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Digital marketing technology adoption by fashion retail Small and Medium Enterprises (SMEs) in the context of the pandemic: an analysis based on the diffusion of innovations theory

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**Digital Marketing Technology Adoption by Fashion Retail
Small and Medium Enterprises (SMEs) in the Context of
the Pandemic: An Analysis Based on the Diffusion of
Innovations Theory**

by

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Student Number: 9425098

Dissertation completed under the supervision of Dr. Katie Crowley and Dr. Tabea De Wille

A Dissertation

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Abstract

- Context:** With the onset of the COVID-19 pandemic, many Small and Medium Enterprises (SMEs) found themselves forced to move online quickly to keep their businesses operating. This was particularly evident in the fashion retail sector with non-essential services being forced to close their doors.
- Problem:** Given the speed to which these SMEs had to adapt, quick decisions needed to be made on what technology would support them promote their products/services online to ensure they could reach their target audience(s).
- Objective:** This research aims to identify what technology was adopted and why, and whether the chosen technology supports these businesses reach their audience and their business goals. The research respondents were predominantly Ireland based. This research asks the following questions:
1. What digital marketing technologies have fashion retail SMEs adopted?
 2. What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre and post COVID-19?
 3. How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?
- Methods:** This research used a mixed methods approach that includes:
- A literature review into the technology adoption models that would be applicable here;
 - An SME analysis through:
 - interviews with a set of Ireland-based fashion retail SMEs to understand how they operated from a digital marketing adoption standpoint prior to COVID-19 and now today;

- a questionnaire across a set of SMEs in the fashion retail sector to gain extra insight and understanding of the SME decision-making process and to validate the findings in the initial interview process;
- an analysis of 105 fashion retail websites in Ireland to understand their digital marketing strategies and understand if it was consistent with the survey findings.
- A Consumer analysis through a questionnaire with consumers of these SMEs on the technology they most prefer to use when purchasing online and why.
- Application of the Diffusion of Innovations (DOI) theory to understand how SMEs prioritise current platform usage and decision-making.

Results: 1) There are a number of digital marketing technologies being used by SMEs, but the main ones appear to be Instagram, Facebook, Search engine technology and Email Marketing. From this research, Instagram and Facebook appear to be the most used technologies by SMEs and Observability, Relative advantage and the lack of Complexity of these platforms appears to be contributing to the adoption of these technologies. However, the Confirmation stage does not appear to have been completed yet with a large percentage of respondents not being able to say with certainty that they can measure the Return on Investment of these two platforms.

2) COVID-19 appears to have been a catalyst to accelerate the fashion retail SME usage of these technologies.

3) Consumer research findings suggest a preference for Search technology as the most preferred technology to use when purchasing online, with Facebook being their least preferred technology.

Conclusion: Based on the data collected and analysed, this research:

1) confirms the impact of COVID-19 on digital marketing technology adoption.

2) applies and extends the DOI. The Confirmation stage of the DOI theory is an important stage that should determine whether an SME continues, optimises or stops using a technology that was previously adopted.

The research also contributes to Computer Science (CS) with design recommendations for digital marketing technology providers to consider to support both SMEs and the Consumers they are targeting to more easily and effectively use their technologies. These recommendations could support the completion of the Confirmation stage for SMEs.

Declaration

Name: Helena Esther Dillon

Student Number: 9425098

Degree for which dissertation is submitted: Master of Science (Research)

I declare that the work described in this dissertation is, except where otherwise stated, entirely my own work, and has not been submitted for any other purpose at this university or any other university.

Signed: Helena Dillon

Date: 20/5/23

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And last, but not least, thank you to my wonderful husband, Padraig, and our 2 amazing boys, Jack and Alex, for their unwavering support and unconditional love throughout this journey. You encouraged me, you believed in me, and you kept me laughing and smiling throughout this research. Thank you for being so wonderful to me.

Dedications

This work is dedicated to Padraig, Jack, Alex and my wider family.

Special Thanks by Joanna Fuchs

“Your kind and thoughtful ways

Make my world a better place.

You always want to help

With goodness and with grace.

You’re very special to me.

Thank you for what you do.

Most of all, my friend,

Thank you for being you”.

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List of Abbreviations

AI	Artificial Intelligence
AR	Augmented Reality
CDJ	Customer Decision Journey
CPA	Cost per Acquisition
CPC	Cost per Click
CTR	Clickthrough
DOI	Diffusion of Innovations
GDPR	General Data Protection Regulation
HCI	Human Computer Interaction
IoT	Internet of Things
IS	Information Systems
MAU	Monthly Active Users
OECD	Organisation for Economic Co-operation and Development
ROAS	Return on Advertising Spend
ROI	Return on Investment
SEM	Search Engine Marketing
SEO	Search Engine Optimisation
SERP	Search Engine Results Page
SME	Small and Medium-sized Enterprises
SMM	Social Media Marketing
TAM	Technology Acceptance Model
TOE	Technology, Organisation and Environment framework
UTAUT	Unified Theory of Acceptance and Use of Technology
VR	Virtual Reality

Part 1: Research Context

Chapter 1: Introduction

1.1 Introduction and Overview

The first case of COVID-19 on the island of Ireland was reported on the 27th February 2020. On the 11th March 2020, the World Health Organisation (WHO) declared COVID-19 a pandemic and on the 12th March 2020, the announcement of the first lockdown in Ireland happened with schools, colleges and childcare closing for an initial 2 weeks and people being asked to work from home where possible. On the 27th March, non-essential retail closed. These lockdowns were extended (The Journal 2020) and people had to adapt in order to have access to products and services.

With this, the move to online platforms was accelerated with 65,000 new .ie domains registered in 2020, the highest figure ever recorded and an increase of almost 30% over 2019 (We are Ireland online 2020). The highest peak was in May 2020, 6 weeks after the closure of non-essential retail. When COVID-19 emerged, online retail was growing, but with the onset of the pandemic, the acceleration of online retail was significant (Erdly 2020a).

Small and Medium Enterprises (SMEs) are “made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million” (Official Journal of the European Union 2003, p.4). The data on domain registrations (Figure 1) illustrates that where there is a perceived need or problem for SMEs to solve, there is an impetus to take action and, in this case, that action was to start promoting and selling their products and services online.

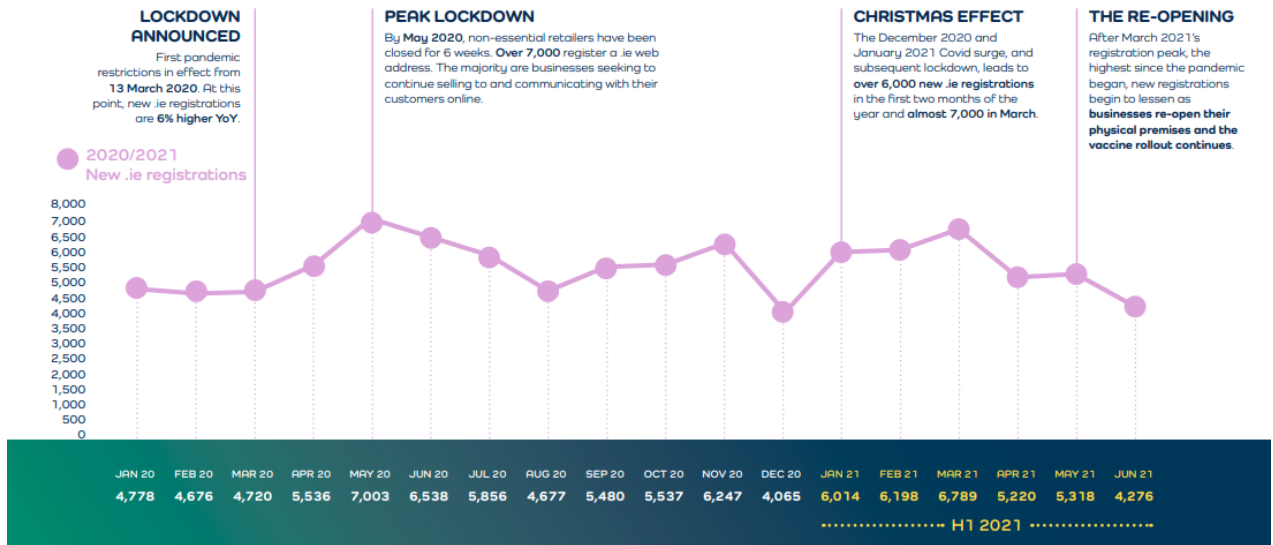


Figure 1: We are Ireland online (2021) *.IE Domain Profile Report 2021, p.1* available: <https://www.weare.ie/wp-content/uploads/2021/07/IE-DPR-2021-DIGITAL.pdf> [accessed 20 March 2023]

Figure 2 highlights the 5-year domain growth story and how businesses have taken action over time.

Timeline of new .ie registrations 2017–2022

After two separate surges of growth in the past five years, cooling off periods followed and registrations remained steady. Since the record-breaking highs in .ie registrations through the pandemic, this cooling off period is evident.

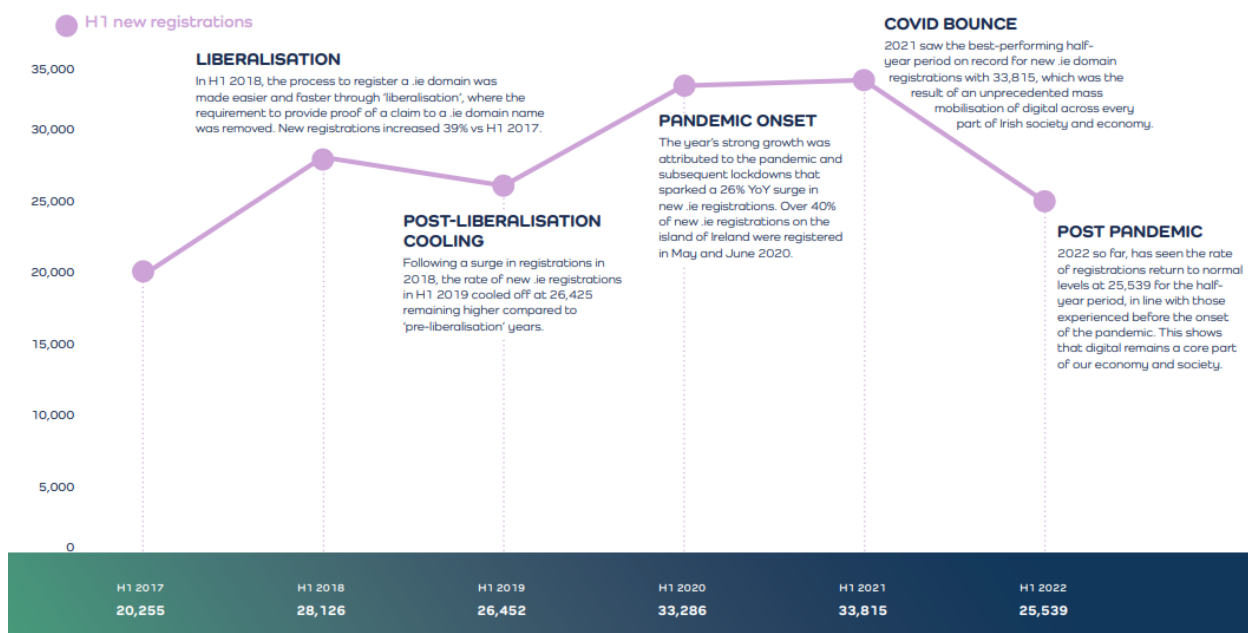


Figure 2: We are Ireland online (2022) *.IE Domain Profile Report 2022*, p.2 available:

<https://www.weare.ie/wp-content/uploads/2022/07/06299-IE-DPR-H1-2022-proof10-DIGITAL.pdf> [accessed 30 Dec 2022]

The pattern in Ireland wasn't unique to Ireland. With lockdown after lockdown across the world, mandatory working from home orders in many countries and the need to continue to purchase in a safe way, the necessity for retailers to move online to survive proved to be the catalyst to accelerate growth during this period. In the UK for example, "online sales increased an estimated 48%, year on year" (Ofcom 2021, p.131).

Consumers were also looking to find these retailers online. According to the Central Statistics Office in Ireland (Central Statistics Office 2020), 69% of Internet users purchased goods or services online in 2020 and there was a decrease in the number of people that never purchased online to 13%.

Globally, there are over 5 billion Internet users or 63% of the world's total population, and there are 4.76 billion social media users as of January 2023 (Statista 2023) representing a significant opportunity for SMEs. In fact, 1 in 9 of today's social media users started using

these platforms for the first time during the pandemic, according to Kemp (2021) in the *Digital 2021 July Global Statshot report*.

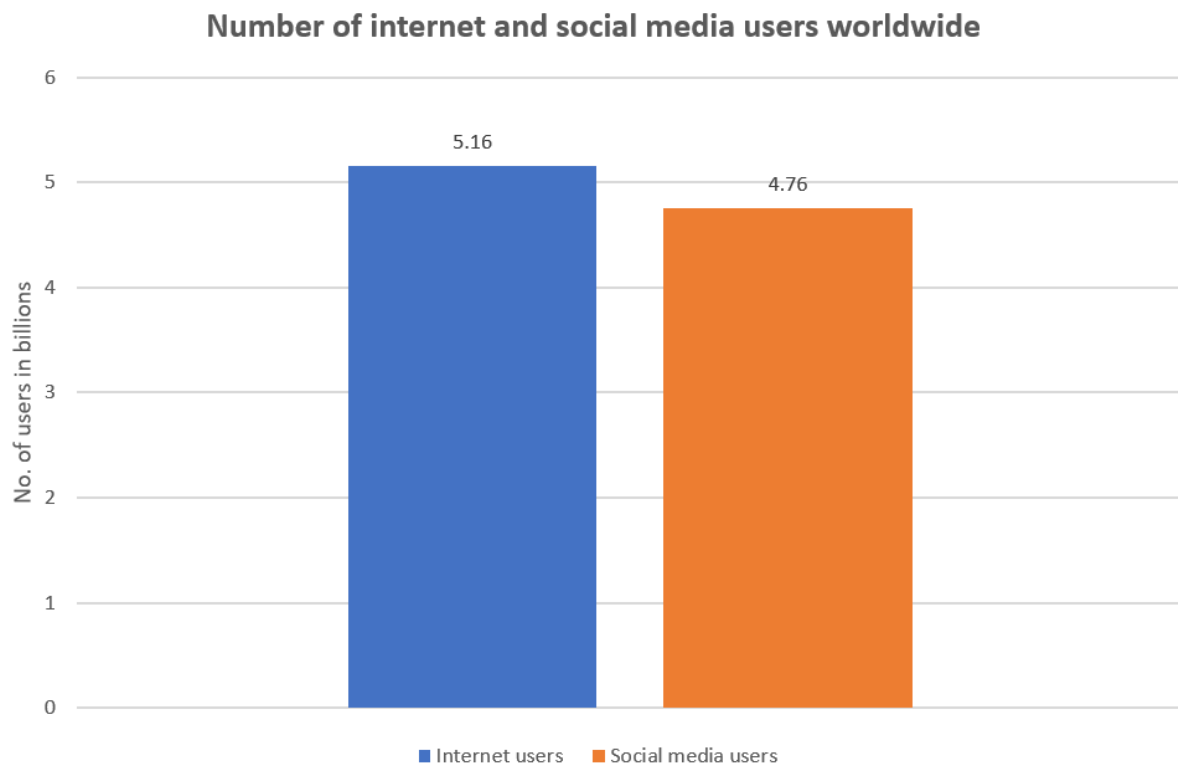


Figure 3: Statista (2023) *Number of Internet and social media users worldwide as of Jan 2023* available: <https://www.statista.com/statistics/617136/digital-population-worldwide/> [accessed 18 Feb 2023]

And consumer behaviour and expectations are changing. According to the Think with Google (2021, p.5), “81% of consumers in surveyed countries across the globe say they’ve discovered new brands online during COVID-19” and in the same report, “53% of shoppers expect to be able to make a purchase on their smartphone from any brand or company with a site or app” (p.15). Given that 94% of the population in Ireland use the Internet (Central Statistics Office 2022a), this provides SMEs a real opportunity to capitalise on an audience interested and willing to seek out their products online.

With a background in digital advertising and a passion around understanding technology adoption, I sought to understand how Small and Medium Enterprises (SMEs) made their digital marketing technology adoption decisions at the onset of the COVID-19 pandemic when speed was critical and whether those decisions are the right ones for their audience.

1.2 Key definitions

To support the interpretation of this research, the key terms utilised are briefly defined here.

Cost per Acquisition or CPA describes “the total cost of acquiring one customer during a specific marketing campaign” (Rahal 2021).

Digital Marketing is defined as “achieving marketing objectives through applying digital technologies” (Chaffey 2019, para. 2). Further detail on digital marketing, email management, search and social media are described in Chapter 2.

eCommerce platforms are “a software solution that helps businesses build and run their online stores” (Haan and Main 2023). Features include payment processing, stock management and analytics. Examples include Shopify and Squarespace.

Email Marketing is “a direct marketing channel that lets businesses share new products, sales, and updates with consumers on their contact list” (Sendinblue, 2023).

Engagement rate can be calculated by “taking the interactions (i.e., likes, shares or comments) across a social media campaign and dividing them by either the number of users following the account, or the number of impressions generated. A high engagement rate indicates that the content is valuable and making a veritable impression on its audience” (Rahal 2021).

KPIs or Key Performance Indicator is a metric or set of metrics that a company monitors to inform them on how well they are doing against their business goals. In the context of this research, KPIs are the metrics that signal to an SME whether their digital marketing efforts are providing the desired results.

PPC or Search Advertising is when you pay for an ad to be displayed on the search engine results page (SERP). It gets the name PPC from the fact that the business only pays when the ad is clicked (Chaffey and Smith 2017).

ROAS or Return on Advertising Spend is “a marketing metric that measures the amount of revenue earned for every dollar spent on advertising. You can calculate your return on ad spend using the following formula: Revenue Attributed to Ad Spend / Advertising Costs” (Berry 2023).

Search Engine Marketing (SEM) comprises of Search Engine Optimisation (SEO) and Pay Per Click (PPC) or Search Advertising.

Search Engine Optimisation (SEO) is defined as “achieving the highest position or ranking practical in the natural or organic listings on the search engine results page after a specific

combination of keywords (or keyphrase) have been typed in” (Chaffey and Smith 2017, p. 369).

Shoppable links or shoppable content is “a digital asset, such as a social media post, image, video or ad, that consumers can click through to make a purchase” (Lanier 2021). See Figure 4 for an example.



Figure 4: Shoppable content example. Source: Carmicheal, K. (2020) *10 Examples of Creative Shoppable Posts on Instagram, Pinterest, and Facebook* (hubspot.com) available: <https://blog.hubspot.com/marketing/examples-of-shoppable-content> [accessed 18 Feb 2023]

Small and Medium Enterprises (SMEs) are “made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million” (Official Journal of the European Union 2003, p.4).

Social Media are “web-based communication tools that enable people to interact with each other by sharing and consuming information” (Nations 2021).

Social Media Marketing (SMM) is “the utilization of social media technologies, channels, and software to create, communicate, deliver, and exchange offerings that have value for an organization’s stakeholders” (Tuten and Solomon 2016, p.21).

1.3 State of the Art

Sars-CoV-2, more commonly known as COVID-19, was declared a pandemic in March 2020. Research suggests that prior to COVID-19, SMEs were generally slower to adopt technology (Alam *et al.* 2011, Carayannis *et al.* 2006). In Nguyen's (2009) literature review, SMEs were found to adopt technology mainly due to pressures from internal and external sources. Some of the major challenges for SMEs adopting technology included lack of technical skills and efficiency, and the cost of technology and infrastructure (Shaikh *et al.*, 2021).

While digital marketing had presented an opportunity to expand for SMEs, many had not fully exploited that (Taiminen and Karjaluoto 2015, Ritz *et al.* 2019). Some fashion retail companies in this sector didn't perceive this opportunity as relevant to them due to the need for consumers to see and feel the products they were purchasing (Doherty *et al.* 1999).

Ritz *et al.* (2019) found that economic benefits were a motivator for adopting digital marketing. With COVID-19, SMEs were faced with a problem of not being able to open their doors, particularly non-essential retail like fashion, and that provided an impetus for digital marketing that hadn't existed to the same extent previously. The pandemic was an accelerator of both digital transformation and digital marketing technology adoption (Ramadani *et al.* 2022). Kumar and Ayedee (2021) identified a number of problems for SMEs during COVID-19, including layoff of employees, a fall in sales and a fall in consumer demand and highlighted the adoption of technology as a means to help solve their problems.

With the pandemic, there was an antecedent in place to accelerate SMEs digital marketing adoption. So, with this, the first research question (RQ) became clear:

- **RQ1** – What digital marketing technologies have SMEs adopted?

Those innovators and early adopters of digital marketing had a relative advantage over those that lagged behind on the acceptance of this technology. Those that hadn't adopted digital marketing technology or had lightly dabbled in this space, started to take it seriously for their business. Taiminen and Karjaluoto (2015, p.639) studied SME digital marketing usage and found that just 7% considered their efforts "very good or excellent". In fact, this research found that 45% did not use Search Engine Optimisation (SEO) and 49% did not use social

media like Facebook. Effendi *et al.* (2020) found that social media was considered easier to use than other digital marketing options and there was a familiarity with social media like Facebook and Instagram. Effendi *et al.*'s (2020) research also indicated that the pandemic provided a need to utilise these platforms and that the “pandemic turned out to have forced SMEs to switch to digital marketing” (p.921). Ritz *et al.* (2019) also suggested that SMEs who adopted digital marketing experienced “control, fun and excitement” (p.192).

Through this research, it became apparent that there was a need to understand what was behind the decision making of SMEs during COVID-19 when selecting digital marketing technology. With much research available on technology adoption models, a review of a number of models was undertaken and the Diffusion of Innovations (DOI) theory was selected for the purposes of this research, due to the holistic nature of the model (Dooley, 1999) which looks at the end-to-end decision-making process from a technology adoption standpoint. Applying DOI could potentially help assist in understanding not just the adoption of the technology, but also the post adoption phase of the technology. This brought the second RQ into consideration:

- **RQ2** - What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre and post Covid?

