid digital transformation of the economy means that almost all jobs now require some level of digital skills, as does modern society. The retail sector is currently going through a revolution driven by technology. Respondents to this study highlighted the challenges they face trying to attract and retain people for digital roles within their organisation. This is not just an Irish problem, it is also experienced by employers globally. With an increasing emphasis on digital skills, education and training providers need to ensure that learners on their programmes understand the opportunities and challenges these new technologies provide to the retail sector and be digitally literate. The range of digital skills varies depending on the position and role of employees and has already been documented throughout this report. At a generic level, front line employees will need an understanding of word processing, spreadsheets, social media, internet, data entry, and extraction as well the confidence and know-how to engage with IT systems and technologies. Management level will require this also but also should have skills related to data analytics along with a good understanding of the various technologies available to them that could impact their organisation. Retailers will need to keep abreast of these technologies to be able to spot opportunities and challenges to their organisation.

» **Human:** The skills that will give us security in this robot future are the very capabilities that define us as human beings[130]. Skills and traits such as communications, teamwork, empathy, entrepreneurship, discipline, culturally aware, time management, negotiations, creativity, problem- solving, and judgement are going to be the most in-demand not only in retail but across all sectors. One of the reasons for this is that for many of these skills outlined above, humans still have the edge over technology. As we have seen throughout this report, technology will replace humans for many of the mundane/repetitive tasks but struggle with some of the more social and emotional intelligence capabilities unique to humans. These are the skills education and training providers need to concentrate on developing. In addition, these skills are highly transferable

to all sectors of the economy improving the durability of the learner's skillset. Retailers that participated in this study suggested that there is sometimes an over-reliance on teaching sector/job-specific skills which are changing constantly and a lack of emphasis on the development of the softer/people skills highlighted above. Learners should be taught how to think and how to learn to better prepare them for the future of work. And whilst the technological skills needed for the modern retail environment are constantly changing, the human skills remain relatively consistent. In addition, it is many of these human skills that will allow employees prepare for the change that technology will bring.

» **Traditional retail skills:** There is no doubt that traditional retail skills and practices in areas such as sales, customer service, and merchandising remain as important today as ever before. The ability to source product, engage with customers, close sales, and drive loyalty are fundamental. In many instances, it is these areas that are the unique differentiator from one retailer to another. Many of the smaller retailers that contributed to this study have identified these areas as most important as they struggle to compete with larger retailers on price.

2. Collaborate with Retailers in the Design, Review, and Delivery of programmes

The development and reviewing of any programme should be done in consultation with a Programme Board comprised of a team of experienced and competent retail figures, collaborating with the tutors who will be delivering the programme.

This programme board needs to carefully consider how the objectives of the programme are closely aligned to the workplace. Education and training providers should not design courses around specific learning outcomes but should allow for the incorporation of emerging technologies and contemporary issues in retail to ensure their programme is always up-to-date. This helps address the challenge education and training bodies have responding to industry requirements in a timely fashion. Employers should also participate in the delivery of the programme as it is very difficult for education and training providers to remain on top of all the changes currently happening in retail. Special emphasis should be placed on addressing the practical aspects of the programme so learners can perform effectively on the shop floor. Retailers that have contributed to this study have suggested that often programmes of education focus too much on the knowledge and not enough on the practical application of the skills and competencies. Furthermore, the assessments should be linked to addressing real-life opportunities and challenges in the workplace as opposed to relying on exams or fictitious case studies. Finally, technology and changing consumer behaviour indicate that courses should be reviewed more frequently than before.

3. Hybrid Courses of Education and Training

The findings recommend the need to develop hybrid qualifications combining retail and technology disciplines. Having IT skills alone will not suffice. Graduates need to understand how the retail sector functions, what influences consumer behaviour as well as economic and social impacts.

Retail requires people who have knowledge, skills, and competencies in both retail and technology. New digital/technology roles are emerging in retail. This means the academic departments or functions within a college, university, or training centre will need to jointly design and deliver awards. The siloed approach of the past where academic departments worked in isolation will not succeed in the modern world of work. This will pose challenges to higher education institutes where traditionally programmes were developed and delivered by a single academic discipline.

4. Tutor Development

As aforementioned, retail is a fast-dynamic sector impacted by a wide range of factors including technology, economics, political, and changing consumer behaviour. To remain up to speed with these influences, education and training providers need to continuously invest in professional development initiatives for those delivering the training.

This may mean bringing in subject matter experts from industry to deliver masterclasses to the tutors, organising focused study trips to retail organisations with expertise in an area relevant to the education/training programme or supporting and encouraging tutors to carry out research relevant to the area they teach in. Tutors should also have access to various retail-specific books and journals. It is also recommended that retail practitioners are used when delivering the programme but remember these may need support in designing and delivering their notes and resources.

5. Emphasis on Workplace

For providers that deliver courses on a full-time basis to learners seeking employment in the retail sector, their programmes must contain a structured work placement block. Many of the skills identified by retailers for this report e.g. communications, teamwork, creativity, enthusiasm, empathy, time management, and discipline are best acquired in the workplace as opposed to the classroom. Retail employers would welcome work placements with a duration of at least 4 weeks (but ideally much longer so the learner can really experience retail and make a valuable contribution) and the learner has already acquired some of the basic skills before commencing the placement.

The placement should contribute to the overall qualification and the learner should keep a diary/portfolio that demonstrates the learning acquired in the workplace. Respondents to this survey have shown a preference for dual education programmes where both employer and the education/training provider collaborate in the design and delivery of the programme. The Apprenticeship in Retail Supervision, traineeships, and other work-based courses were identified as successful delivery models.

6. Training for those in Employment

It is expected that education and training providers will focus more on targeting those currently in employment as opposed to concentrating solely on those seeking employment in the coming years. This is being driven by a number of reasons including work becoming more skills-based and knowledge-intensive, increasing role of technology in all sectors, financial support available to employers to avail of training for their staff, appetite amongst employees for upskilling and education and training providers being more open for collaborating with industry.

For training designed for existing retail employees, retailers want programmes that address industry issues, and lead to quick improvements in the business. Retailers that contributed to this research identified time away from the business as one of the major challenges associated with upskilling their staff. Employers want programmes that cause minimal disruption to the workplace and education/training providers need to keep this in mind when designing programmes. This may mean making components of the training available synchronous and asynchronous. Respondents to the survey suggested however that they still prefer some classroom-based days as opposed to relying solely on online learning. It is important to get the correct blend of learning. Colleges should remember that when training existing employees, the workplace should also be treated as a site for learning. Learning in the workplace should be viewed as important as learning achieved formally in the classroom. Where possible, the learning in the workplace should entitle the learners accreditation in the forms of academic credits or exemptions from modules on a programme. This ensures a more accelerated programme of education for the learner and avoids duplicating learning already acquired.

Engaging with industry in the design and delivery of work-based programmes where the learners are already in full-time employment does however pose significant challenges to education/training providers. One of the major challenges relates to conflicting organisational culture between industry and education and training providers. This includes differences in priorities, practices, policies, and assumptions. For successful collaborations, both partners need to be patient, get to know each other, and develop trust. It requires a partnership approach, not a vendor/buyer transaction model. It is recommended that colleges appoint an industry contact person whose function involves managing relationships and collaborations with external employers. This person needs to be assigned as the immediate point of contact for employers. Education and training providers who have a dedicated industry liaison person will benefit in other ways from industry including research collaborations, recruitment of graduates, guest speakers, consultancy, and sitting on panels and committees.

Cost is another factor. There is financial support available to help fund upskilling. Skillnet Ireland provides financial support to employers looking to upskill their staff, and education and training providers should consider partnering with a Skillnet.

7. Career Advisors

A career in retail is not overly promoted as a rewarding and progressive occupation by career advisors. Other sectors are often perceived to be more attractive. The truth is, that new exciting technology-driven roles are emerging in retail. From a salary perspective, retail can be highly competitive especially for management positions. Career advisors should familiarise themselves with what the sector has to offer.

Conclusion

There is no doubt the knowledge, skills and competencies required in the modern-day workplace ensure additional challenges for education and training providers. Retail like many other sectors is currently undergoing significant changes that have major implications for skill requirements. Many of these changes are being driven by emerging technologies. It has been highlighted throughout this report that the skills required to excel in retail now and in the future will be a combination of human, digital and traditional retail.