The third element in this was the ‘Consumer’. Using the Technology Acceptance Model (TAM), Lin and Kim (2016) had previously investigated consumer response to social media from an advertising perspective and found that privacy concerns “negatively impact perceived usefulness of as well as attitude towards social media advertising” (p.715). However, social media like Facebook was seen as a potentially cost-effective marketing strategy to drive sales and was found to have outperformed Instagram (Dolega *et al.*, 2021). For fashion retail, were these the options being adopted? Did Search technology or email marketing have a role to play? What did consumers perceive to be the technology most valuable to them and did that align with SME perceptions? This brought the 3rd RQ to the fore:

- **RQ3** - How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?

1.4 Research Questions

With this context, this paper sets out to address the following questions:

- What digital marketing technologies have SMEs adopted?
- What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre and post Covid?
- How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?

1.5 Thesis Structure

This thesis is divided into the following sections.

Part I, Research Context

This includes chapter 1, which is the current chapter and outlines the rationale and goals for this research, including the research questions that were investigated. Chapter 2 looks at the SME landscape, provides an overview of the digital marketing technologies being reviewed, the retail landscape and the Customer Decision Journey (CDJ) for fashion retail. Chapter 3 looks at the definitions of key technology adoption models, including Diffusion of Innovations (DOI) Theory and the Technology Assessment Model (TAM) to ascertain which would be most valuable for this research. Chapter 4 identifies and provides an overview of some of the main digital marketing channels available to SMEs.

Part II, Methodological Approach

Chapter 5 reviews the overall research methodology applied. Chapter 6 provides an overview of the approach taken to collect data.

Part III, Research Findings

Chapter 7 describes the results of the interviews, questionnaires and content analysis. Chapter 8 provides a summary of the findings, discussion, limitations and future research opportunities as well as a set of recommendations put forward for SMEs considering their online journey in the retail space and recommendations for digital marketing technology providers.

The main contributions of this research are also covered in this section, which is mainly to understand factors driving SMEs choice and adoption of digital marketing technologies; identify factors relevant to the SMEs that also affect their consumers' journey; outline design recommendations to improve the usability, acceptance and adoption of digital marketing technologies.

Chapter 2: Theoretical Framework

2.1 SME Definition and Landscape

There are many definitions of SMEs. The size of a country or economy can impact the definition used (Keskgn, *et al.* 2010). Given the economic variance across the European union, the *Official Journal of the European Commission (L 124/36) (2003)* definition was used for this research. It defines Small and Medium Enterprises (SMEs) as “made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million” (Official Journal of the European Union 2003, p.4). With 25 million SMEs, which represent 50% of Europe’s GDP and 2 out of every 3 jobs coming from SMEs, this sector is significant for the European economy (European Commission 2020, McKinsey & Company 2020).

However, in 2018, across the OECD, SMEs were only half as likely as large firms to be using e-commerce or cloud computing. This gap was larger in some countries like 3 to 1 in Spain, almost 4 to 1 in France and almost 5 to 1 in Poland (Gurría 2019). The OECD (2021) identified a number of barriers to SMEs adopting digital technology. These included a lack of information and awareness, digital skills gap, insufficient capital, managing digital security and privacy, and managing changing regulatory frameworks.

According to the Central Statistics Office (CSO), there are 272,531 SMEs in Ireland, employing over 1 million people (Irish SME Association n.d.) making it a significant employer in the country.

2.2 SMEs in the context of COVID-10

In data captured by a joint research initiative by the OECD, Facebook and the World Bank, it was highlighted that the “COVID-19 crisis has heightened the importance of SME digitalisation and served as an accelerator of trends” (OECD 2021, p.5). It went onto show that:

between 25% and 62% of SMEs (with a Facebook page) across OECD countries increased the digitalisation of their business processes in 2020. For many SMEs, digital technologies have been essential to the continuation of economic activity and the provision of essential services during the crisis. For example, strengthening the online presence on social media, online marketplaces and websites has been the only way for many businesses to continue serving their clients, especially in industries traditionally based on proximity and contact, such as tourism and retail. For many firms, the ability to shift to teleworking models has been vital, and indeed, significant, with teleworking levels across OECD countries increasing by on average six times pre-pandemic levels at the height of lockdown restrictions.

(OECD 2021, p.5)

It was also clear that the more stringent the Covid containment measures were in a country, the more SMEs adopted digitalisation. Given the level of restrictions in Ireland, the share of SMEs increasing their digitalisation was higher than those with less restrictions. The COVID-19 pandemic created a problem and a need, particularly for Retail SMEs during this period.

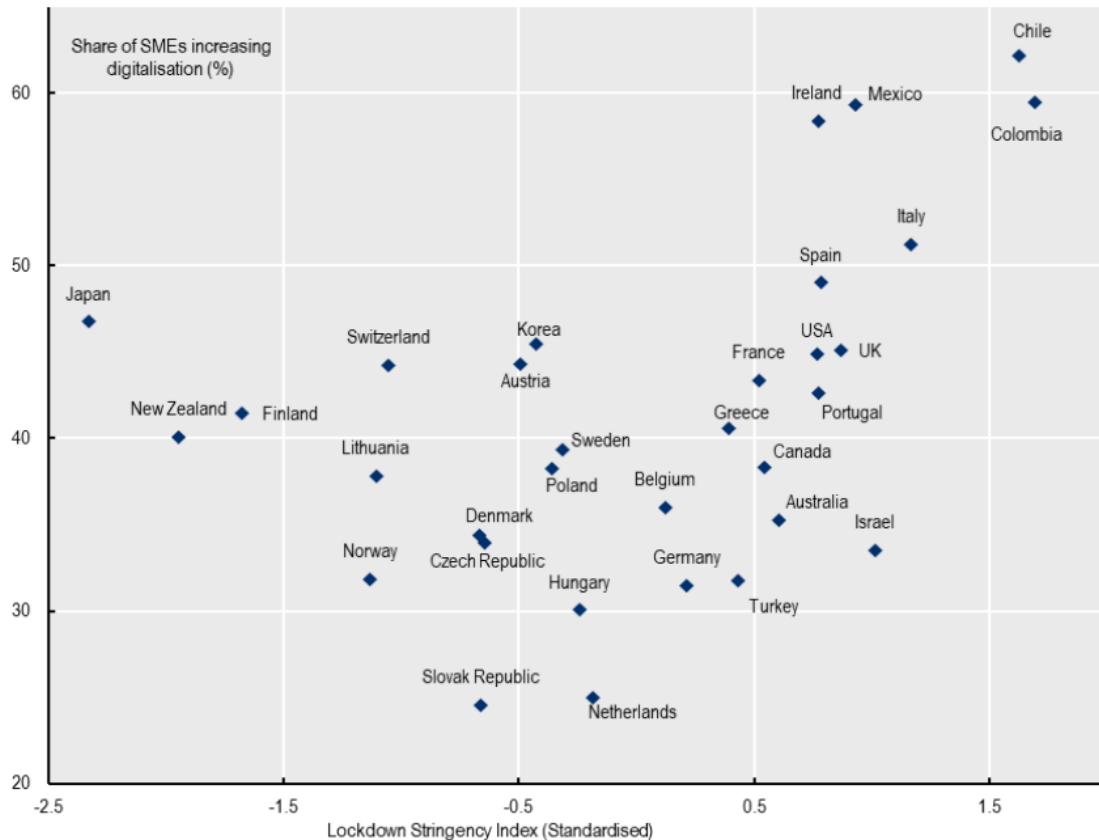


Figure 5: Share of SMEs that increased digitalisation in 2020 (%) vs. the stringency of containment measures (index). Source: OECD (2021) *SME digitalisation to “Build Back Better”: Digital for SMEs (D4SME) policy paper*, OECD SME and Entrepreneurship Papers, No.31, OECD Publishing, Paris p.28 available: <https://www.oecd.org/publications/sme-digitalisation-to-build-back-better-50193089-en.htm> [accessed 15 Jan 2023]

The OECD (2021) also found that the size of a company impacted digital adoption rates with 40% of SMEs that had <9 employees increasing their digital technology usage during the pandemic versus 60% of firms with 50-250 employees.

2.3 Digital Marketing overview and scope

“Digital marketing refers to all the marketing practices that take place online. Businesses use different digital channels, including emails, search engines, social media, and websites, to retain existing customers and target potential ones” (UCD.ie n.d.). Digital marketing can also be defined as “achieving marketing objectives through applying digital technologies” (Chaffey 2019, para. 2). Chaffey and Smith (2017, p.13) also describes digital marketing as

“marketing online whether via web sites, online ads, opt-in email, mobile apps or emerging platforms”. In essence, digital marketing should support attracting new consumers and retaining existing consumers for a business. It includes search engine marketing, social media marketing and email marketing. Kotler *et al.* (2009) describes digital marketing as a form of direct marketing that connects buyers with sellers electronically. This definition focuses on that connection between the buyer and seller and understanding their motivations towards technology use is an important element in connecting both parties.

Digital marketing can also make it easier to measure the performance of a company’s campaigns or efforts in reaching their consumers (Järvinen *et al.* 2012). With real time results through web analytics, SMEs can understand how their marketing efforts are performing versus more traditional advertising like radio advertising or newspaper/magazine advertising which are not as easily trackable and take much longer to understand their impact. And crucially, according to Dumitriu and Popescu (2020, p.630), “Marketing has reached a point in its evolution where adapting to digital trends is an imperative”. During the pandemic, digital marketing became crucial as a mechanism for sellers and buyers to find each other.

Social Media

There are many definitions of social media. Appel *et al.* (2020, p.79) defines social media as “a collection of software-based digital technologies - usually presented as apps and websites - that provide users with digital environments in which they can send and receive digital content or information over some type of online social network”. Social media sites are where users share information and content and also have the option to engage in a conversation with each other or the company they are purchasing from. Chaffey and Smith (2017) used the CIPR Social Media Panel definition:

Social media is the term commonly given to Internet and mobile-based channels and tools that allow users to interact with each other and share opinions and content. As the name implies, social media involves the building of communities or networks and encouraging participation and engagement.

CIPR (2011) as cited in Chaffey and Smith (2017, p.225)

Chaffey and Smith (2017) selected this particular definition due to the focus on interaction and user-generated content.

StatCounter (n.d.a) provides data on the usage of the top social media sites that are an important reference point for this paper. Snapshots of data were captured in January 2022 and also in November 2022. Facebook usage in Ireland declined during that time, while all other platforms increased with Instagram seeing the biggest increase in that period.



Figure 6: Data on social media usage in Ireland – January 2022. Source: Statcounter (n.d.a)

Social Media Stats Ireland | Statcounter Global Stats available:

<https://gs.statcounter.com/social-media-stats/all/ireland>



Figure 7: Data on social media usage in Ireland – November 2022. Source: Statcounter

(n.d.a) *Social Media Stats Ireland | Statcounter Global Stats* available:

<https://gs.statcounter.com/social-media-stats/all/ireland>

Social Media Marketing

Tuten and Solomon (2016, p.21) described Social Media Marketing (SMM) as “the utilization of social media technologies, channels, and software to create, communicate, deliver, and exchange offerings that have value for an organization’s stakeholders”. Both the definitions of social media and SMM suggest an emphasis on interaction between those selling and those purchasing the products or services. In addition, Tuten and Solomon’s (2016) inclusion of “value for an organization’s stakeholders” is important in the SMM context as with SMM, businesses are working to attract and retain consumers for their

products and services. The measurements they put in place should help them understand the value they are driving with their efforts.

Social media marketing technologies include Instagram, Facebook, Twitter, Pinterest, TikTok and LinkedIn. Each of these technologies have ways to measure the impact of your digital marketing activities with built in analytics for business. Figure 8 is an example of Instagram insights available to Instagram business users.

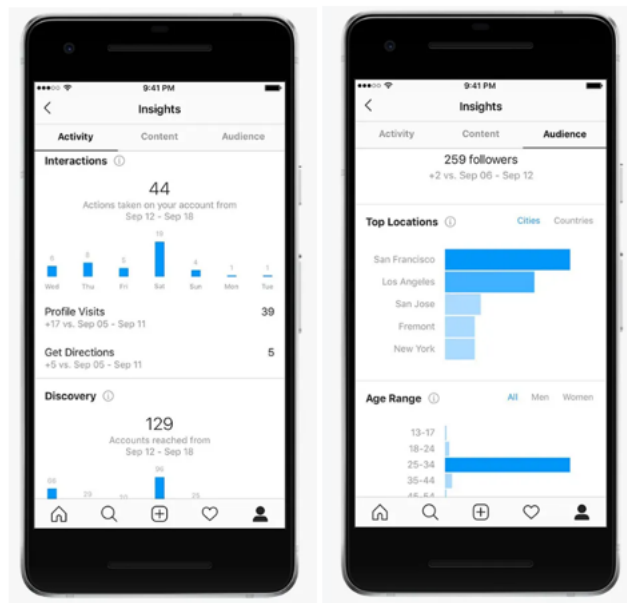


Figure 8: An example of Instagram insights for activity and audience. Source: Facebook.com (n.d.d) *How to use Instagram Insights to analyse your account results | Meta for Business (facebook.com)* available: https://www.facebook.com/business/learn/lessons/instagram-insights-tool?course_id=428024244490300&curriculum_id=809171499485562 [accessed 12 May 2023]

Companies like Hootsuite offer solutions that enable businesses to manage all their social content in one dashboard.

Search Engine technology

Search engine technology (e.g. <https://www.google.ie/>, <https://www.bing.com/?cc=ie>) is where a website is crawled and key information about that site, like keywords, titles, images etc. is collected. This information is then indexed. When a user searches on a search engine like Google or Bing, the search engine ranks the most relevant results based on its algorithms and provides those results on the Search Engine Results Page (SERP) (Byers, 2023). Google has nearly 95% of the market in Ireland according to StatCounter (n.d.b) which measures clicks.



Figure 9: Data on Search usage in Ireland – November 2022. Source: Statcounter (n.d.b)

Search Engine Market Share Worldwide | Statcounter Global Stats

available: <https://gs.statcounter.com/search-engine-market-share/all/ireland>

Search Engine Marketing

Search engine marketing (SEM) comprises of Search Engine Optimisation (SEO) and Pay Per Click (PPC) or Search Advertising. SEO is defined as “achieving the highest position or ranking practical in the natural or organic listings on the search engine results page after a specific combination of keywords (or keyphrase) have been typed in” (Chaffey and Smith 2017, p. 369). With SEO, the advertiser is not paying to appear on the results page. It is part of the organic search results (Pavlik, 2022). Advertisers can improve their website to increase their chances of appearing on the SERP through SEO. PPC or Search Advertising is when you pay for an ad to be displayed on the SERP and it gets the name PPC from the fact that the business only pays when the ad is clicked (Chaffey and Smith 2017).

Search Advertising includes many different ad types including text ads, image ads, video ads and shopping ads (Google.com n.d.). More details on ad types can be found in Chapter 4. Those involved in search advertising can use tools like Google Analytics to track performance.

2.4 Retail Landscape

Retail trade in Ireland represented almost 24,000 Enterprises in 2020 (Central Statistics Office 2022b). SMEs accounted for 99.7% of this number. Almost 3,000 SMEs were engaged in Clothing, Footwear and Textiles (Central Statistics Office 2023).

Doherty *et al.* (1999) highlighted 3 sets of factors that would support the uptake of online purchasing for retail:

- internal factors such as strategic vision, appropriate products for online sales, and resourcing.
- environmental factors including competitive pressures and readiness of consumers.
- the Internet's comparative advantage such as the size of the market that could be targeted.

Interestingly, this research found that fashion items were considered to be unsuitable for sale online due to the need for “very precise visual representation” (Doherty *et al.* 1999, p.11). However, that conclusion isn't fully supported by the longevity of mail order catalogue companies like Littlewoods. While Littlewoods wouldn't meet the definition of a SME, it was a company that started sending catalogues to consumers in 1971, so consumers could purchase items of clothing directly from them and celebrated 40 years of doing so in 2011 (Littlewoods.com), which would suggest the visual element wasn't as large an impact as was suggested. And with COVID-19, we saw this perceived issue being quickly overcome.

The COVID-19 pandemic brought the closure of retail outlets or non-essential retail. And arguably the ability of retailers to visually represent their products online either directly on their website or via their digital marketing tools enabled them to overcome that challenge.

Sumarliah *et al.* (2021) highlighted that the pandemic positively impacted consumers intent to purchase online by examining the impacts of situational factors and shopping motives of consumers purchasing online. And according to Erdly (2020b, Technology continues to reshape retail, para.3) “new technology will help create a seamless transition between online research and offline purchasing” as one of the retail trends from the pandemic.

Digital marketing technology and fashion

Rathnayaka (2018) explored how digital marketing has changed the fashion retail industry and how it impacts consumer behaviour. They highlight that the traditional skills of the marketer are no longer relevant as technical, creative and people skills become more important in reaching end consumers. As part of their research, they developed a mind map to describe the role that digital marketing plays in the industry. This highlights the role of digital marketing in providing access to global brands and customers, availability of online information on fashion brands, access to changing fashion trends and the ability to support consumer lifestyles with a 24/7 services (Rathnayaka 2018, p.2).

In research completed by Taiminen and Karjaluoto (2015, p.640), it was found that companies who reported investing more in digital marketing “perceived that they utilized it better”. The research also found that SMEs weren’t fully utilising digital marketing to its full potential.

Consumer readiness is also important for digital marketing technology (Zhu *et al.* 2003) as it provides the market opportunity. However, Zhu *et al.* (2003) found that as electronic business grows, consumer readiness becomes less important.

2.5 Customer Decision-Making journey for retail

For SMEs to fully capture their audience using the right digital marketing technologies, there is a need to understand the customer and their decision-making process, also known as the Customer Decision Journey (CDJ). Much research has been done on the CDJ with many different models available.

According to Kotler *et al.* (2016, p. 64), there are 5 ‘A’s in the Customer Decision Making journey: Aware, Appeal, Ask, Act, Advocate. The goal is to get consumers from Aware to Advocacy and they argue that this is influenced by their own influence, others’ influence and outer influence or O Zone as Kotler calls it. Colicev *et al.* (2019) based their research off of a 4-stage funnel of Awareness, Consideration, Purchase and Satisfaction. AIDA, developed by E. St. Elmo Lewis, was used by Kojima *et al.* (2010) for their research and stands for

Attention, Interest, Desire and Action. However, customer decision making can also be summarised more simply in 3 stages: pre-purchase, purchase and post-purchase (Grewal and Roggeveen 2020, Puccinelli *et al.* 2009, Towers and Towers 2022). Grewal and Roggeveen (2020) highlights that these stages are normally sequential. However, Lemon and Verhoef (2016, p.69) bring up “more complex customer journeys” due to businesses interacting with consumers through many different touchpoints on their journey.

The role of technology was one of 3 themes identified by Grewal and Roggeveen (2020) in the CDJ. The other 2 themes were ‘social, cultural, and political influences’ and ‘the role of the retail environment, numeric information, merchandise, and packaging’ (Grewal and Roggeveen 2020, p.5). While the focus of this research is the use of technology for more effective digital marketing, others technology areas identified were in-store technologies, mobile technologies, Artificial Intelligence (AI) and the Internet of Things (IoT).

Wolny and Charoensuksai (2014) discusses 3 types of journeys - impulsive, balanced and considered journeys – this research doesn’t differentiate between these as the components of each aligned closely with prepurchase, purchase and post purchase.

Lynch and Barnes (2020) also suggest that the stages are pre-purchase (inspiration, research and comparison, evaluation), purchase, post-purchase (delivery, returns, show and share). Their model reflects the inclusion of technology and fashion consumer preferences (Figure 10). The research suggests that “any fashion retailer is only as good as the weakest point in its customer journey” (Lynch and Barnes 2020, p.486). As can be seen from Figure 10, they integrate channels and devices in their research. Interestingly, the focus on interaction between the customer and business is highlighted with social media being a focus.

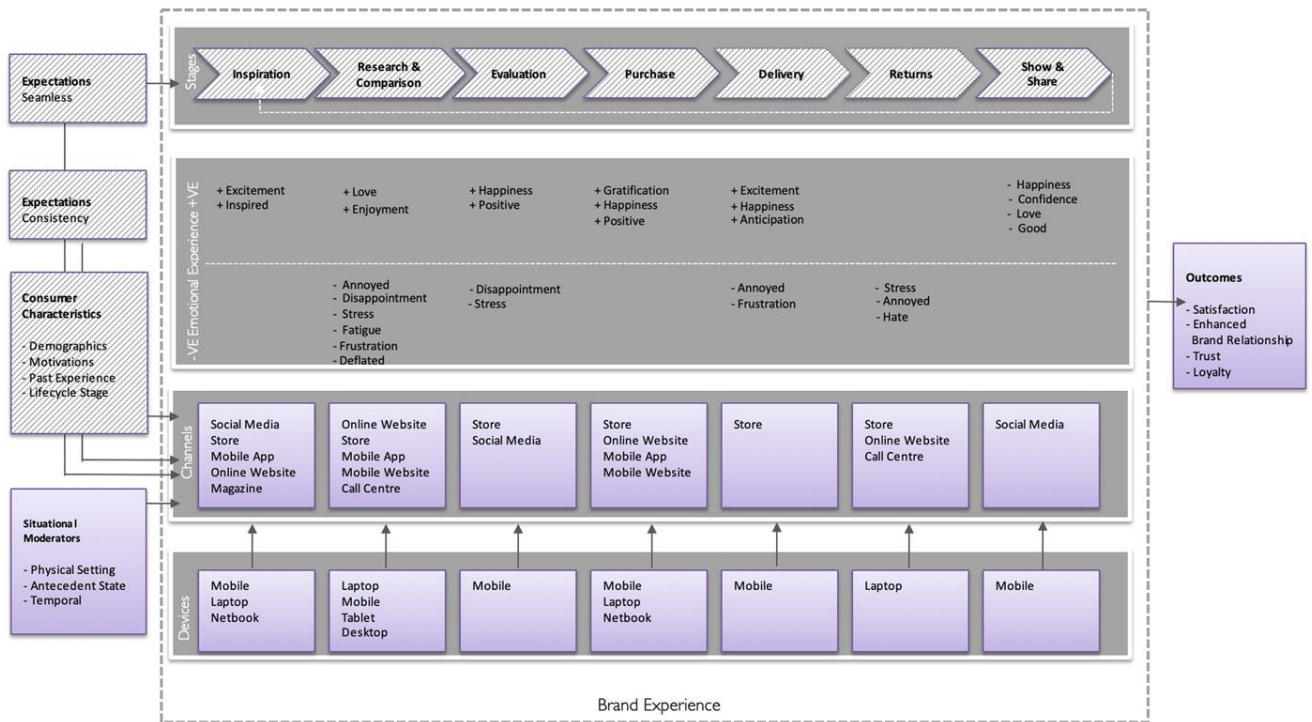


Figure 10: The Omnichannel customer decision-making journey framework for fashion.