Providers of education and training should review their full-time retail programmes (programmes for those seeking employment in retail) and work-based programmes (programmes targeting those already in employment) to ensure these three sets of skills are being adequately addressed. Training and education providers should also involve retailers in the design, delivery, and assessment of programmes. It is expected that the demand for training programmes designed for those already employed in retail will grow in the coming years as the skills required become more sophisticated. The size of the retail sector merits the availability of more bespoke retail education and training programmes. This will include a combination of certified and non-certified, short-term, and long-term courses across all levels of the National Framework of Qualifications.

Section: 8

Final Thoughts

We commenced this report with a mandate to identify the emerging technologies disrupting retail and the impact this would have on the skills required to perform effectively in the sector. We wanted to prepare an informative report that would benefit both retailers and education and training providers. The findings from the study illustrate how technological advancements are revolutionising everyday retail operations and in order to survive and thrive, retailers are going to have to make investments in both technologies and talent.

As researchers, we found the level of disparity between the rate of adoption of technology amongst Irish retailers concerning. On one extreme, we were exposed to retailers on the cutting edge of technological adoptions whilst for others, technology seemed far away on the horizon. Without a doubt, COVID-19 has been a catalyst for many retailers to invest in ecommerce, social media, and virtual customer services. However, for others the economic uncertainty caused by COVID-19 has made investment impossible. One of the challenges for retailers in this hyper-competitive, constantly evolving retail environment is having the right people and skills within their organisation to keep pace with the change.

Technology will impact retail employment in very diverse ways. Many manual roles involving repetitive tasks will be replaced by technology. However, this does not necessarily mean major job losses, as many of these people will be upskilled to work in value-add retail roles. Furthermore, new positions like data analysts, software developers, cybersecurity experts, and computer scientists, which we once associated with the tech sector will become commonplace in the retail sector. Retail employees at all levels will need a mixture of human, digital, and traditional retail skills to succeed. This puts additional pressure on retailers and education and training providers.

As retail becomes increasingly reliant on tech, the acquisition, retention, and development of human capital become more important than ever to future-proof business operations. The battle for talent is set to intensify further as other sectors seek out employees with similar skill sets. Helping retail employees upskill and future-proof themselves in this fast-changing work environment will be a major challenge for retailers over the coming years. Retailers that can acquire and properly implement suitable technologies and match this with the right blend of human capital will have the edge. Retailers need to proactively invest in upskilling and continually develop their people, identify clear progression pathways, and promote careers in retail collectively as a sector.

Finally, the findings contained within this report would not have been possible without the generous support from a wide range of contributors from retail, technology, HR, and education. We would like to express a sincere thanks to the interviewees, survey respondents, and focus group participants that contributed to the study. We would like to express a special thanks to the subject matter experts that provided thought leadership articles. We hope you the reader found this report useful and it helps you better navigate through the future retail landscape.

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Róisín Woods is currently employed by Retail Ireland Skillnet as the E-learning and Communications Manager for the Apprenticeship in Retail Supervision programme. In 2016 Róisín founded Digital Commerce, a consultancy company that works to develop ecommerce strategies and create profitable online operations for retailers. For many years, Róisín worked at senior management level within retail with expertise in ecommerce, business development, profit protection, and marketing. Róisín has chaired and participated in national and international retail committees and represented Ireland at Ecommerce Europe meetings in Brussels. Róisín held the position of the Irish judge at the European E-Commerce Awards for three consecutive years. Róisín has a Masters in Innovation and Leadership which identified the need to re-engineer traditional retail buying models to meet the needs of future retailing.

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Dr. Doherty is currently employed by Retail Ireland Skillnet as the Manager of the Apprenticeship in Retail Supervision programme which commenced in 2019. Prior to that, he was employed with the Department of Education and Skills as a Regional Skills Forum Manager. This role involved identifying the current and future needs of industry in terms of recruitment, training and education, and coordinating responses from local education and training providers. Oran has also worked in Letterkenny Institute of Technology where he coordinated work-based learning programmes for over 10 years. Oran has a keen interest in industry/education collaborations, especially in work-based learning partnerships. He has completed a Doctorate in Business Administration which identified best practices for industry/education collaborations in work-based learning programmes along with numerous research papers. Dr. Doherty has delivered skills and work-based learning workshops and masterclasses throughout Europe in recent years. He has also carried out other skills reports in areas such as FinTech, Manufacturing, and Engineering.

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