Source: Lynch, S., Barnes, L.(2020), ‘Omnichannel fashion retailing: examining the customer decision-making journey’, *Journal of fashion marketing and management*, p.478, Fig. 1

As part of this research, it is necessary to examine how SMEs perceive a specific set of digital marketing technologies in relation to each stage of the CDJ to understand how they manage pre-purchase, purchase and post-purchase decision making effectively.

Chapter 3: Technology Adoption Models

3.1 Human-Computer Interaction

Human-Computer Interaction (HCI) emerged in the early 1980s and there has been significant research in this space since then. HCI could be described as the study of how people interact with computers, but that would be too simplistic.

Hartson (1998, p.103) describes HCI as “a field of research and development, methodology, theory, and practice, with the objective of designing, constructing, and evaluating computer-based interactive systems – including hardware, software, input/output devices, displays, training and documentation – so that people can use them efficiently, effectively, safely, and with satisfaction”. He goes on to highlight that the main goal of HCI is to achieve high usability for users. Similarly, Hewett *et al.* (1992, p.5) defines it as “a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them.”

If HCI is at the core of design thinking, technology adoption becomes easier. As a result, technology adoption is an important research area within HCI. There is extensive literature on technology adoption models and ease of use or usability play significant roles in that research. Davis (2015, p.395) captured it well when they considered TAM in the context of HCI with “HCI emphasizes how best to design the user interface to improve task performance when using a system, TAM focuses on how to increase people’s willingness to use a system. Since both user acceptance and task performance are vital to a system’s success, HCI and TAM offer complementary perspectives”. Similar logic could be applied to other technology adoption models.

The remaining sections in this chapter provide an overview of some of the key models that were examined as part of this study, namely Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Organisation Environment (TOE) framework and the Diffusion of Innovations (DOI) theory.

3.2 Technology Acceptance Model

Davis (1989) developed the Technology Acceptance Model based on 2 principles – perceived usefulness (PU) and perceived ease of use (PEU). Davis (1989, p. 320) defined perceived usefulness as the “extent to which a person believes that using the system will enhance his or her job performance”. Perceived ease of use relates to the user’s belief “that using the system will be free of effort”. Davis (1989) also found that usefulness was more important than ease of use. Both perceived usefulness and perceived ease of use were found to impact a user’s attitude to the technology.

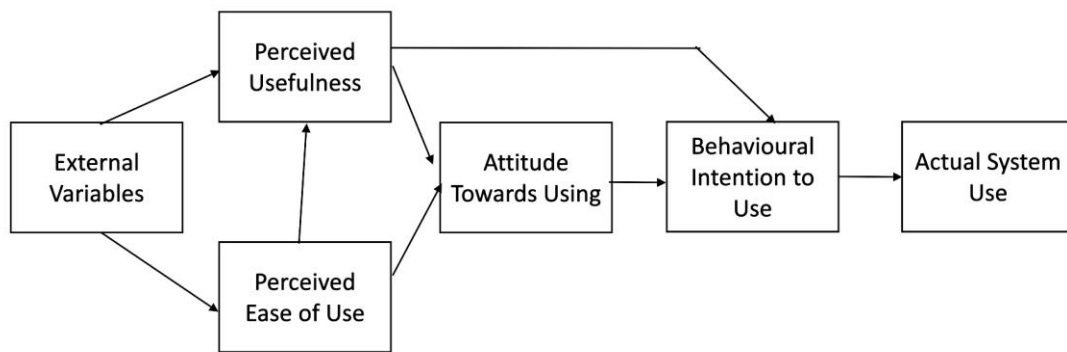


Figure 11: Technology Acceptance Model (TAM) Source: Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1989) ‘User acceptance of computer technology: A comparison of two theoretical models’, *Management science*, 35(8), p.985

Criticism of the TAM model led to the development of TAM v2 and v3, which built out Perceived Usefulness and Perceived Ease of Use further. TAM v2 added social influences such as subjective norm and image) and cognitive instrumental processes (such as job relevance and result demonstrability) to predict technology adoption (Li, 2010).

Li (2010) found through their review of Technology Acceptance literature review that there was much research to suggest that there was no evidence to support the relationship between perceived ease of use and perceived usefulness.

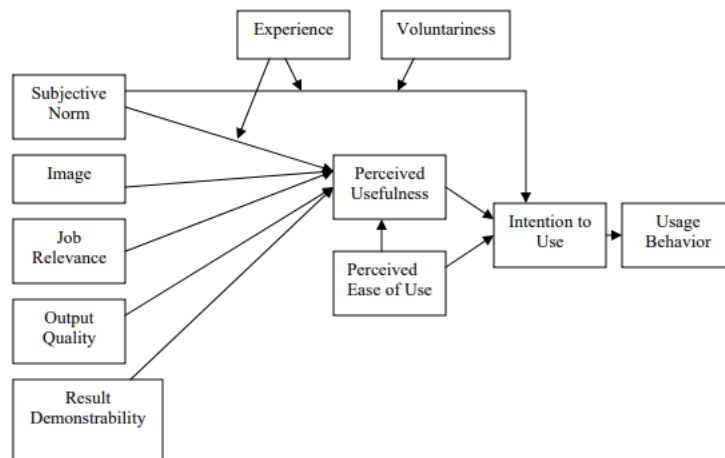


Figure 12: TAM v2 Source: Venkatesh, V., Davis, F.D. (2000) ‘A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies’, *Management Science*, 46(2)

Given the amount of research on TAM, Venkatesh and Bala (2008) developed a theoretical framework to bring together this work and to test TAM3 (Figure 13). However, these theories, to some extent, were based on the assumption that the adoption of the technology is good for the business or provides a return on investment for the business.

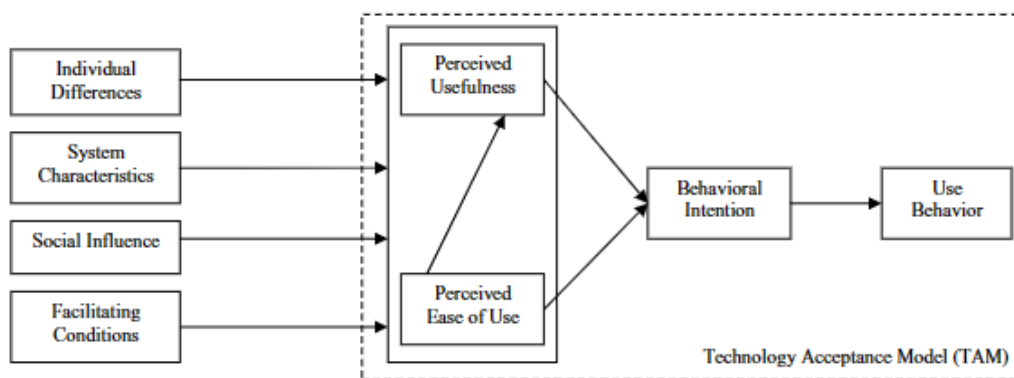


Figure 13: TAM3 Theoretical Framework Source: Venkatesh, V. and Bala, H. (2008) ‘Technology Acceptance Model 3 and a Research Agenda on Interventions’, *Decision Sciences*, 39, Fig 1. p.276

In the context of this research, TAM’s view of perceived usefulness and perceived ease of use was valuable, but it didn’t go into the post adoption phase and whether a technology should continue to be used, be modified or optimised, or whether an alternative technology should be considered.

3.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh *et al.* (2003). It combined 8 previous models, including TAM, TAM2, the Theory of Reasoned Action and the Diffusion of Innovations Theory. It described 4 key variables: Performance Expectancy (corresponding to Perceived Usefulness in TAM), Effort Expectancy (similar to Perceived Ease of Use in TAM), Social influence and Facilitating Conditions.

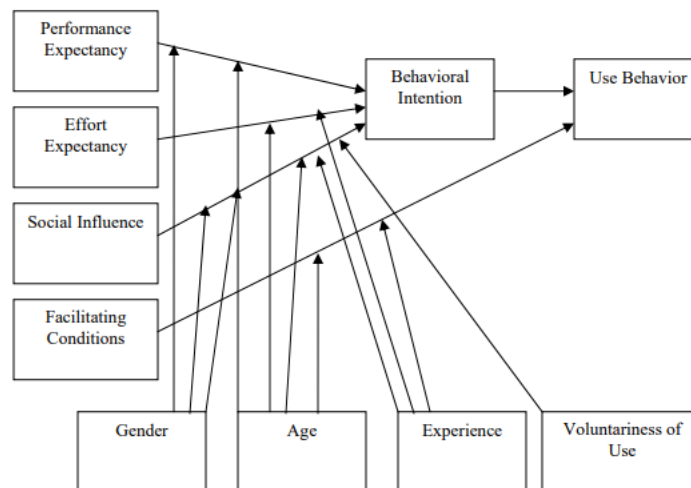


Figure 14: The Unified Theory of Acceptance and Use of Technology (UTAUT) Source: Venkatesh, V., Morris, M.G., Davis, F.D., & Davis, G.B. (2003). ‘User Acceptance of Information Technology: Toward a Unified View’, *MIS Quarterly*, 27, p. 447

Shachak *et al.* (2019) were critical of TAM and UTAUT. While UTAUT did incorporate additional constructs, both focus on the individual adopter or user and “assumes a direct causal influence of intention on actual behaviour” and “usage intention”.

The other important point that Shachak *et al.* (2019) highlights is that both of these models related to just one part of the implementation process – the acceptance of the technology. An adoption decision has already been made at that point. There also wasn't a focus on revisiting the decision to adopt, although facilitating conditions were evaluated. However, facilitating conditions were analysed by Gallivan *et al.* (2005) and their research found that “neither the amount of user training (H1), the perceived quality of user training (H2), nor the individual's computer self-efficacy (H3) was related to the employee's level of IT usage” (p. 176).

3.4 The Technology Organisation Environment (TOE) framework

The Technology Organisation Environment (TOE) framework was developed by Tornatzky and Fleisher (Baker 2012) with a focus on 3 elements of technology adoption – the technological context, the organisational context and the environmental. The technological context includes all of the technologies that are relevant to a business - including technologies that are currently in use as well as those that are available to adopt, but not in use. The organisation context refers to the characteristics of a firm like firm size and resources. The environmental context includes the structure of the industry, including competition and support structure.

The TOE framework has many similarities with the Diffusion of Innovation (DOI) theory. In fact, that's one of the reasons that Baker (2012) argues that has it hasn't been developed further, e.g. characteristics within Technology of TOE could be compared to perceived characteristics of innovation within DOI.

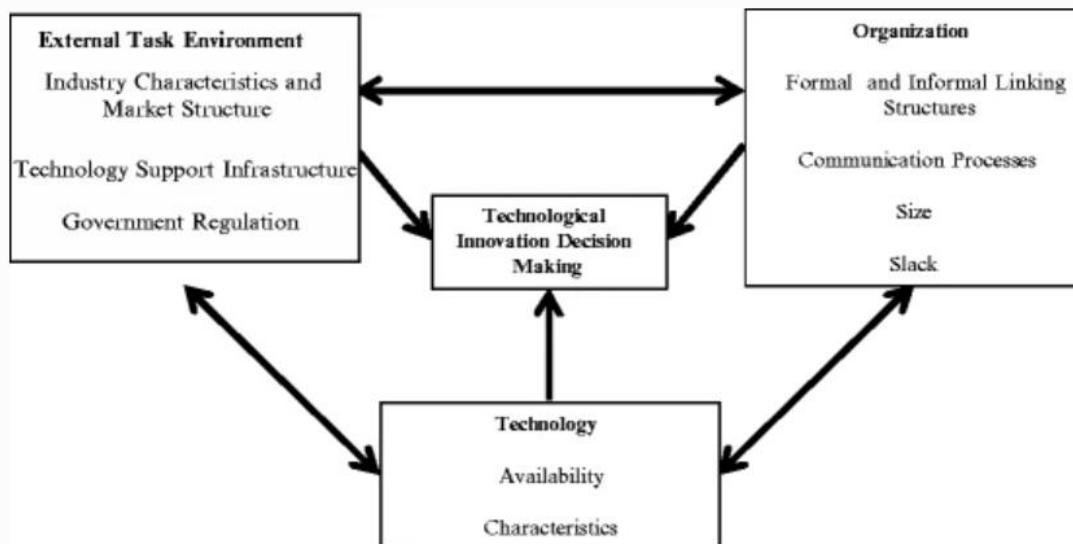


Figure 15: The Technology Organisation Environment framework Source: Baker, J. (2012). *The Technology–Organization–Environment Framework*. In: Dwivedi, Y., Wade, M., Schneberger, S. (eds) *Information Systems Theory. Integrated Series in Information Systems*, 28, fig 12.1

Oliveira and Martins (2011) consider TOE to be more complete than DOI due to the environment context.

3.5 Diffusion of Innovations Theory

Rogers (2003, p. 11) defined diffusion as “the process by which (1) an innovation (2) is communicated through certain channels (3) over time (4) among the members of a social system”.

These 4 elements were directly applicable to this research:

- 1) Innovation: Rogers (2003, p.12) defined an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption”. This definition allows that if an innovation is new to the individual, it can still be considered an innovation. Rose (2015) had a similar definition as this with “a verb connoting something new has taken place to the actor of interest” (p.1). While social media and Search engines were not new technologies, SEM and SMM were ‘new’ to many

SMEs, or at least new from the perspective of using them as part of the running and promotion of their business.

- 2) Communication channels: which Rogers (2003, p.18) describes as “the means by which messages get from one individual to another”. During the pandemic, SMEs were seeking to understand what others were doing and how to apply that for their own needs. As part of this research, there was a need to understand if retail SMEs search about their competitors.
- 3) Time: the time it takes to identify a need for a technology to adopting that technology (Rogers 2003). With the pandemic, the time component accelerated for those adopting these technologies given the problem they were trying to solve and the potential benefits of adoption.
- 4) Social system (Rogers 2003, p.23) is defined as “a set of interrelated units that are engaged in joint problem solving to accomplish a common goal”. For the purposes of this research, the fashion retail industry has been defined/selected as the social system to be studied in this research, in particular regarding norms that emerged during the pandemic.

Rogers (2003) defined 5 steps in the innovation-decision process. Those steps were: knowledge, persuasion, decision, implementation and confirmation. Figure 16 highlights the process and brings these elements together.

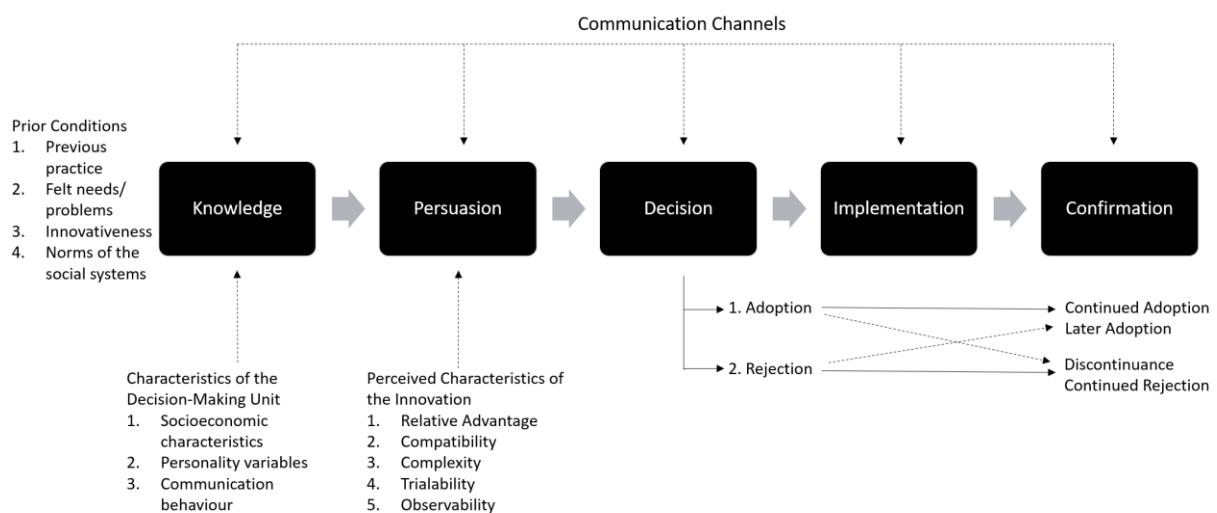


Figure 16: A model of 5 stages in the Innovation-Decision Process. Source: Rogers, E. (2003) *Diffusion of Innovations*, 5th Ed, Fig 5-1, Free Press, p.170

The model begins with a need or problem identified and/or some experience of the technology. The rate of adoption is an important element in Rogers' research. It is the "relative speed with which an innovation is adopted by members of a social system" (Rogers 2003, p. 221). According to Rogers (2003, p. 229-265), most of the variance in the rate of adoption of innovation is explained by 5 attributes:

- Relative Advantage: the degree to which an innovation is perceived as being better than the idea it supersedes.
- Compatibility: the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters.
- Complexity: the degree to which an innovation is perceived as relatively difficult to understand and use.
- Trialability: the degree to which an innovation may be experimented with on a limited basis.
- Observability: the degree to which the results of an innovation are visible to others.

Given the complexity of observability, Moore and Benbasat (1991) divided it into 2 dimensions – result demonstrability and visibility. Visibility was important for this research given that some digital marketing platforms were quite observable between competitors (particularly SMM). They also discussed voluntariness of use defined as "the degree to which use of the innovation is perceived as being voluntary, or of free will" (Moore and Benbasat 1991, p. 195). To some extent, it could be argued that COVID-19 removed the 'voluntariness' of adoption of digital marketing technologies given the situation SMEs found themselves in.

Interestingly, Rogers (2003) noted that the more people involved in making an innovation decision, the slower the rate of adoption, which was less of an issue for SMEs. Figure 17 highlights the variables impacting the rate of adoption.

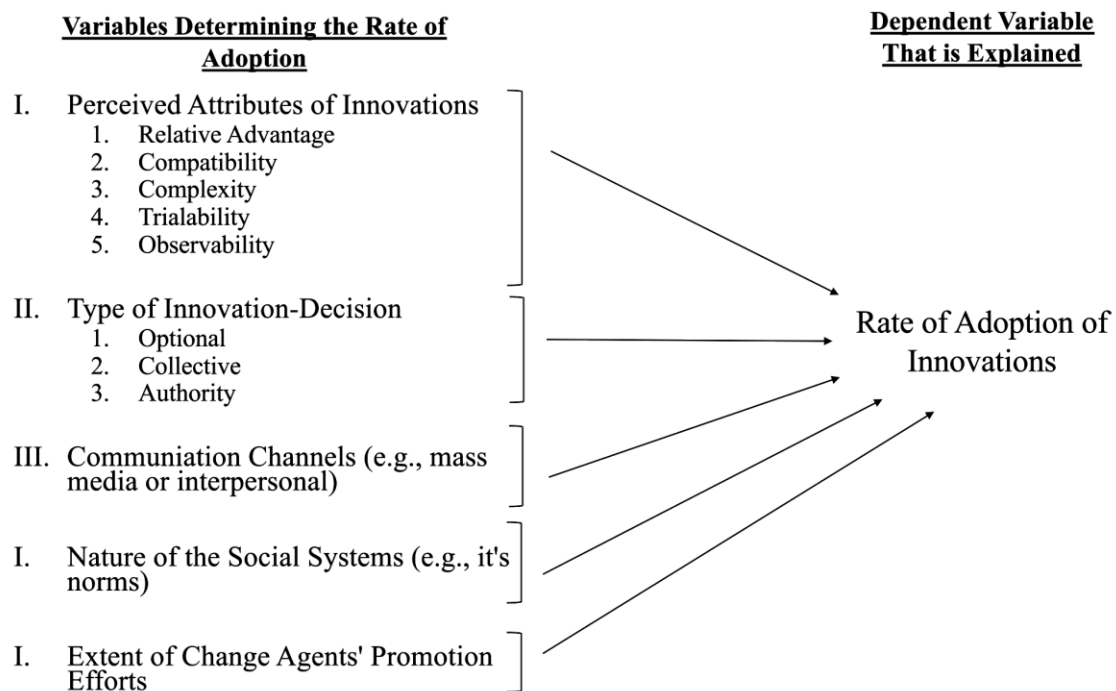


Figure 17: Variables Determining the Rate of Adoption of Innovations. Source: Rogers, E. (2003) *Diffusion of Innovations*, 5th Ed, Fig 6-1, Free Press, p.222

Rogers (2003) also considered technology clusters. He highlighted that innovations could be perceived “as an interrelated bundle of new ideas” (p. 249) which was relevant to analysing digital marketing technologies, which are to some extent a technology cluster.

The other important element to highlight is the Confirmation stage in this theory. Implementing a technology is not necessarily the end stage and a decision can be reversed. Rogers explores a few elements of the Confirmation stage:

- discontinuance which is “a decision to reject an innovation after having previously adopted it” (Rogers 2003, p.190).
- dissonance an “uncomfortable state of mind that an individual seeks to reduce or eliminate” (Rogers 2003, p.189). This could be by rejecting or discontinuing an adoption decision. It can be challenging to change a previously made adoption decision, so individuals may seek “only information that they expect will support or confirm a decision already made” (Rogers 2003, p.190).

Much research has been done on DOI. Mustonen-Ollila and Lyytinen (2003, p.293) argues that the most important factors to influence adoption are “user need recognition,

technological infrastructure, past technological experience, own trials, autonomous work, ease of use, learning by doing and standards”.

3.6 Summary

There are many technology adoptions models available, including Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), the Technology, Organisation and Environment (TOE) framework and Diffusion of Innovations (DOI). After studying the merits of each, DOI was selected for a number of reasons:

- DOI is important where organisational characteristics are relevant, which was the case here with SMEs.
- DOI and TAM have some similarities such as complexity (DOI) and ease of use (TAM), and relative advantage (DOI) and perceived usefulness (TAM) (Taherdoost 2018). DOI though looks at innovation from “many perspectives. The extensive research includes innovation-development process, innovation-decision process, attributes of innovations and their rate of adoption, different adopter categories” (Aizstrauta *et al.* 2015, p.73). This end-to-end framework takes the technology adoption journey from prior conditions to the Confirmation or post adoption stage of that technology, which was particularly relevant for this research as the impact of technologies used was also assessed from a Consumer standpoint.
- Concepts from other models are comprehended to some extent within DOI. For example, TAM’s PEU and PU could be applied to this research via DOI’s attributes of complexity and relative advantage respectively. Research like Lee *et al.* (2011) highlighted how TAM and DOI complemented each other with their findings that included how complexity negatively impacted PEU and how relative advantage positively impacted PEU. It also found that the 5 DOI attributes of complexity, compatibility, observability, trialability and relative advantage affected the behavioural intent to use.
- Noting Oliveira and Martins (2011) findings on TOE, this research comprehended TOE’s environment element via DOI’s ‘social system’ view and ‘felt needs’ to address those areas that could influence technology adoption within the retail sector during COVID-19.

Chapter 4: Technology Evaluation

As previously highlighted, digital marketing is a form of direct marketing that connects buyers with sellers electronically through interactive technologies such as, emails, websites, social networks, online forum as well as newsgroups, interactive television, mobile communications etc. (Kotler *et al.*, 2009). This chapter provides a brief overview of the main technologies being used by SMEs.

4.1 Facebook

Facebook (<https://www.facebook.com/>) is a social media platform. It was originally designed to connect students at Harvard (McFadden 2020). Its mission is “giving people the power to build community and bring the world closer together” (Meta.com n.d.). According to Facebook (n.d.a), it supports small business by helping them to find consumers and to grow their business.

Ainin *et al.* (2015) investigated the factors that influenced SMEs using Facebook and found that it positively impacted financial performance, reduction in costs for marketing and customer service, improved customer relations and improved access to information. It was noted that relative advantage was a significant factor in Facebook adoption by SMEs (Abdullahi *et al.* 2022). Ainin also suggested that interactivity (specifically the interaction between the user and the technology), compatibility (in relation to the adopter’s existing values, previous practices and current needs) and cost effectiveness (in relation to the cost of adopting the technology) were related to Facebook adoption. However, Lin and Kim (2016) applied TAM to understand privacy and intrusiveness concerns of Consumers on PU and found that they negatively impact PU of Facebook and “consumer intent to purchase products advertised on a Facebook page is relatively low” (Lin and Kim 2016, p. 715).

Facebook has a number of ad types (Facebook.com n.d.b):

- Images
- Video
- Carousel: which showcase up to 10 images or videos in a single ad.

- Instant Experience: is a full-screen experience when someone clicks on your ad on a mobile device.
- Collection: features multiple products and opens as an Instant Experience when someone clicks on it.

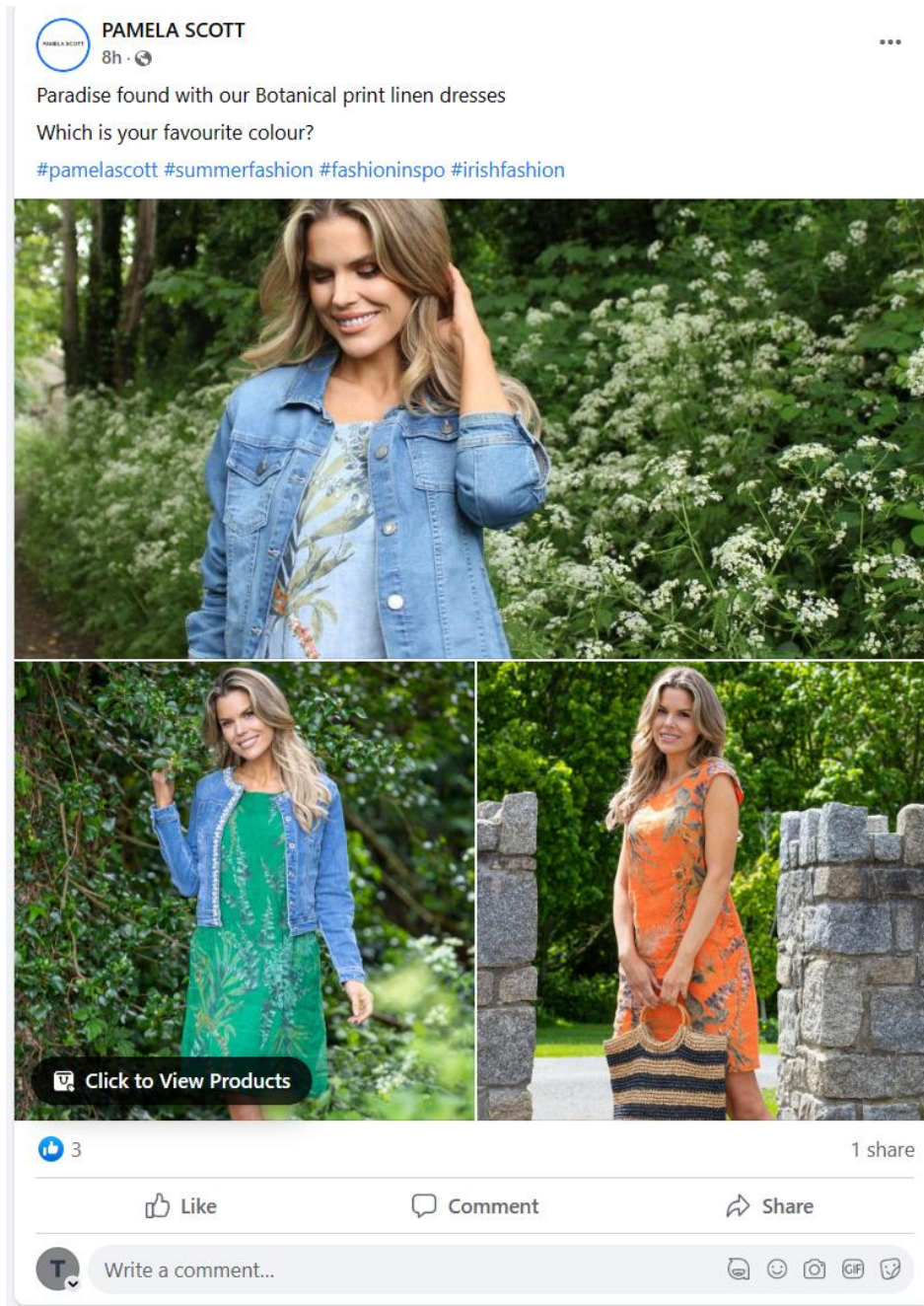


Figure 18: Sample Facebook ad available:

<https://www.facebook.com/pamelascottirl/posts/pfbid02F8fWz4s5zPf4e9ASG6bvkdC3U2Fu3XpcxJpa4sSkw64NeUW949M68NShgkiEBGMI> (Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit))[accessed 19 May 2023]

From a user standpoint, Facebook is the most used social platform with 2.958 billion monthly active users (MAU) (Facebook.com n.d.c).

4.2 Instagram

Instagram (<https://www.instagram.com/>) is a photo and video sharing social media platform. It was originally designed as a photo sharing app in 2010 (Blystonen 2022). Given that both Facebook and Instagram are owned by Meta, their mission is the same. According to Instagram, “people use Instagram to shop, and 44% of surveyed users do so on a weekly basis” (Instagram.com n.d.a). It has an Ads Manager that is an all-in-one tool for creating ads and managing them across Facebook, Instagram, Messenger or Audience Network.

Instagram has the following ad types (Instagram.com n.d.b):

- Image ads.
- Sponsored ads allowing brands to promote their brands.
- Video ads: typically 30-60 seconds long (Sherley 2021)
- Carousel ads: these allows businesses to show 2 or more images and/or videos in a single ad.
- Instagram Stories: short format, vertical images and videos that disappear after 24 hours.
- Reels: full-screen, vertical videos that can be up to 90 seconds long (Hootsuite.com, 2022).
- Instagram Shop: a set of features that allow people to shop at the time of discovery (Instagram n.d.c).

Instagram is estimated to have 1 billion MAUs (Dean 2022).



Figure 19: Sample Instagram promotion available:

<https://www.instagram.com/p/CsG3ssjIcjs/> (Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit)) [accessed 19 May 2023]

Facebook purchased Instagram in 2012. Facebook Inc. changed the name of its company to Meta Platforms Inc. in October 2021.

4.3 Pinterest

According to Pinterest.com (n.d.a), Pinterest (<https://www.pinterest.ie/>) is a “visual inspiration platform people around the world use to shop products personalized to their taste, find ideas to do offline and discover the most inspiring creators”. Pinterest’s mission is “is to give everyone the inspiration to create a life they love” (Pinterest.com n.d.a). Users of Pinterest (or Pinners) find an image, video or product they like, and they are able to pin it to their board.

Pinterest has the following ad types (Search Engine Journal n.d.):

- Static ads.
- Video ads.
- App Install Ads: allow users to download an app without leaving Pinterest.
- Carousel ads: this features multiple images for users to swipe through.
- Shopping ads: these ads enable shopping through Pinterest.
- Collection ads: these ads have one main “lifestyle” with 3 smaller product images below it.

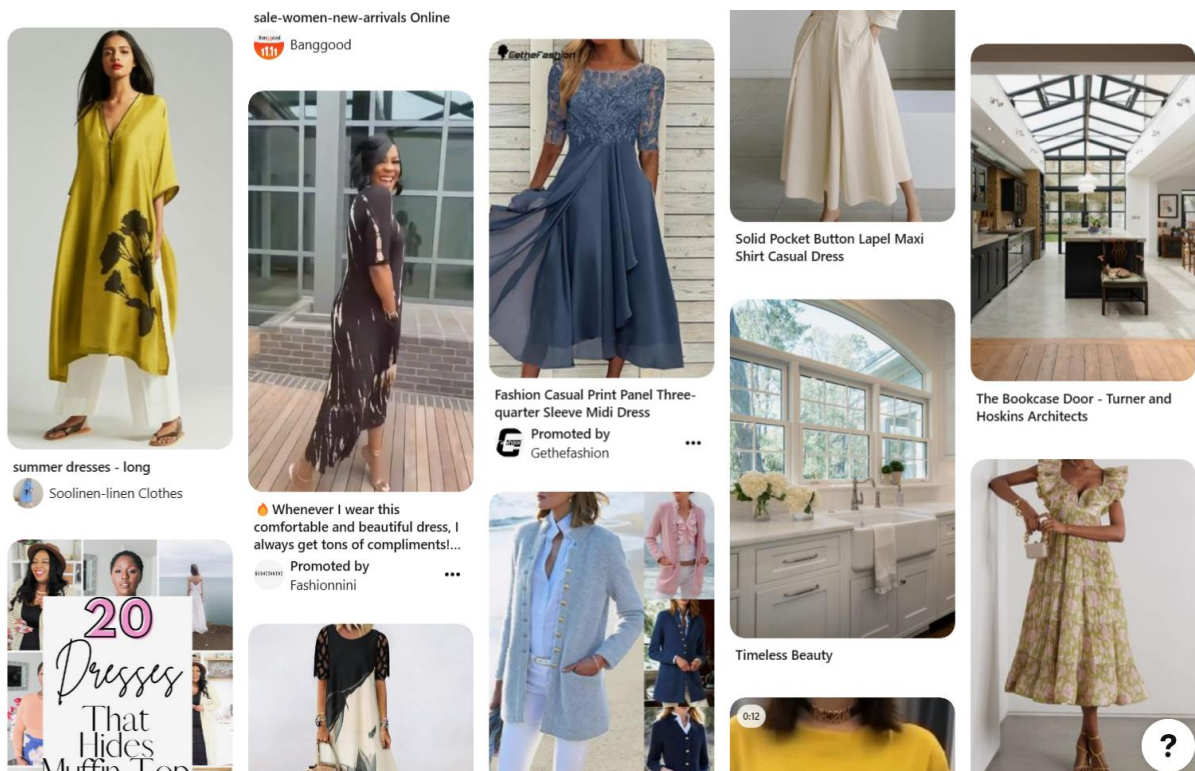


Figure 20: Sample Pinterest ad available: <https://www.pinterest.ie/homefeed/> (Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit)) [accessed 19 May 2023]

From a user perspective, Pinterest has reached 450 million MAU (Pinterest.com n.d.b).

4.4 TikTok

TikTok (<https://www.tiktok.com/>) is a video sharing app that allows users to create and share short videos. Its mission is “to inspire creativity and bring joy” (TikTok.com n.d.a). It sees itself as the platform where brands can be seen and grow.

For businesses, it offers the TikTok Ads Manager to manage your ads. There are a number of ad types to choose from (Forbes 2020, Statusphere 2022):

- TopView: the ad users see when they first open the app. These are 60 seconds long. Advertisers can include a call-to-action button with the ad.
- In-feed ads: ads that pop up in between user content. They can be up to 60 seconds long – although 9 to 15 seconds is recommended.
- Brand Takeovers: allows brands to take over TikTok for the day and create images, gifs and videos that link to webpages or promote hashtag challenges. These videos are using 3 to 5 seconds long.
- Branded Hashtag Challenge ads: the ability to promote a branded hashtag and are featured at the top of TikTok’s Discover page.
- Branded Effects: allows brands to create sharable stickers, filters and special effects.
- Spark Ads: allow brands to promote existing TikTok content and user videos.

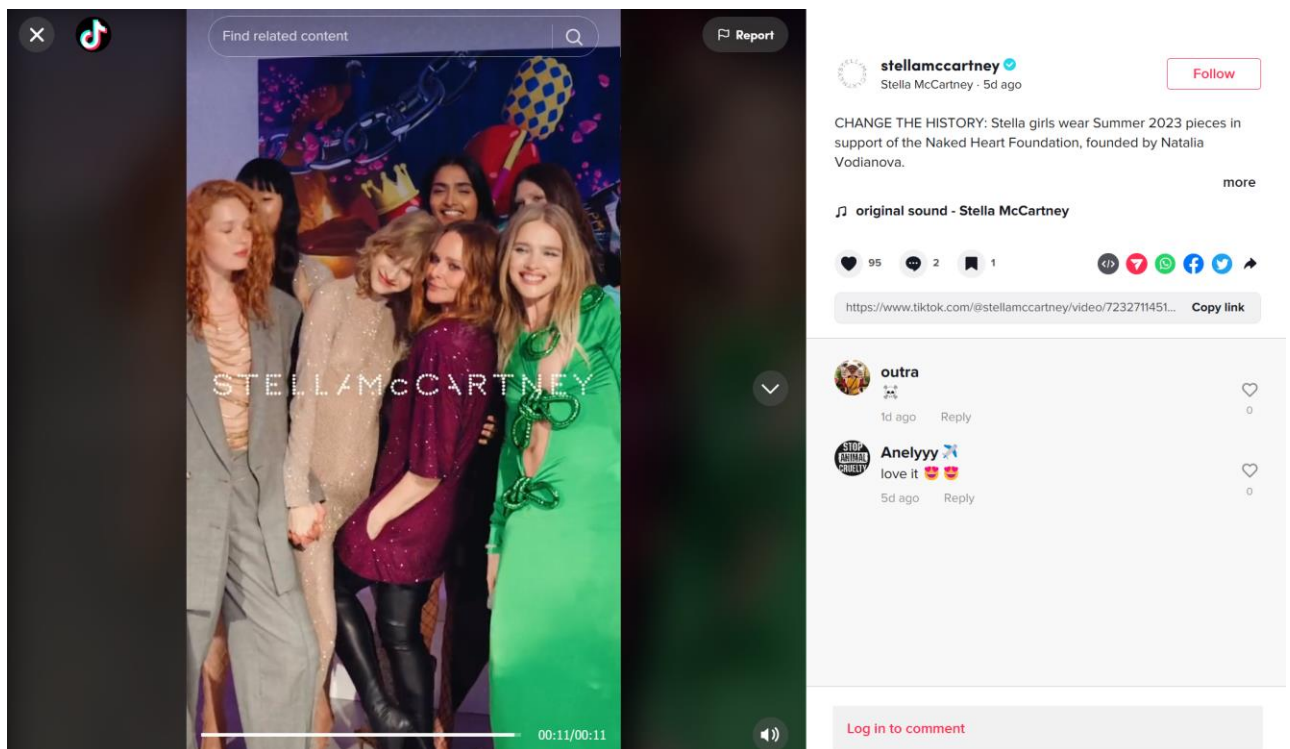


Figure 21: Sample TikTok promotion available:

<https://www.tiktok.com/@stellamccartney/video/7232711451297811739> (Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit)) [accessed 19 May 2023]

TikTok is believed to have 1 billion active users every month (Yaquub 2023).

4.5 Twitter

Twitter (<https://twitter.com/>) is a social networking site where people communicate with short messages called tweets. Its mission statement is “to give everyone the power to create and share ideas and information instantly without barriers” (Twitter.com n.d.a).

Twitter.com highlights a number of different ad types:

- Image ads.
- Video ads.
- Carousel ads: the option to include up to 6 horizontally swipeable images or videos.
- Moment ads: the ability to promote a collection of Tweets to tell a story that goes beyond 280 characters.
- Text ads: similar to a standard Tweet, these native Text ads feel similar to Twitter content.

There are a set of features that can be applied to these ad types like polls, conversation buttons, branded hashtags etc. (Twitter.com n.d.a).

According to Twitter (n.d.), businesses should use Twitter to build brand awareness, drive online and offline sales and to grow followers (Hashem n.d.). There are an estimated 436 MAU on Twitter (Search Logistics n.d.).

Top Latest People Photos Videos

Promoted



MiddletonMaven @MiddletonMa... · 12h ...

The Princess of Wales wears the @suzannahfashion wiggle dress in emerald. A favorite style! suzannah.com/products/flipp... #KateMiddleton



13 118 1,334 22.2

Figure 22: Sample Twitter promotion available:

https://twitter.com/middletonmaven/status/1659156932978958336?s=48&t=KjL7_IXbxwawLORav5_L5g (Microsoft Edge iPhone 8) [accessed 19 May 2023]

4.6 Email Marketing

Email marketing is “a direct marketing channel that lets businesses share new products, sales, and updates with consumers on their contact list” (Sendinblue, 2023). There are a number of

types of email marketing, including welcome emails, promotional emails, cart abandonment emails and re-engagement mails (WebFX, n.d.).

In research completed by Databox, about 45% of respondents send emails to Consumers on a weekly basis (Štefanović 2022). Research has shown that the subject line and images support more effective email marketing (Rettie, 2002).

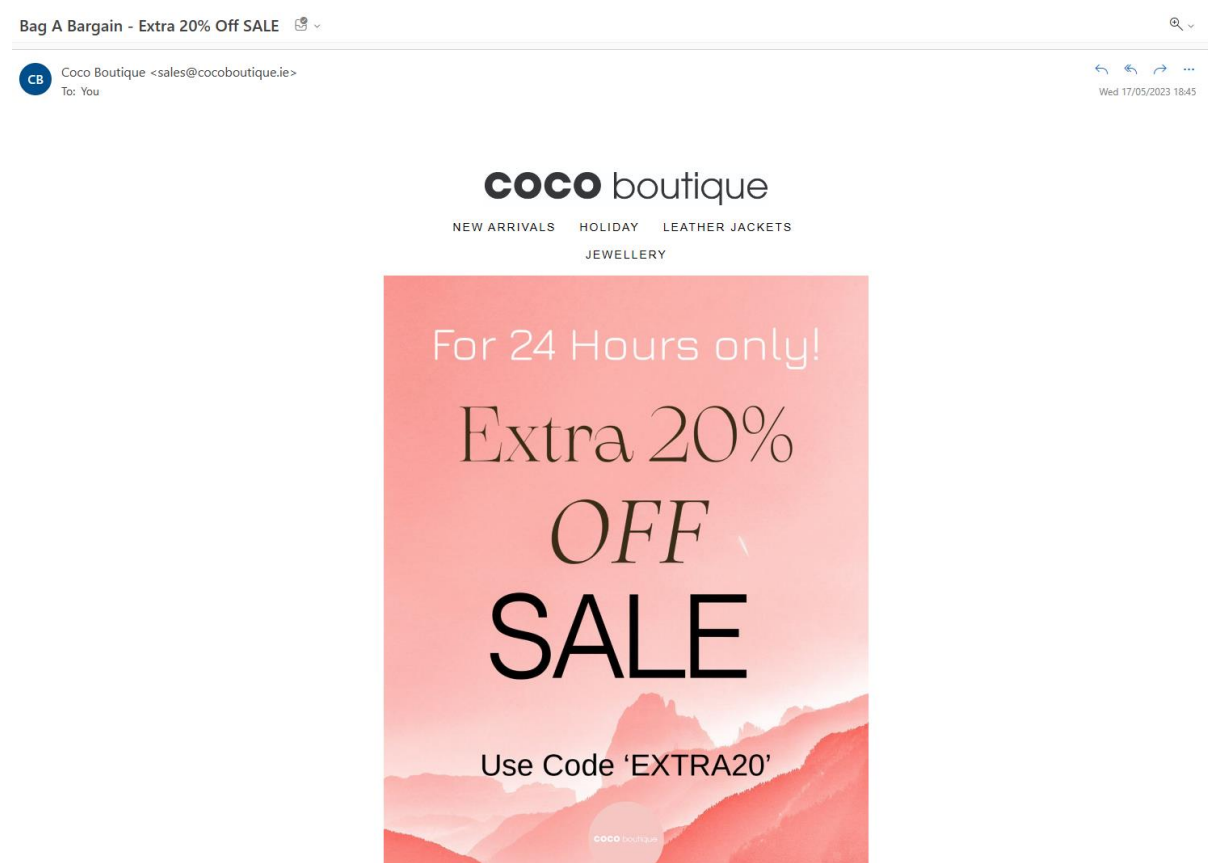


Figure 23: Sample Email Marketing ad [received 17 May 2023]

4.7 Search Engine Marketing

As previously mentioned, Search Engine Marketing (SEM) comprises of Search Engine Optimisation (SEO) and Pay Per Click (PPC) or Search Advertising. SEM or Search Marketing is the process of gaining visibility on the SERP through both paid and unpaid efforts (Goodwin, n.d.). Research has shown that the higher a link is on the results page, the better the clickthrough on that link (Drèze and Zufryden 2004) which means it may be worthwhile to engage in PPC.

There are many different ad types:

- Text ads.
- Image ads.
- Video ads.
- Responsive search ads which allow multiple headlines and descriptions to be tested to find the best option by showing more relevant ads to your customers.
- Shopping ads: which use a company's product data to show ads. They are managed in Google ads or Bing ads. They show an image of the product, the retailer and price (example in Figure 24).

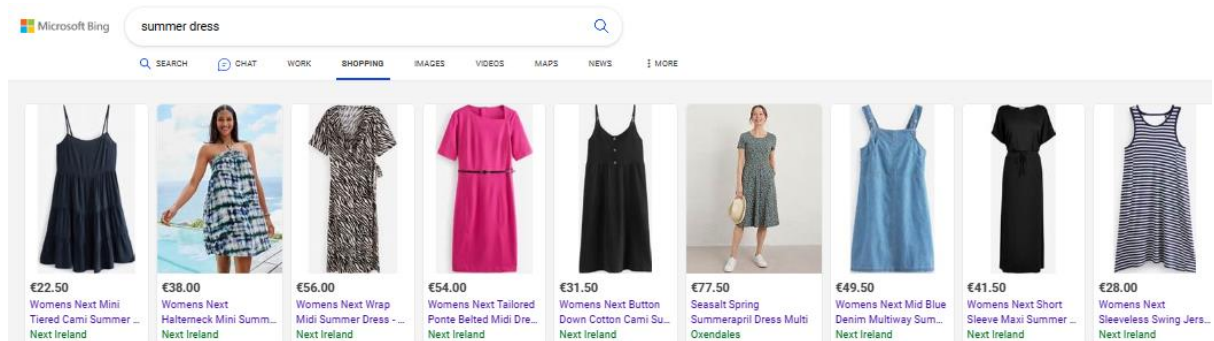


Figure 24: Search engine retail shopping example available:

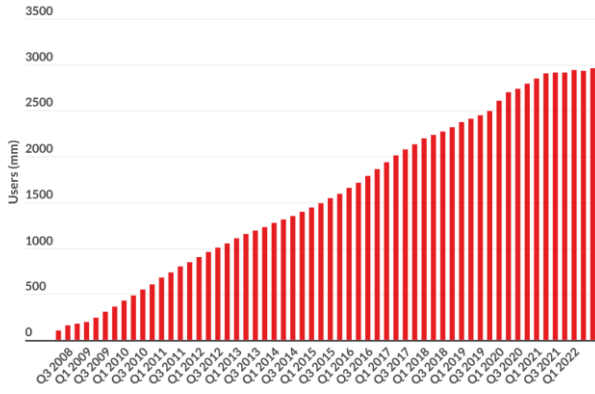
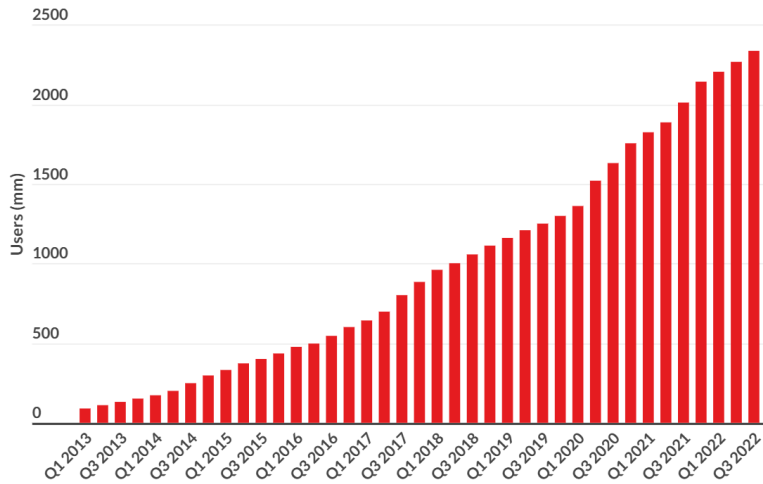
<https://www.bing.com/shop?q=summer+dress&FORM=SHOPTB> ((Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit)) [accessed 19 May 2023])

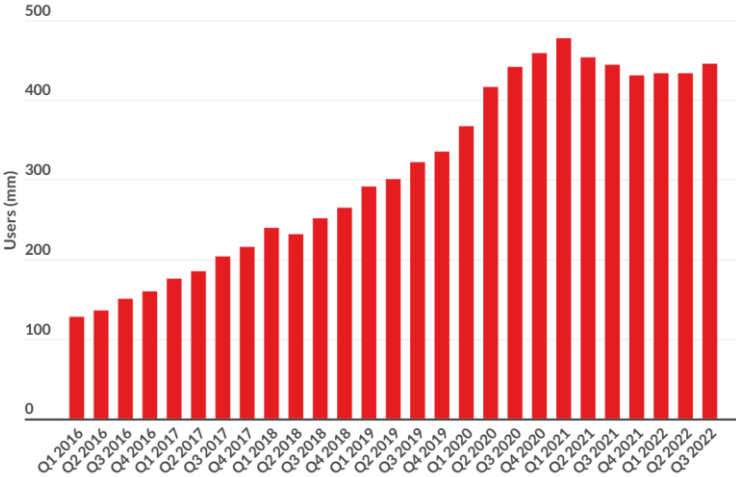
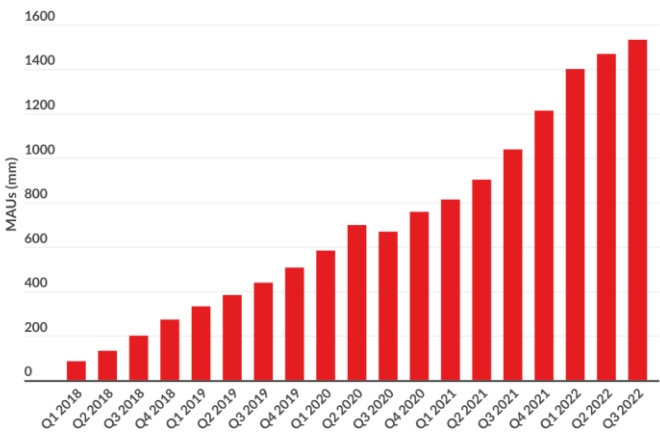
- App promotion ads which drive app downloads.

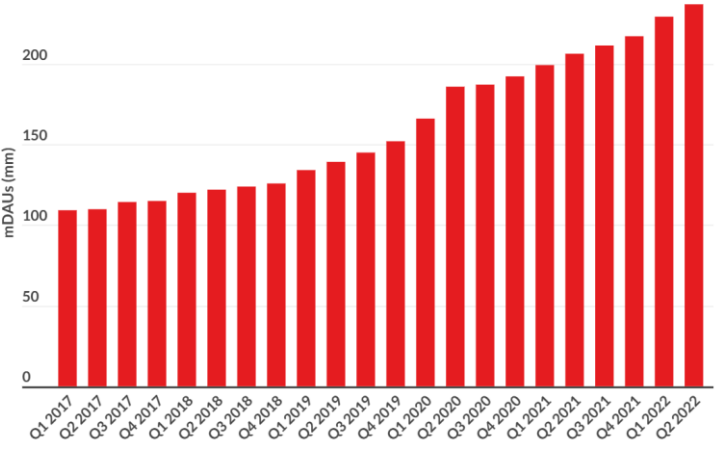
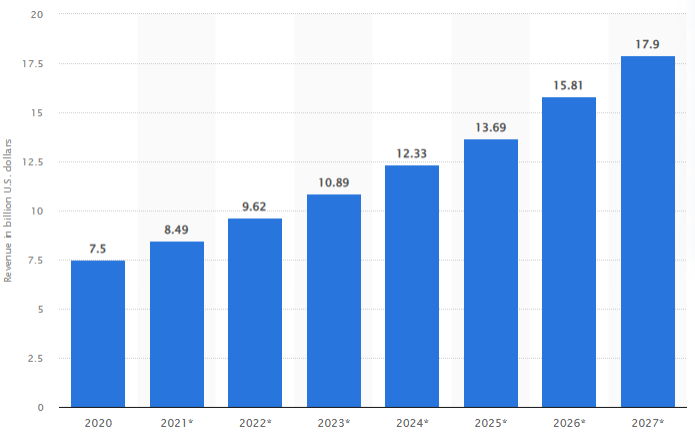
4.8 Digital Marketing Technologies Growth

Pulling together data on some of the key digital marketing technologies available to SMEs, Table 1 provides an overview of the growth in terms of user numbers where data was available.

Table 1: Digital Marketing innovations and user growth

Innovation	Founded	User Growth
Facebook	2004	<p data-bbox="710 421 1026 443">Facebook quarterly MAUs 2008 to 2022 (mm)</p>  <p data-bbox="587 862 1444 1064">Source: Iqbal, M. (2023a) <i>Facebook Revenue and Usage Statistics (2023)</i>, Business of Apps, available: https://www.businessofapps.com/data/facebook-statistics/ [accessed 31 Mar 2023]</p>
Instagram	2010	<p data-bbox="646 1137 1002 1160">Instagram quarterly users 2013 to 2022</p>  <p data-bbox="657 1702 1401 1899">Source: Iqbal, M. (2023b) <i>Instagram Revenue and Usage Statistics (2023)</i>, Business of Apps, available: https://www.businessofapps.com/data/instagram-statistics/ [accessed 31 Mar 2023]</p>

Pinterest	2010	<p>Pinterest quarterly users 2014 to 2022 (mm)</p>  <p>Source: Iqbal, M. (2023c) <i>Pinterest Revenue and Usage Statistics (2023)</i>, Business of Apps, available: https://www.businessofapps.com/data/pinterest-statistics/ [accessed 31 Mar 2023]</p>
TikTok	2016 (China), 2017 (International)	<p>TikTok quarterly users 2018 to 2022 (mm)</p>  <p>Source: Iqbal, M. (2023d) <i>TikTok Revenue and Usage Statistics (2023)</i>, Business of Apps, available: https://www.businessofapps.com/data/tik-tok-statistics/ [accessed 31 Mar 2023]</p>

Twitter	2006	<p>Twitter quarterly users 2017 to 2022 (mm)</p>  <p>Source: Iqbal, M. (2023e) <i>Twitter Revenue and Usage Statistics (2023)</i>, Business of Apps, available: https://www.businessofapps.com/data/twitter-statistics/ [accessed 31 Mar 2023]</p>
Email Marketing	1978	 <p>Source: Statista.com (n.d.a) <i>Email marketing market size 2027</i>, Statista, available: https://www.statista.com/statistics/812060/email-marketing-revenue-worldwide/ [accessed 31 Mar 2023]*</p>

*Note: usage numbers weren't available, but growth in revenue can be seen as indicative of user growth during this period.

Part 2: Methodological Approach

Chapter 5: Methodology and Mixed Methods Research Design

5.1 Introduction

This research intends to understand how SMEs currently use SEM and SMM to attract and retain users on their platform, specifically in the fashion retail space, and what criteria are applied in accepting their chosen technology. Key to this was understanding the technology adoption models available and what technologies were currently being used by SMEs.

According to Walliman (2018, p. 32), there are 4 main questions that underpin any research undertaking:

- What are you going to do? Defining the subject of the research.
- Why are you going to do it? The reason behind the research.
- How are you going to do it? The research methods to be used.
- When are you going to do it? The timeframe for work to be carried out.

5.2 Overview and Overall Study Design

This research used a mixed methods approach. There are many definitions of mixed methods research (Creswell, 2012). Walliman (2018, p.168) highlighted Johnson, Onwuegbuzie and Turner's (2007) efforts in bringing together 19 different definitions of mixed methods research by leading researchers in this space. For the purposes of this research, mixed methods is defined as "research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry" (Tashakkori and Creswell 2007, p. 4).

Research was initially conducted based on secondary data such as published journals, books, e-blogs and research articles to understand the key digital marketing technologies available for SMEs, inhibitors that SMEs may have on technology adoption and the various adoption

models available that could be applicable to this research. An initial keyword list was drawn up that included: ‘social media advertising’, ‘digital advertising’, ‘search advertising’, ‘fashion retail industry digital marketing’, ‘SMEs technology adoption’, ‘technology adoption models’, ‘human computer interaction’. This list was further refined to focus on key adoption models available and their applicability to this research – ‘Diffusion of Innovations’, ‘Technology Acceptance Model’, ‘Technology Organisation Environment’, ‘Unified Theory of Acceptance and Use of Technology’.

Based on this initial research, it was important to understand SMEs and how they operated during COVID-19. With this, a number of retailers (that sold both male and female clothing) were identified, and a request was sent for interview. 7 SMEs agreed to participate in this research. Interviews were conducted that lasted up to an hour in some cases depending on the SME’s availability and willingness to share.

Upon analysis of the interview findings, a questionnaire was created to validate the research on digital marketing technology adoption with a larger group of SMEs. Venkatesh and Davis (1996) evaluated perceived ease of use antecedents and suggested that improving computer efficacy might be more beneficial than improving the product UI. As part of this study, understanding the business user’s starting point would be important to properly evaluate the selection and usage of the platforms they used to promote their business. A question on the SME’s knowledge was included to capture this.

It was also important to understand the consumers’ (or the intended target of the digital marketing technology effort) perspective. A further questionnaire was initiated to capture this insight.

Integration was particularly important in this work given that technology adoption was viewed both from the perspective of the SME and also the consumers that those SMEs were trying to attract. Studying the adoption of technology from 2 different perspectives, that of the SME and the end user/customer, also enabled this research to gain a more complete picture and introduced triangulation (O’Cathain *et al.* 2010).

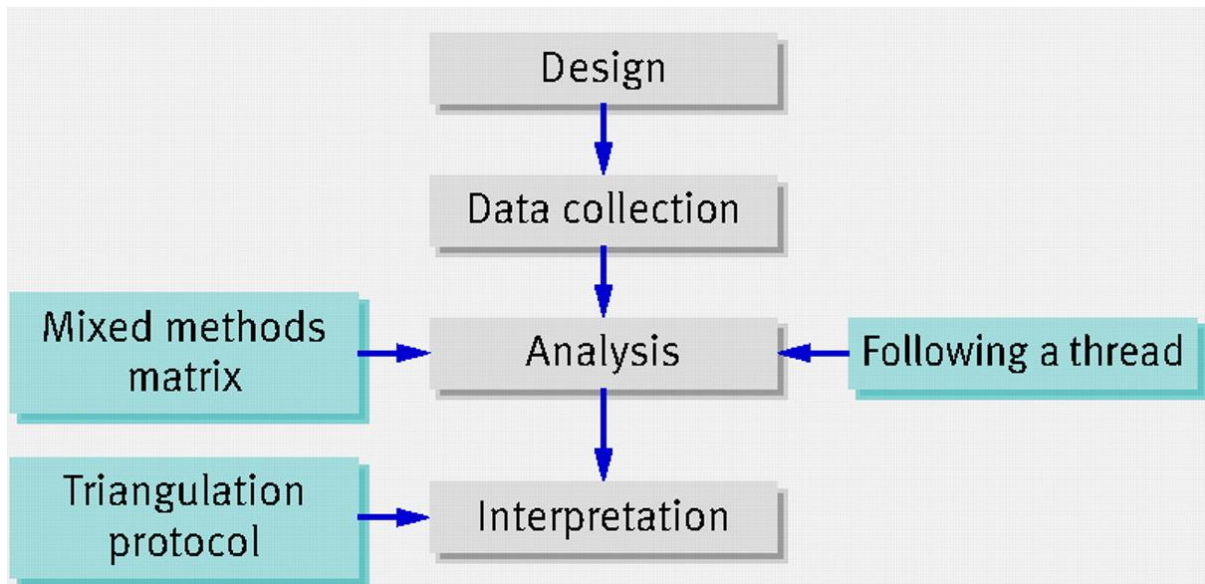


Figure 25: Point of application for three techniques for integrating data in mixed methods research Source: O’Cathain et al. (2010) ‘Three techniques for integrating data in mixed methods studies’, *Bmj*, 341

The process of triangulating findings took place at the interpretation stage of this research when both data sets were analysed separately per Figure 25 (O’Cathain *et al.* 2010).

After reviewing the technology adoption models available, DOI was deemed most relevant and applied to the research. The usage of these technologies was also overlaid with the customer decision making journey (CDJ) for fashion retail to understand the SMEs’ perception of these technologies in the customer journey. This was valuable in understanding the impact and role that each technology was playing in helping SMEs reach their audience at the right time.

5.3 Outline of the Research Design

This section describes the overall design approach to address the research questions identified:

- What digital marketing technologies have fashion retail SMEs adopted?
- What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre- and post-COVID-19?
- How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?

Figure 26 provides an outline of the process undertaken.

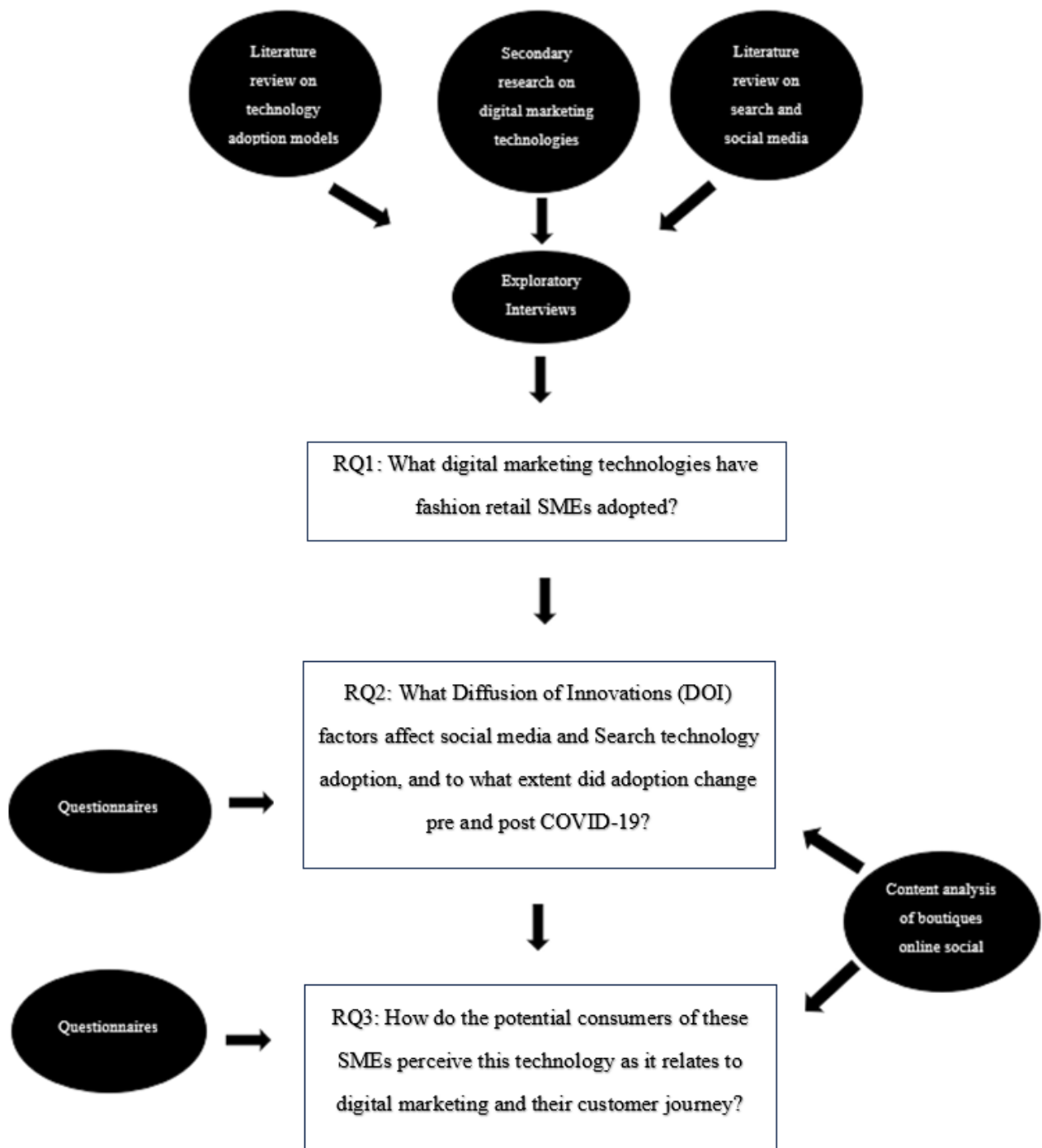


Figure 26: Outline of the Research Design and Data collection methods in relation to the research questions

Chapter 6: Data Collection

6.1 Introduction

This chapter covers the data collection process. Data for this study comes from interviews among Ireland-based fashion retail SMEs (n=7), a survey of SMEs (n=20), analysis of 105 retail clients' websites in Ireland and a survey of consumers (n=338).

An important part of data collection is setting “the boundaries for the study” (Creswell 2002, p. 185). This includes defining the “actors” (those who will be participate in the interviews and surveys) and the “process” (how the interviews and questionnaires will be carried out) (Creswell 2002, p. 185).

Another important element at this stage is the application of the ethics process to the data collection effort. The Research Ethics Committee at the University of Limerick was consulted for approval for the interviews and questionnaires as they involved interacting with humans (University of Limerick n.d.). A number of documents were included in the submissions:

- separate Participant Information Sheets and Consent forms for the interviews and both questionnaires.
- the questions for the interviews.
- the questions for the questionnaires as well as a link to the online surveys for both the SME and Consumer questionnaires.
- A Research Privacy notice was also prepared. This governs the use and storage of personal data by the University of Limerick.

Ensuring that there is no risk to participants is important and when “done properly, the consent process ensures that individuals are voluntarily participating in the research with full knowledge of relevant risks and benefits” (Smith 2003, p.4).

Appendix A contains the participant information sheet and consent form used for the interview part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

Appendix B contains the participant information sheet and consent form used for the SME questionnaire part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

Appendix C contains the participant information sheet and consent form used for the end user/customer part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

The Ethics approval application details are:

2021_07_01_S&E	Interviews
2022_03_05_S&E	SME Questionnaire
2022_06_08_S&E	Consumer Questionnaire

Data collected during the interviews was anonymised with each retailer being assigned a number (Retailer 1, Retailer 2, etc.) and all gender references removed with participants being denoted by ‘they’ or ‘their’ instead of ‘he’, ‘she’, ‘him’ or ‘her’ (Corti *et al.* 2000). There were no references to location in the findings. Anonymised findings were shared back with the participants, so that they had the opportunity to request any changes or withdraw any information previously shared.

During both the interviews and in the online questionnaire, participants were informed that they had the right to withdraw at any time (Alshenqeeti 2014).

6.2 Interviews

Semi-structured one on one interviews were conducted with a set of SMEs to develop some initial insights, including what digital marketing technologies were being predominately used by fashion retailers and their actual experiences and usage of those technologies. This interview type was chosen as it's "versatile and flexible" (Kallio 2016, p.2955) as it "allows for the discovery or elaboration of information that is important to participants but may not have previously been thought of as pertinent by the research team." (Gill *et al.* 2008, p.291)

Interviews were conducted over Microsoft Teams, or phone in some cases due to requests by SMEs. They took place from August 2021 to January 2022.

Kallio *et al.* (2016) details a 5-step process for effective semi-structured interviews:

- Identify the pre-requisites for using semi-structured interviews.
- Retrieving and using previous knowledge.
- Formulating the preliminary semi-structured interview guide (i.e. list of questions).
- Pilot testing of the interview guide.
- Presenting the complete semi-structured interview guide.

This process proved valuable in being clear on the purpose of the interview. The importance of having a base of knowledge is emphasised (Kallio *et al.*, 2016). For this research, understanding the technology adoption concepts helped to prepare the question list in a way that supported data collection and prepare for subsequent data collection through questionnaires.

Preparation for the interview process was particularly important (Turner 2010). It can "help make or break the process" according to Turner (2010, p. 757). This involved understanding the SME's current digital marketing usage, in as far as was practical, in advance to ensure questions could be prepared with that in mind and that the limited time of the interview would be used effectively.

The sequence of questions was also important to plan (McNamara 2022) – understanding the SME’s perspective on the business first and then asking questions about technology usage at present, before asking about pre-Covid technology usage.

Recruitment and inclusion criteria

Using the definition of an SME, an analysis of Irish based SMEs in the retail sector focused on fashion (specifically Apparel and Accessories) in one area of Dublin was completed to limit bias. According to Miller (2016, Key Terms in this Chapter, para. 2) fashion retail is “a consumer goods market focused particularly on clothing, footwear and accessories, which is characterised by short lifecycles, intensive competition and fickle consumers”. A number of fashion retail stores were identified. Through analysis of the area via Google Maps Street view (and validated by walking the area to ensure no retail store was missing), a list of stores was drawn up. This list was categorised by vertical, and then categorised by ‘brick and mortar and online’ and ‘brick and mortar only’ by searching for their presence online. A search for online only fashion and accessories stores on Google and Bing was also completed using the following search terms on each of these ‘<area name> Ladies Fashion’, ‘<area name> Gents fashion’, ‘<area name> kids’ fashion’. The final list was 17 eligible stores in the area that were contacted by email. There was a low response rate to the initial request for interview with 2 agreeing to participate from this list. The search was expanded to include fashion retailers anywhere in Ireland and an additional 20 requests were sent to a broad range of retailers covering men’s and women’s fashion that were found online, advertising on the radio/tv or that a store presence. 5 additional SMEs agreed to be interviewed. All were contacted, per the ethics application request form, through publicly available channels such as online contact forms, e-mails or their social media accounts.

7 SMEs in total, out of the 37 contacted, in the retail sector of fashion agreed to take part in the interview process. Respondents received the participation information sheet per Appendix A. Table 2 provides an overview of the participant profile involved in the interview process.

Table 2: Interview participant profile of SME Retailers

Retailer	Title of interview participants	Size of SME	Interview duration
1	Owner	1-3 people	20 mins
2	Digital Marketing Manager	4-10 people	65 mins
3	Joint Managing Director and Owner	51 people and over	85 mins
4	Co-Owner	4-10 people	40 mins
5	Marketing Manager	21-50 people	60 mins
6	Co-Owner	1-3 people	45 mins
7	eCommerce Manager	21-50	90 mins

Interview Data Gathering

Participants were sent individual meeting appointments set for 30 mins each. They were asked to complete an online consent form in advance to meet the requirements of the Ethics Committee at the Faculty of Science and Engineering at the University of Limerick. During the interview process, some interviews went over the 30-minute allocated time. However, the participants were proactively asked if they wished to continue and were offered the opportunity to stop if they wished at any point.

Structure of the Interviews

In preparing for the interview, a core set of questions were developed to ensure consistency across interviews. Utilising technology models adoption knowledge, questions for the SME interviews were designed with those models in consideration. There was a focus on not leading the conversation and removing bias as much as possible from the questions:

- Can you tell me about your business and your target audience (seek to understand demographics, age profile)?
- Could you share how you operated your business pre-Covid? (seek to understand whether the SME is operating online, in store etc.)

- Can you share what platforms you use to promote your business? Has this changed from before Covid to now?
- Why did you choose those platforms? (If more than one came up in the discussion, this question was asked in relation to each one).
- How do you measure the impact of those platforms?
- What is the profile of your competitors and what platforms are they using? (Note: this question was looking at the profile of competitors – online vs brick/mortar vs both, local vs nationwide vs outside of Ireland, size of competitor etc. – this was made clear to the person participating in the interview).
- How do you manage these platforms (do you do it yourself or outsource)? If yourself, how did you learn the technology?
- Have you required support for this technology? If so, how did you get that support?
- Do you prefer one platform over another? If so, why?

Interview Technology and transcription

Microsoft Teams was intended to be used for all of the interviews. Some participants requested a direct call on their mobile due to comfort level with technology, which meant it wasn't possible to record the call. In these instances, rigorous notes were taken during the interview.

After the interviews were completed, notes were written up and where recordings were possible, transcriptions were used from Microsoft Teams to review the data collected. A summary of the main points captured were sent back to the participants to ensure they were satisfied that their viewpoints were accurately represented and where clarifications were needed, participants were asked to further comment.

Interview Analysis

The data was organised into themes and each retailer was anonymised as Retailer 1, Retailer 2 etc. in the findings. To do this, codes were defined. These are “tags or labels for assigning units of meaning to the describing or inferential information compiled during a study” (Miles *et al.*, cited in DeCuir-Gunby (2011)).

Coding was important to support the development of themes from the interview process.

Coding reduces the amount of raw data to that which is relevant to the research question, breaks the data down to manageable sections, and takes researchers through the transformation of raw data to higher-level insights or abstractions as the development of theme.

(Vaismoradi *et al.* 2016, p.104)

6.3 Questionnaires

Two questionnaires were conducted as part of this research – an SME questionnaire and a Consumer questionnaire. These were conducted to understand digital marketing adoption from 2 perspectives – that of the SME and that of the Consumer/target audience of that SME. Participants were asked to agree to the ethical consent form to be able to participate in the questionnaire process to meet the requirements of the Ethics Committee at the Faculty of Science and Engineering at the University of Limerick.

Questionnaire Best Practices

There are a number of best practices that were taken into account when designing the questionnaires (Rowley 2014):

- Clarity on the objectives of the questionnaire (Gendall 1998).
- Writing the questions in the language of the respondent to ensure it was easy to understand.
- Ensuring that the questionnaire is as straightforward as possible to complete, for example being specific, asking one clear question at a time).
- Using open rather than closed questions for obtaining information on frequencies (Sudman and Bradburn 1982).
- Considering the order of questions to ensure they flow and make sense (Marshall 2005).
- Piloting the questionnaire before sending broadly.

Applying these best practices supported the development of each questionnaire.

Questionnaires were created in Microsoft Forms and promoted through:

- LinkedIn.
- Requests to people prominent within the fashion retail sector to share on their LinkedIn page (or other social media platforms they engage in)

- Requests on other social platforms like Instagram, Facebook, Twitter via student, supervisor and friends/colleagues.

SME questionnaire

The knowledge gained from the interview process, combined with research completed on digital marketing and technology adoption, was the basis of building out the SME questionnaire. This questionnaire was designed to understand what technologies were being used and what were the reasons for using them.

There were 4 elements to this questionnaire:

- The first section of the questionnaire was focused on ‘who’ was completing the questionnaire – were they an owner or employee of an SME, the size of the SME, age group of the respondent, country where the SME was located.
- The second part of the questionnaire looked at pre-Covid and post-Covid (now) usage of a defined set of digital marketing technologies – Facebook, Instagram, Pinterest, TikTok, Email Marketing and Search. These technologies were selected based on the interview findings. Respondents had the option of selecting the following usage options: ‘Personal Capacity only’, ‘Never (Not used at all)’, ‘Rarely (Monthly)’, ‘Sometimes (Weekly)’, ‘Often (Daily)’, ‘Always (Multiple updates a day)’ for the pre-Covid period and had the exact same options for selection for post-Covid (now). The additional context on what was meant by each option, which was included in parenthesis, was included to enable more consistent responses from a shared understanding of usage. When measuring changes over time in usage, as was the case here, it was important to ask the same questions with the same options to ensure consistency of measurement (Sudman and Bradburn 1982) between the pre-Covid and post-Covid period. Figure 27 provides a side-by-side view of both questions.

Pre-Covid Analysis

Prior to Covid, I'd like to understand how you managed your digital marketing efforts.

7. For each of the following, how would you describe your usage pre-Covid within the business you work in? *

	Never used (Not used at all)	Rarely (Monthly)	Sometimes (Weekly)	Often (Daily)	Always (Multiple updates a day)	Personal Capacity only
Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instagram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pinterest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TikTok	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Search - Google/Bing etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Post-Covid Analysis

Today, as restrictions start to lift and 2 years on from the start of the pandemic, I'd like to understand if/how things have changed for you in terms of how you manage your digital marketing efforts.

9. For each of the following, how would you describe your usage post-Covid/today of each of these platforms (from a business perspective)? *

	Never (Not used at all)	Rarely (Monthly)	Sometimes (Weekly)	Often (Daily)	Always (Multiple updates a day)	Personal Capacity only
Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instagram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pinterest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TikTok	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email Marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Search - Google/Bing etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 27: Side by side view of pre-Covid and post-Covid SME technology usage questions

- The third element was understanding the most useful and least used/not used at all technology from an SME standpoint and why. Given these questions were based on attitude to these technologies, previous research on attitudes in questionnaires was leveraged (Sudman and Bradburn 1982). Developing the list of reasons for technology selection was influenced by the work of Mustonen-Ollila and Lyytinen (2003) who has previously used DOI for a longitudinal study on ‘Why organizations adopt information system process innovations’.
 - Most useful technologies: SMEs were asked to select their most useful and next most useful technology (if applicable). The 5-point Likert scale was used to capture the data on why each of their specified options were selected. This is a scale that is used to measure opinions or attitudes to specific questions on a scale – in this questionnaire, options from strongly disagree to strongly agree were included in the relevant questions. Table 3 details the questions posed and Figure 28 provides a view of how these questions were presented.

Most useful to your business

13. As you think about your usage of your top ranked option in your business, to what extent would you agree/disagree with the following statements *

	Strongly Disagree	Disagree	Neither Agree/Nor Disagree	Agree	Strongly Agree
The technology was easy to set up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 28: Snippet from the SME questionnaire to highlight how the questions were presented

- Least used/not used technologies: For the least used/not used question, respondents were given the option to select all that applied from the list of digital marketing technologies in scope in this research. Respondents were then asked to provide more detail on one option that they specified. They were provided with a list of reasons for this particular selection and could select multiple responses for the option they chose. This was to ensure data consistency. An option of ‘other’ was also included to allow for any missing options on the list. Table 4 details the reasons that were provided as an option to SMEs for least used/not used technology.
- The fourth part was understanding the SME’s perspective on which digital marketing technology was most useful from a customer decision making journey perspective. Given that the interview respondents highlighted the need for different technologies for different stages of the CDJ, it was important to understand the technologies that were perceived as most useful for each stage of that journey.

To close, the SME was given the opportunity to add further thoughts or comments.

For the third element, the Diffusion of Innovations theory was applied to the questions on ‘most useful technology’ to enable the stages of the innovation-decision process to be reviewed from an SME standpoint (Table 3).

Table 3: Questionnaire setup and alignment with DOI on ‘most useful technology’

Stage of DOI	Applicability of stage to an SMEs	Relevant Question(s) for each stage
Prior Conditions	Felt needs/problem with store closures. Norms of the social system had been established by Early Adopters	I have to be on this platform as my competitors are. I feel I have to be on this platform as my customers expect me to be here.
Knowledge	Personality variables	Pre-Covid usage. I enjoy using this platform.
Persuasion	Complexity (the degree to which an innovation is perceived as relatively difficult to understand and use)	The technology was easy to set up. The platform is easy to use on a day-to-day basis. It is easy to engage with my customer through this platform. I enjoy using this platform.
	Compatibility (the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters)	The platform was easy to integrate with my existing technology, e.g. my website. This technology attracts the right customer for my business. I enjoy using this platform.
	Relative Advantage (the degree to which an innovation is perceived as being better than the idea it supersedes)	This technology attracts the right customer for my business. The platform is expensive to use (if you use an agency or a contractor, consider that as part of your cost for this). From an internal resource perspective, this platform requires a lot of time. It is easy to engage with my customer through this platform.

		This platform supports me growing my business by driving customers who spend to my site.
	Observability (the degree to which the results of an innovation are visible to others)	I have to be on this platform as my competitors are. I feel I have to be on this platform as my customers expect me to be here.
	Trialability (the degree to which an innovation may be experimented with on a limited basis)	Didn't address specifically in the SME questionnaire process given the lack of weighing of this factor in interviews.
Confirmation		I'm easily able to measure the return of my investment/efforts with this platform.

For least used/not used at all technology, the DOI theory was also applied to the questions per Table 4. Questions were modified for the least used/not used at all technology due to concerns on the length of time the questionnaire would take for completion and to support completion rates.

Table 4: *SME least used/not used technology questionnaire construct*

Stage of DOI	Applicability of stage to an SMEs	Relevant Reason
Prior Conditions	Felt needs	Lack of time. Lack of funds/budget.
Knowledge	Personality variables	Don't enjoy using it. Don't know this technology.
	Relative Advantage/ Observability	Competitors aren't using it.
	Relative Advantage	Customers/audience for my product/store aren't using it.

	Compatibility	Poor integration with my existing technology like my website.
	Trialability	No opportunity to trial it.
Confirmation		Difficult to measure the value/return on investment.
		Other – an opportunity to share more.

SME questionnaire recruitment and inclusion criteria

The SME questionnaire participants were recruited, per the ethics application form, via my own LinkedIn page and requests to connections to share on their LinkedIn page (or other platforms they engage in). I had requested the Head of Marketing & Digital Communications with Retail Excellence Ireland (<https://www.retailexcellence.ie/>), who represent the retail industry in Ireland with government and state agencies, to share through their channels to drive this request to a more targeted audience of SMEs working in retail. However, this organisation only shares its own survey/questionnaire work with their members.

Consumer questionnaire

The ‘Consumer’ questionnaire was designed to understand what technologies were being used by Consumers, those that these retailers were trying to target, when making purchase decisions and what were the reasons for using them. This questionnaire set out to triangulate the research and SME findings (from both the interviews and questionnaires) with Consumer behaviour.

There were 3 elements to this questionnaire:

- The first section of the questionnaire was focused on ‘getting to know the consumer’ that was completing the questionnaire – gender, age group, country of residence, status (employed, unemployed, retired, student, other), shopping behaviours (who they shopped for), shopping style (such as high-quality clothing, reasonably priced clothing), shopping behaviour in the past 12 months and reasons for shopping online.

- The second part of the questionnaire looked at pre-Covid and post-Covid (now) shopping and/or search/research behaviour with the following response options: ‘Never’, ‘Rarely (Yearly)’, ‘Sometimes (Monthly)’, ‘Often (Weekly)’, ‘Always (Daily)’. The additional context was included to enable more consistent responses from a shared understanding of usage. The exact same questions were asked for both timeframes to ensure consistency of measurement (Sudman and Bradburn 1982) and to aid in analysis of data. The respondents were also asked about their usage of the specified technology platforms (Facebook, Instagram, Pinterest, TikTok, Twitter, Receive Email Marketing, Search online – Google/Bing/Other) both pre-Covid and today.
- The third element was understanding their most preferred and least preferred/not used technology to use when purchasing online.
 - Most preferred technology: respondents were asked to provide their most preferred technology from the list provided. They were then asked to select how much they agreed/disagreed with a set of questions on that selected technology. The 5-point Likert scale was used to capture the data on their most preferred technology. In this questionnaire, options from strongly disagree to strongly agree were included in the relevant questions. The DOI theory was applied to understand the reasons for the selection of most preferred technology. Table 5 highlights the questions that were used in the questionnaire.
 - Least preferred/not used technology: respondents selected their least preferred technology. The Likert scale wasn’t used on the least preferred platform due to concerns on the time the questionnaire would take to complete. Respondents were given the option to select all that applied from a set of options provided to ensure data consistency. An option of ‘other’ was also included to allow for any missing options. Table 6 shows the questions utilised and these were created based on the DOI theory. Respondents were given the option to add any further comments or feedback on the platform they had selected.

To close the questionnaire, the respondents were given the opportunity to add further thoughts or comments on the usage of technology to purchase online and anything they felt was important to them as a Consumer.

Consumer questionnaire recruitment and inclusion criteria

The Consumer questionnaire participants were recruited, per the ethics application form, via my LinkedIn page, my supervisors’ LinkedIn pages, requests to people prominent within the fashion retail sector to share on their LinkedIn page (or other social media platforms they engage in). Requests for participation were also posted on other social platforms like Instagram, Facebook, Twitter via myself, my supervisor and friends/colleagues.

Table 5: *Consumer most preferred technology questionnaire construct*

Stage of DOI	Applicability to Consumers	Relevant Question(s)
Knowledge	Personality variables	I enjoy using this platform.
Persuasion	Complexity	I find the platform easy to use (finding products, filtering, navigation etc.).
	Complexity/Relative Advantage	It is easy to engage with the retailer on this platform.
	Relative Advantage	It's possible to see the reviews of other customers AND that is important to me.
	Relative Advantage	I buy more from a retailer who updates me using this platform multiple times a week.
	Relative Advantage	I can easily visualise what I'm purchasing.

Table 6: *Consumer least preferred technology questionnaire construct*

Stage of DOI	Applicability to Consumers	Relevant Reason
Knowledge	Personality variables	Don't enjoy using it Not familiar with this technology Concerned about how my data is stored
	Complexity	Difficult to navigate Purchasing direct from the platform is difficult
	Relative Advantage	Updated too much Updated too little
		Other

6.4 Content Analysis

An analysis of fashion retailer websites in Ireland was conducted across fashion retail stores in Ireland. Holsti (1969, p.14) described content analysis as "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (p. 14). Using this definition allows for the application of content analysis in other areas outside of the domain of textual analysis (Stemler 2001).

The process applied was:

- Retailer selection: retailers were selected from across Ireland and across male, female, children's clothing outlets. I also selected a mixture of retailers from a cost of product perspective with some retailers providing very expensive clothing items (like wedding dresses or high-end labels such as Tommy Hilfiger, Ralph Lauren etc). retailers with a medium price range and retailers that could be considered more reasonably priced retailers (like those that offered clothing items in the 75 euro range or less). Details of those analysed are in table The process for selection was:
 - A number of online searches were carried out to find a list of retailers. Searches included: 'fashion retail <county>', various brands of clothes like 'Dancing Leopard stockists Ireland', 'Sugarhill stockists Ireland', 'Kate and Pippa stockists Ireland stockists Ireland', 'Gant stockists Ireland', 'Tommy Hilfiger stockists Ireland', 'wedding dresses Ireland' etc.
 - Research was also done on top Irish fashion retailers in Ireland that appeared in print, on posters, on advertisements on the radio and in articles in magazines. One example, is a number of retailers were taken from the nominations page for Retail Excellence Ireland awards - <https://www.retailexcellence.ie/about/>
 - Searching for shops online on Google maps made up the final list of retailers. This was to ensure that there wasn't a bias on those that could more easily be found online which might skew the result of this analysis.

Table 7: *Category of retail stores for Content analysis*

Category of retail store	Definition of category	No. of retailers analysed
High end	Most items over €200	38
Mid priced	Most items between €75-€200	39
Reasonably priced	Many items available under €75	28

- Social media identification: For each retailer, their website was analysed to find their social media links and where none were highlighted on their website, a direct search was done on those social media platforms identified in this research to ensure they didn't exist.
- Understanding the usage of social media platforms: To be consistent with the SME questionnaire, the same set of categories were used to measure the usage of the digital marketing technology platforms. It was important to define the units of measurement for each category in a meaningful way to ensure the data collected would be systematic, consistent and replicable (Luo 2022, Stemler 2000). It was also important to set out the timeframe that the count would be completed for – so for Facebook, Instagram, TikTok and Twitter, a count was done on posts to those platforms in the previous 2 months. Where an SME had a technology that didn't appear to be used frequently, a count was done over a 6-month period. A 5-day working week was also assumed for the purposes of defining the measurements. The coding applied corresponds to average frequency, or how often, the selected SMEs posted in their social media profile and was applied as follows:
 - Doesn't exist: there doesn't appear to be a profile on that social media platform for the SME.
 - Never (Not used at all): there is a profile on that technology for the SME, but it hasn't been updated in the last 3 months.
 - Rarely (Monthly): less than 6 updates in 6 months.
 - Sometimes (Weekly): 5 – 15 a month.
 - Often (Daily): 16-32 updates a month.
 - Always (Multiple updates a day) – greater than 33 times a month.
- Understanding search and email management usage: This wasn't possible to do accurately without each SME's input, so couldn't be included here.

- The next step was to code each SME's activity according to the definitions set out, before the results were analysed (Luo, 2022). A check was also completed on Pinterest for each retailer to understand whether they had a presence on this platform. However, it wasn't possible to accurately count activity due to the way that results appear on Pinterest.

Kracauer (1952) highlights the complexity and challenges around accurately measuring this work:

The actual rating of a given unit of the communication on one or another step of the continuum still involves qualitative considerations which may bear on the whole of the communication....Such a breakdown of a complex direction continuum into relatively elementary scales inevitably invites simplifications apt to blur the vision.

(Kracauer 1952, p. 632)

This was particularly pertinent for this research given the challenge around measuring all platforms equally. Search engine marketing, email marketing and Pinterest weren't possible to measure in the same way as the other online platforms given the nuances involved.

Part 3: Data Analysis and Research Findings

Chapter 7: Interview, Questionnaire and Content Analysis findings

7.1 Interview findings

Interviews took place with 7 SMEs in the fashion retail sector to better understand their use of digital marketing technology. Most of the retailers interviewed had a store, a website presence, a Facebook account and an Instagram account. Most used an email system to drive engagement with consumers. Through the discussions, several themes emerged:

- The importance of more than one digital marketing platform being used for different audiences/goals and the perceived value of platforms for audience type impacted decision making on usage of platforms.
- The ease of integration with the retailer's website or shopping experience was an important consideration.
- Resourcing from a people/time and budget perspective was seen as being critical to success.
- The ease of use of technology and/or access to support systems was part of the consideration of technology used.
- KPIs and ease of measurement of results are driving ongoing decision making.

Other areas that were touched on by individuals were around privacy/General Data Protection Regulation (GDPR) and being accessible in a mobile environment. Also, enjoyment of using the various platforms appeared to be a theme for some of those interviewed – those who really enjoyed experimenting with various platforms were looking at what other technology platforms could support their goals, whereas those that didn't enjoy creating content and missed the instore experience were more reluctant to invest deeply in these platforms.

While retailers 2, 3 and 7 began as bricks and mortar, all shared that they now view their online presence as a separate entity and have marketed accordingly. Retailer 5 has changed their customer focus from B2B to B2C during the pandemic and has essentially set up an

online presence to be able to communicate with their followers across a number of channels and have spent time identifying the social media sites that will best suit their needs.

The importance of more than one digital marketing platform being used for different audiences/goals and the perceived value of platforms for audience type impacted decision making on usage of platforms.

The importance of being on several platforms came up as a pattern with most of the retailers interviewed. The main platforms currently used are Facebook, Instagram, Email platforms and Google search. TikTok and Pinterest were identified as platforms that were being assessed, but where no retailer had details of value yet from these. LinkedIn was mentioned by Retailer 7, however it was used by employees for their personal brand and to share stories about the culture of the business. It wasn't managed as part of their digital marketing efforts.

Retailer 5 highlighted their concerns around the over reliance on specific social media sites (particularly as Instagram and Facebook had just gone down at the time of interview) and they also highlighted the risk of not attracting the relevant followers to their social media sites for their specific product mix. So, an understanding as to what social media sites attract the ideal customer for the specific product mix and stage of the customer journey was identified as being important as well as diversification of platforms. Retailer 5 also noted that influencers and magazine media can be useful, and it was important to know who the best individuals were to send products to in order to gain additional digital promotion.

Google was the main platform used from a Search perspective. While many spoke in great detail about social media platform usage, Retailer 5 highlighted that they had far more spend on Search versus other platforms. It appears from the interviews conducted that social media is more resource intensive versus Search that was perceived as more cost intensive, particularly as it is more likely to be outsourced.

Email management systems, that support regular newsletters containing fashion trends or offers to existing consumers and direct contact to the SME, were used by almost all retailers interviewed to engage with consumers. While Retailer 4 didn't see value in using social media platforms, they highlighted that email was important to reach their customer base and

encourage repeat business. Retailer 3 highlighted that 44% of their business was driven by email campaigns and Retailer 7 highlighted a similar 45-55% of their business was driven by email. This system was used for engaging existing consumers to repurchase.

Retailer 1 didn't enjoy the move online and believed due to the nature of the one-off high-end pieces that they were selling, it was more challenging to sell online, and the results didn't warrant the investment. They believed that the in-store experience was more suitable to their needs and product type. Similarly, Retailer 4, who also specialises in a high-end product set (with custom creations) had a similar feeling about promotion online. They felt that more traditional models like magazines or newspaper articles (which is driving 75% of their online traffic) as well as word of mouth could drive more meaningful results for their product type. While they have an online presence, they focus more on the in-person aspect to allow for measurements of custom clothing.

Retailers 2, 5 and 7 were actively assessing Pinterest and TikTok due to the audience that they capture on these platforms. For their clothing products, they saw value in being on these platforms for audience reach but were at the early stages of understanding if it could drive the sales they were hoping for. Retailer 6 was looking at TikTok due to a younger audience that would have an affinity with the product.

The ease of integration with the retailer's website or shopping experience was an important consideration.

Integration was identified as key for a number of retailers. Retailer 3 made the decision to reinvest in their ePOS (electronic Point of Sale) system when they focused on going online, so they could drive their end-to-end fulfilment story from all platforms.

Retailer 2 and 5 use Shopify as their eCommerce Platform and found the ease of integration with Facebook and Instagram very important in their usage of this platform and for considering additional platforms to add to their digital marketing mix.

Retailer 7 was in the process of moving to Shopify due to its perceived ease of integration with digital marketing platforms and considered it important in deciding on adding any additional digital marketing technology platform.

Resourcing from a people/time and budget perspective was seen as been critical to success.

Retailers 2, 5 and 7 saw managing the digital marketing experience as a full-time role. Similarly, Retailer 3 has partnered with an agency to deliver their digital marketing campaigns and found that their success came when they went all in in terms of people and budget investment. Retailer 3 also highlighted that having tried to go online a few times unsuccessfully, their key learning was that if you don't resource it properly in terms of people and advertising budget, it won't succeed. So, during Covid, they went all in and saw the results in terms of sales for their business. In fact, they started with an eCommerce manager and 1 person in fulfilment with that growing to 6 people (and up to 14 at peak times) in just a few months. Retailer 2 managed their social media platforms internally through all organic advertising.

Retailer 4 felt there was additional investment required to improve their online presence but didn't feel that social media platform investment was valuable for their product type.

Retailer 6 highlighted that they had engaged with an agency but were disappointed with the results achieved in that period when taking the costs involved into account. Retailer 7 shared that they had consolidated their efforts with one agency to simplify resourcing (previously they had used different agencies for different digital marketing platforms) and found the efficiency gained internally with working with one agency to be very valuable for their business. However, it was noted that Retailer 7 was actively involved in the decision-making process and signed off on all decisions in partnership with the agency.

The ease of use of technology and/or access to support systems was part of the consideration of technology used.

Facebook was perceived as more difficult to use by Retailer 2 in comparison to Instagram. Both Retailer 5 and Retailer 7 commented on the ease of use of Facebook Business Manager.

Retailer 5 considered Facebook as being more appealing to an older audience, but hard to grow Facebook's audience. Retailer 7 found Facebook easy to manage, but did rely on an agency for support, while the retailer focused on content creation to better leverage the right skill sets of all involved.

Most of the interview participants agreed Instagram was a useful platform to be on. Retailer 2 highlighted that it was their preferred platform as consumers could connect with them easily. It was perceived as a "no filter platform" so it feels like they can be themselves with their clients. They also highlighted the ease-of-use factor as posts can be done quickly. Connecting and engaging with consumers was seen as its primary function. However, it was noted by Retailer 2, that "the higher you go in numbers though, the more it becomes a numbers game". Engagement is really important – "the more followers, the less interaction and it's important for that not to happen." Retailer 3 also talked of the importance of engagement with consumers to try to recreate that in person experience. Retailer 7 highlighted that Instagram supported them reaching "the next generation of customer" that they were targeting due to a younger audience.

Retailer 2 highlighted that shoppable links and ecommerce platform integration were key considerations when deciding on platforms to use.

KPIs and ease of measurement of results are driving ongoing decision making.

Metrics were very important to all those interviewed. Most of the retailers interviewed, who were actively engaged with these platforms, looked at a number of data points like traffic source and new users versus repeat users. They also had key metrics or KPIs such as bounce rate (the number of visitors who leave a site after viewing just one page and take no other action), CTR (clickthrough), CPA (Cost per Acquisition), pages visited, average session time, CPCs (Cost per Conversion) that they regularly reviewed to support decision making and investments. Retailer 2 highlighted that metrics were constantly monitored and changes were made as needed to drive their goals. Retailer 7 commented that impressions and reach were important in terms of building brand awareness for new audiences.

Retailer 3 highlighted frustration with Search measurements and conversions being attributed to Search 2 months after usage.

Retailers interviewed were given the opportunity to review the data captured and provide feedback on any amendments they wished to include. The findings were modified to reflect any changes requested.

Throughout the course of the research, these participants were kept informed of progress and learnings in case they wished to add anything else. A final infographic with key findings was also shared with these SMEs in case they had further comment. See Appendix E for details on the infographic.

7.2 SME Questionnaire findings

Based on the interviews conducted, questionnaires were developed for SMEs to understand how consistent the themes identified were across the SME fashion industry. There were 20 valid responses to this survey. Data was collected from 13th April to the 8th June 2022.

Further detailed data is included in Appendix D. Increasing the response rate proved challenging and in part, this can be attributed to SMEs now managing both their physical store and online store as restrictions were eased. One SME who I spoke to shared how they worked in their store during the day and in the evenings, they did the packing of products sold online for shipment the next day. They weren't in a position yet to hire additional staff.

Demographics of SME questionnaire respondents

Table 8 details the demographics of those who responded.

Table 8: SME survey demographics

	Frequency	Percent (%)	Cumulative (%)
Role			
Owner/co-owner of an SME with limited or no marketing knowledge/experience	8	40%	40%
Owner/co-owner of an SME with significant marketing knowledge/experience	5	25%	65%
Employee of an SME with limited or no marketing knowledge/experience	2	10%	75%
Employee of an SME with significant marketing knowledge/experience	5	25%	100%
SME Size			
1-3 people	10	50%	50%

4-10 people	6	30%	80%
11-20 people	3	15%	95%
21-50 people	0	0%	95%
51 people and over	1	5%	100%
SME Country Location			
Ireland	20	100%	100%

SME Pre-Covid digital marketing technology adoption vs now

The main change in digital marketing technology usage from pre-Covid to now was a decrease in those that ‘never’ used digital marketing technology in that period. Most technologies saw movement through the diffusion curve during COVID-19.

Those that had ‘never’ used or ‘rarely’ used digital marketing technologies moved to ‘sometimes’, ‘often’ or ‘always’ for specific technologies. Figure 29 illustrates the differences in response between now and pre-Covid times. While a small sample, the change in ‘never’ used for each platform is visible. Instagram saw the biggest movement along the curve with an increase in ‘always’ and ‘often’ that corresponded with the ‘never’ decline. Respondents were given the option to share if they had used the technology in a ‘personal capacity’ to understand if knowledge of the technology may have had an influence if they had not previously been using it from a business standpoint.

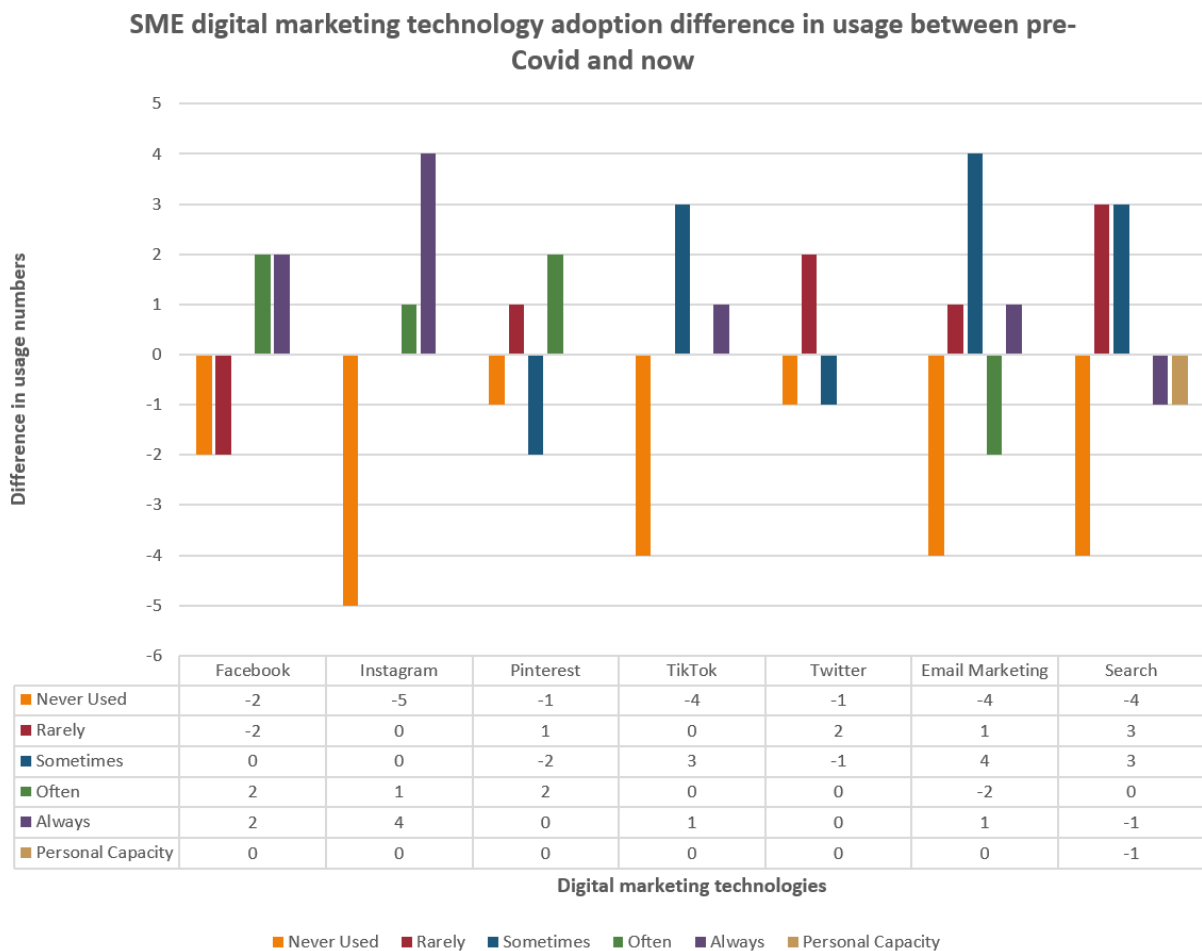


Figure 29: Difference in SME technology adoption usage from Pre-Covid and Now

Rationale for most useful technology choices by SMEs

Respondents had the opportunity to select their top 2 most useful digital marketing technologies. Instagram and Facebook were considered the most useful technologies (Figure 30 shows the details on this). TikTok, Pinterest and Twitter were not selected by any user when asked this question.

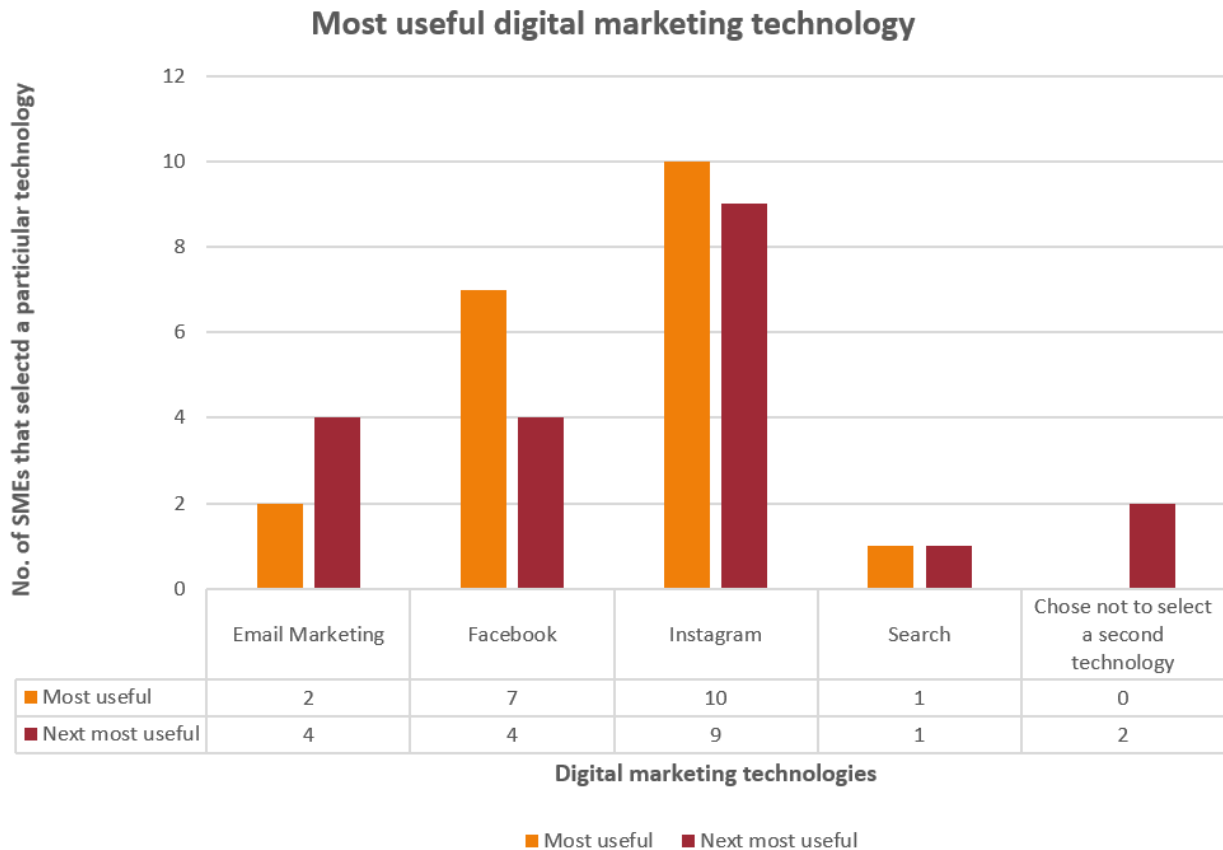


Figure 30: Most useful digital marketing technologies to use from an SME standpoint (most preferred and second most preferred)

When the top 2 selections for most useful options were combined (most useful and next most useful), Instagram had 19 respondents and Facebook had 11. For these options, respondents were asked to what extent they would agree/disagree with the statements in Table 3 (Chapter 6) that were developed based on the DOI model.

Results were aggregated across most useful and next most useful. To simplify the data view, agree/strongly agree and disagree/strongly disagree were each combined to give a view across each platform and to interpret the data findings.

Key components in the decision-making process appear to be related to observability and complexity. This included questions like “I have to be on this platform as my competitors are”, “The platform is easy to use on a day-to-day basis”, “It is easy to engage with my customer through this platform”. Figures 31 and 32 illustrate this for Facebook and Instagram respectively.

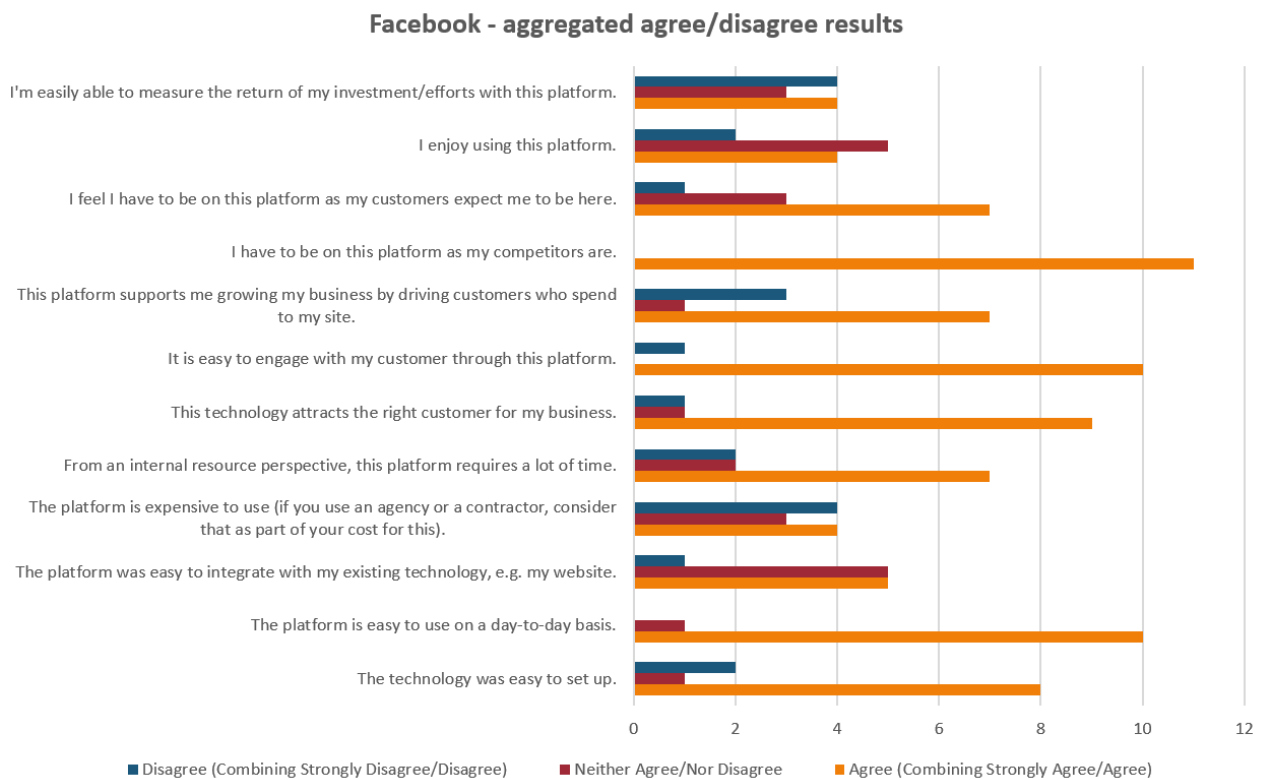


Figure 31: Facebook aggregated results for top 2 most useful technologies selected by SMEs

These findings on observability and complexity were similar on Instagram. Interestingly, enjoyment also supported Instagram usage with 74% agreeing with “I enjoy using this platform“. Instagram appears to be quite resource intensive with 84% of those who chose Instagram agreeing with this statement - “From an internal resource perspective, this platform requires a lot of time”.

Instagram - aggregated agree/disagree results



Figure 32: Instagram aggregated results for top 2 most useful technologies selected by SMEs

While Instagram and Facebook were most preferred, SMEs didn't have clarity on how easily the return of investment could be measured for these. 64% and 68% of those that responded to "I'm easily able to measure the return of my investment/efforts with this platform" either disagreed with this statement or could neither agree/disagree with this statement for Facebook and Instagram respectively.

Table 9 provides an overview of these preferences overlaid with the DOI related questions.

Table 9: DOI factors overlaid with SME questionnaire findings for Facebook and Instagram

Stage	Applicability to SMEs	Relevant Question(s)	Questionnaire Results
Prior Conditions	Felt needs/problem with store closures. Norms of the social system had been established by Early Adopters	I have to be on this platform as my competitors are.	Facebook: 100% Instagram: 84%
		I feel I have to be on this platform as my customers expect me to be here.	Facebook: 64% Instagram: 84%
Knowledge	Personality variables	Pre-Covid usage – used platforms prior to Covid.	Facebook: 75% Instagram: 75%
		I enjoy using this platform.	Facebook: 36% Instagram: 74%
Persuasion	Complexity	The technology was easy to set up.	Facebook: 73% Instagram: 89%
		The platform is easy to use on a day-to-day basis.	Facebook: 91% Instagram: 95%
		It is easy to engage with my customer through this platform.	Facebook: 91% Instagram: 95%
		I enjoy using this platform.	Facebook: 36% Instagram: 74%
	Compatibility	The platform was easy to integrate with my existing technology, e.g. my website.	Facebook: 45% Instagram: 74%

		This technology attracts the right customer for my business.	Facebook: 83% Instagram: 80%
		I enjoy using this platform.	Facebook: 33% Instagram: 75%
Relative Advantage		This technology attracts the right customer for my business.	Facebook: 82% Instagram: 79%
		The platform is expensive to use (if you use an agency or a contractor, consider that as part of your cost for this).	Facebook: 36% Instagram: 47%
		From an internal resource perspective, this platform requires a lot of time.	Facebook: 64% Instagram: 84%
		It is easy to engage with my customer through this platform.	Facebook: 91% Instagram: 95%
		This platform supports me growing my business by driving customers who spend to my site.	Facebook: 64% Instagram: 74%
Observability		I have to be on this platform as my competitors are.	Facebook: 100% Instagram: 84%
		I feel I have to be on this platform as my customers expect me to be here.	Facebook: 64% Instagram: 84%
Confirmation		I'm easily able to measure the return of my	Facebook: 36% Instagram: 32%

		investment/efforts with this platform.	
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There was a difference in the technology options selected as ‘most useful’ depending on whether an SME considered they had significant marketing knowledge/experience or limited marketing knowledge/experience. 10 respondents identified as having significant experience and 10 respondents identified as having limited or no marketing knowledge/experience. While Instagram was found to be most useful by both groups, Facebook was second for those with limited or no marketing knowledge/experience, while those with significant experience selected email marketing (Figure 33 and 34).

SMEs that identified as having significant marketing knowledge/experience

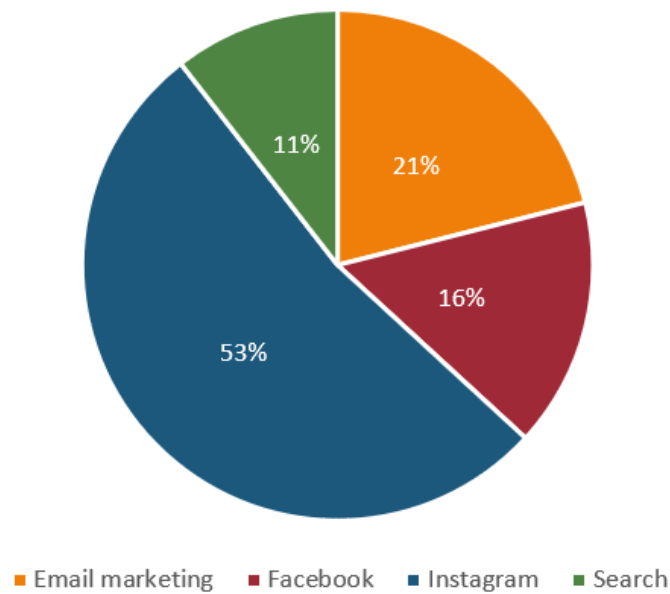


Figure 33: Most useful technologies selected by SMEs that identified as having significant marketing knowledge/experience

SMEs that identified as having limited or no marketing knowledge/experience

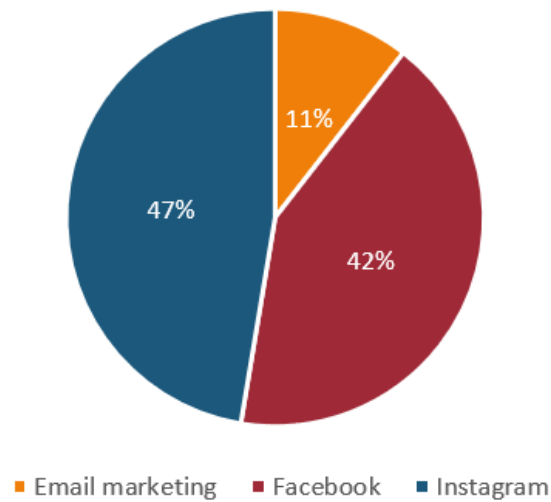


Figure 34: Most useful technologies selected by SMEs that identified as having limited or no marketing knowledge/experience

Rationale for least used/not used technology choices by SMEs

Respondents were asked: “Which of the technology options listed do you use least or not at all?”. The least used or not used at all technologies were Pinterest and Twitter, followed closely by TikTok. Lack of time was the top reason cited for using these technologies the least or not at all.

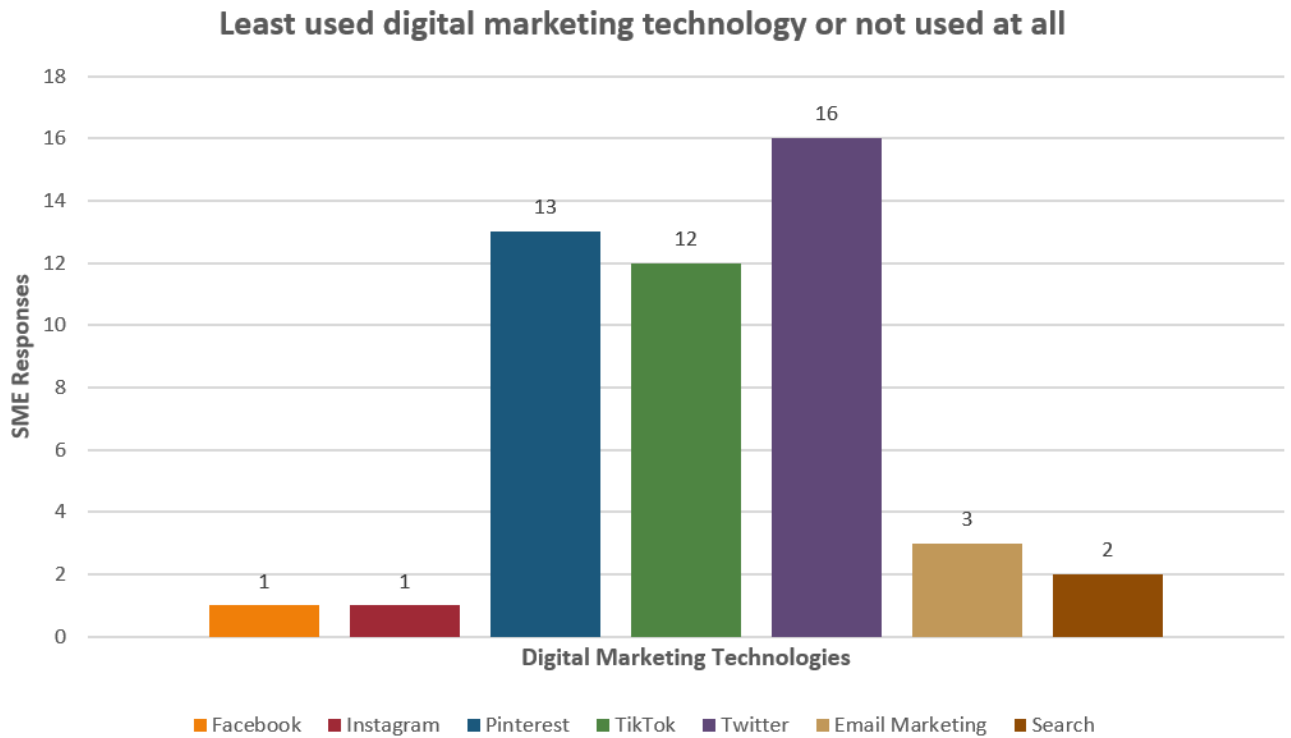


Figure 35: Least used/not used at all digital marketing technology by SMEs

Respondents were given an option to comment further on one of the options they selected and TikTok and Twitter were the top two technology platforms that respondents selected to comment on:

- Email Marketing – 1
- Instagram – 1
- Pinterest – 2
- Search – 1
- TikTok – 9
- Twitter – 6

The top reasons that were selected for the least used/not used at all digital marketing technologies that respondents selected were:

- Lack of time.
- Customers/audience for my product/store aren't using it.
- Difficult to measure the value/return on investment.

- Don't know this technology.

Lack of time is not dissimilar to findings by Moyle (2012). In a survey of almost 500 SMEs, they found that many SMEs find it difficult to manage the workload associated with managing social media. Figure 36 provides an overview of the reasons selected by SME participants for the technology selected.

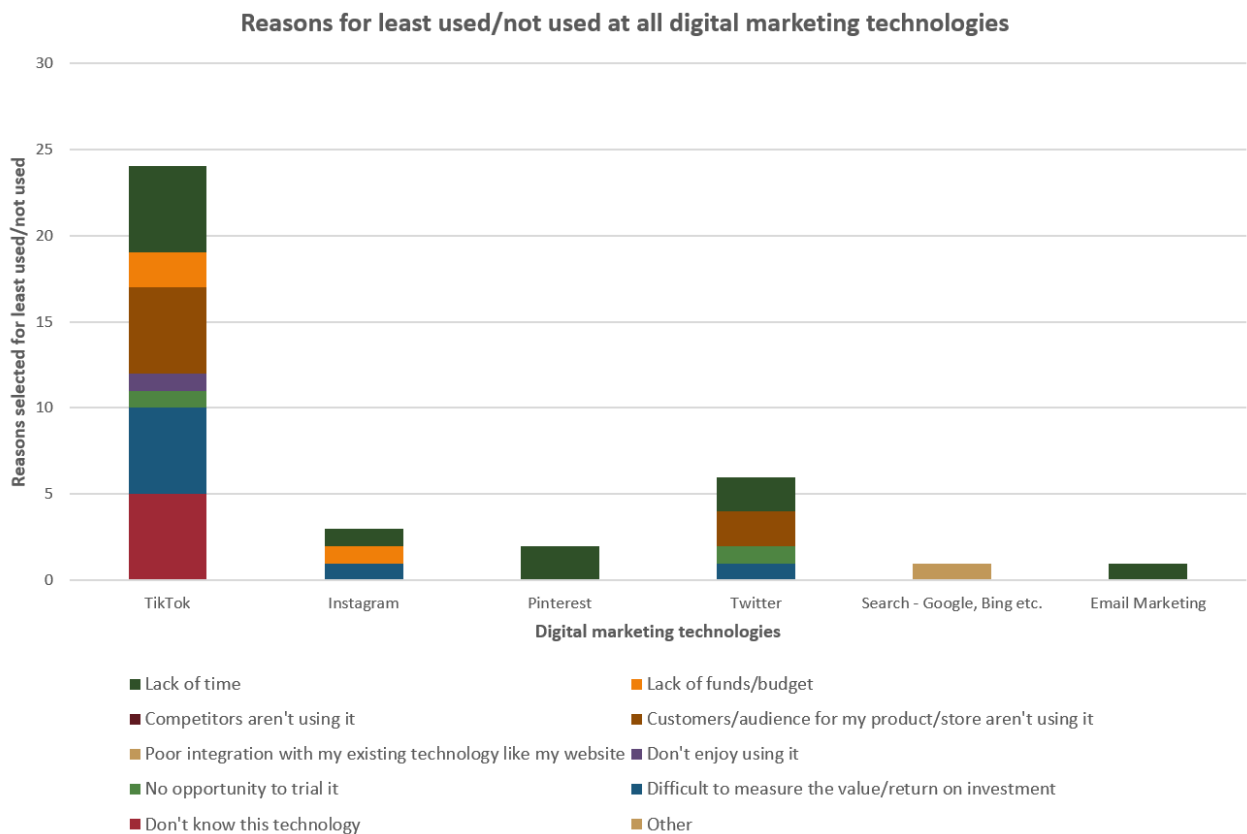


Figure 36: Reasons for least used/not used digital marketing technologies per technology option

While lack of funds/budget didn't come up as a significant factor here, it's worth noting that digital marketing technology usage also comes at a cost with 80% of respondents paying for one or more of these technologies (16 respondents). In fact, 81% of those 16 respondents were paying for 2 or more digital marketing technologies:

- Facebook: 11 (69%)
- Instagram: 13 (81%)

- Pinterest: 2 (13%)
- TikTok: 2 (13%)
- Twitter: 0 (0%)
- Email Marketing: 10 (63%)
- Search: 7 (44%)

CDJ and Digital Marketing technology choices

Understanding the CDJ is important to understanding why SMEs might use different technologies for different audiences. Some technologies might be perceived as being more useful for driving different stages of that journey. In seeking to understand, respondents were asked to select which technologies were most useful for driving Awareness, Consideration, Further Research, Purchase and Post Purchase. Instagram scored best in Awareness, Consideration and Purchase, Search scored best for further research, while Email Marketing scored best for Post Purchase.

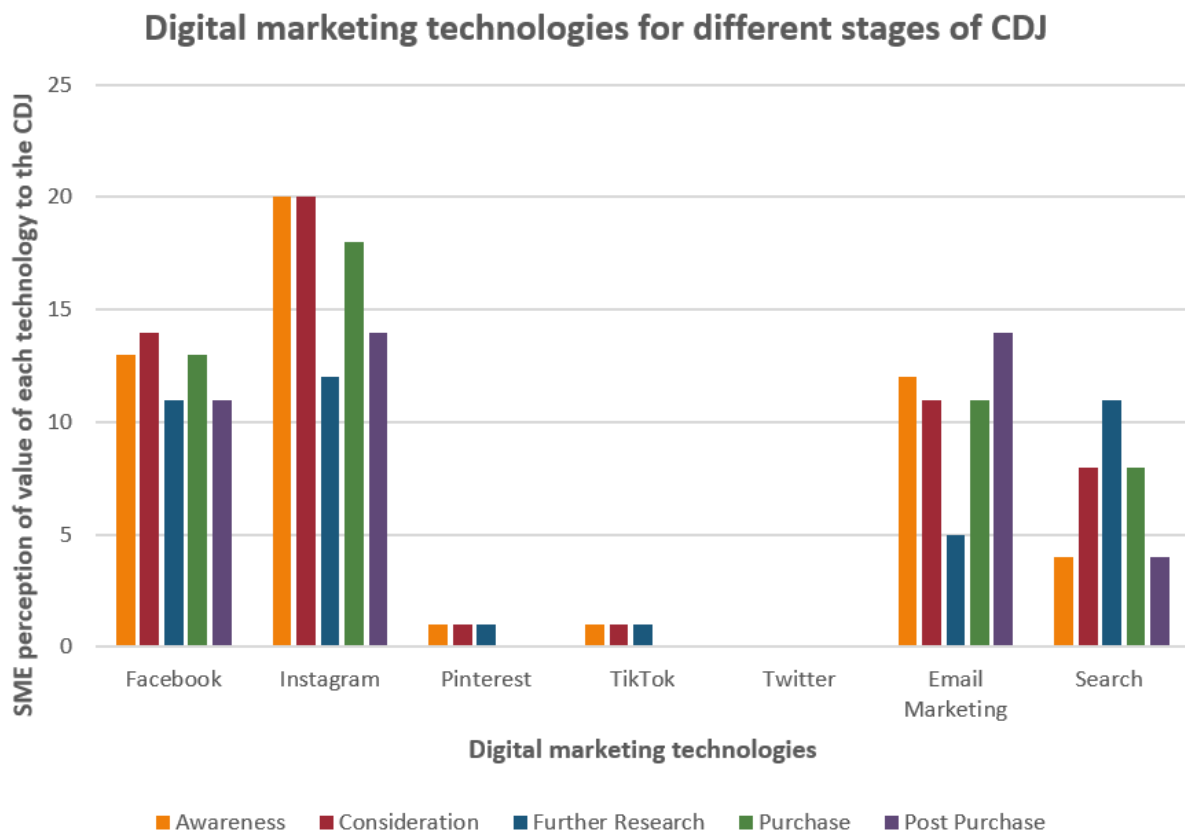


Figure 37: Digital marketing technology preferences of SMEs for each stage of the CDJ

Awareness, Consideration and Further Research were combined into Pre-Purchase to align with the research completed on CDJ. Different platforms appear to be serving different parts of the CDJ. In summary, the platforms that were perceived as most useful during the CDJ from an SME perspective were:

- Pre-Purchase: Instagram and Facebook.
- Purchase: Instagram and Email Marketing.
- Post Purchase: Email Marketing and Instagram.

Further details can be found in Appendix D.

It's noteworthy that participants appear to struggle with how Pinterest, TikTok and Twitter can play a role in their digital marketing activities.

SME Verbatims

SMEs were given an opportunity to comment further on any aspect of their digital marketing experience. These comments add some extra insight into the data collected, particularly in relation to the challenge on measuring impact of these platforms:

- “Facebook has now become a very difficult platform to get results from especially organically and paid is also hard to get conversions from. Instagram is slightly easier but very saturated so very hard to stand out. Search and Google Shopping is becoming our leading channel of new conversions over social.”
- “Social media is a given in our industry but can be really time consuming and difficult to measure!”
- “I think that a distinction should have been made between branded search and non-branded search within your google / bing response options. We have always received a very poor ROAS¹ on our paid google ads, however loads of our purchases are attributed to google search. This is because customers have seen our stuff on social media and later "search" for our business on google when they are ready to make the

¹ ROAS=Return on Advertising Spend

purchase. This is branded search which I do not attribute to the search engine because the hard work (the sale) has already been made via social etc....”

- “The hardest thing for us is to measure what we are spending on social media and google ads etc against actual sales. At this time, we find that a lot of customers are returning to the physical shopping environment and are using social media and our website to source their purchases before entering the store. Obviously, during recent lockdowns, the opposite was the case. We are finding that there are a lot of returns on higher priced items purchased online.”
- “It us difficult to source a third party to provide digital marketing services at a reasonable price”.

These comments add some additional context to the results. Social norms within the fashion retail industry appear to be confirmed. The measurement of results for digital marketing technologies via sales achieved appears to be challenging, as well as ensuring the right platform is attributed the credit for the purchase. The CDJ is important in this context in ensuring that if awareness is driven via one digital marketing technology, but the purchase happens as a result of another digital marketing technology, that each technology is measured for effectiveness appropriately.

Summary of SME Questionnaire findings

1. There was a decrease in those that ‘never’ used digital marketing technology from pre-Covid to now. Most technologies saw movement through the diffusion curve.
2. Instagram and Facebook were considered the most useful technologies. TikTok, Pinterest and Twitter were not selected by any user. Key components in the decision-making process appear to be: observability and complexity. The findings on observability appear to confirm Kwon *et al.* (2021) findings on external pressures influencing social media usage by SMEs. Interestingly, those that considered they had had significant knowledge/experience in marketing appear to have a strong preference for Instagram and email marketing.
3. While Instagram and Facebook were found to be most useful, SMEs didn’t have clarity on how easily the return of investment could be measured for these. 64% and 68% of those that responded to “I’m easily able to measure the return of my

investment/efforts with this platform” either disagreed with this statement or could neither agree/disagree with this statement for Facebook and Instagram respectively. This suggests that the Confirmation stage of DOI hasn’t happened yet. In addition, overlaying the data collected from the questionnaire with the DOI stages highlighted that prior conditions and knowledge appears to have influenced technology adoption.

4. The least used or not used at all technologies were Pinterest and Twitter, followed closely by TikTok. Lack of time was the top reason cited for using these technologies the least or not at all.
5. Different platforms are serving different parts of the CDJ. The most valuable platforms from a CDJ perspective and from an SME perspective were:
 - Pre-Purchase: Instagram and Facebook.
 - Purchase: Instagram and Email Marketing.
 - Post Purchase: Email Marketing.

However, participants appear to struggle with how Pinterest, TikTok and Twitter can play a role in their digital marketing activities from a CDJ perspective.

7.3 Content Analysis findings

An analysis of 105 Ireland based fashion retail boutiques was carried out as per Chapter 6.4. Through the analysis, it became obvious that some SMEs had set up certain digital marketing technologies like Twitter but hadn't updated them.

It was evident that Instagram and Facebook were the most used social media technologies of the SMEs analysed with 98% using Instagram and 97% using Facebook to some extent. The frequency of updates is captured in Figure 38 with 31% 'Always' updating Instagram and 42% 'Always' updating Facebook. Mid priced and reasonably priced retailers appear to update their social media more regularly than high end/more expensive retailers. Full details are in Appendix D. Pinterest was also evaluated and while it wasn't possible to count the frequency of updates due to how results appear based on context of searches, it was clear that adoption was low with 85% of these SMEs analysed not having a Pinterest profile. While this analysis couldn't verify search marketing and email marketing usage, it did confirm the interview and questionnaire findings from a social media standpoint that there was a strong tendency towards Instagram and Facebook usage over other social media technologies.



Figure 38: Analysis of fashion retail SMEs digital marketing technology usage in Ireland

7.4 Consumer Questionnaire findings

In order to understand how consumers perceived the value of these technologies, an additional survey was run to understand their preferred technologies and ascertain whether this correlated to the SMEs' most used technologies.

Demographics of Consumer questionnaire respondents

There were 338 valid respondents made up of 42% male and 58% female. The survey ran from the 2nd July 2022 for 10 weeks. The profile of the consumers who responded are detailed in Table 10.

Table 10: *End user/consumer questionnaire demographics*

	Frequency	Percent (%)	Cumulative (%)
Gender:			
Female	196	58%	58%
Male	142	42%	100%
Prefer not to say	0	0%	100%
Other	0	0%	100%
Age:			
18-25	16	4.7%	4.7%
26-35	103	30.5%	35.2%
36-45	93	27.5%	62.7%
46-55	96	28.4%	91.9%
56-65	26	7.7%	98.8%
66 and over	2	.6%	99.4%
Prefer not to say	2	.6%	100%
Country respondent lives in:			
Ireland	222	65.7%	65.7%
UK	28	8.3%	74%
USA	31	9.2%	83.2%
Mainland Europe (including France, Germany, Spain, Italy)	43	12.7%	95.9%

Rest of World (including Australia, Canada, Africa, Brazil, Argentina)	14	4.1%	100%
Current Status:			
Employed	302	89.3%	89.3%
Unemployed	6	1.8%	91.1%
Retired	7	2.1%	93.2%
Student	9	2.7%	95.9%
Other	14	4.1%	100%

Shopping Behaviours

A number of questions on shopping behaviours were asked. 27% of respondents shopped for themselves only, while the majority (73%) shopped for others like their partner, their kids and other family members.



Figure 39: Consumers shopping behaviour - who are they shopping for?

This finding presents both opportunities and challenges for SMEs when trying to personalise offerings for their consumers given that they are shopping for many different persona types at different times.

When asked about their shopping style, the results showed a preference for high quality items (48%). The majority of 'other' related to both categories as well as purchasing based on the occasion (Figure 40).

Shopping preferences

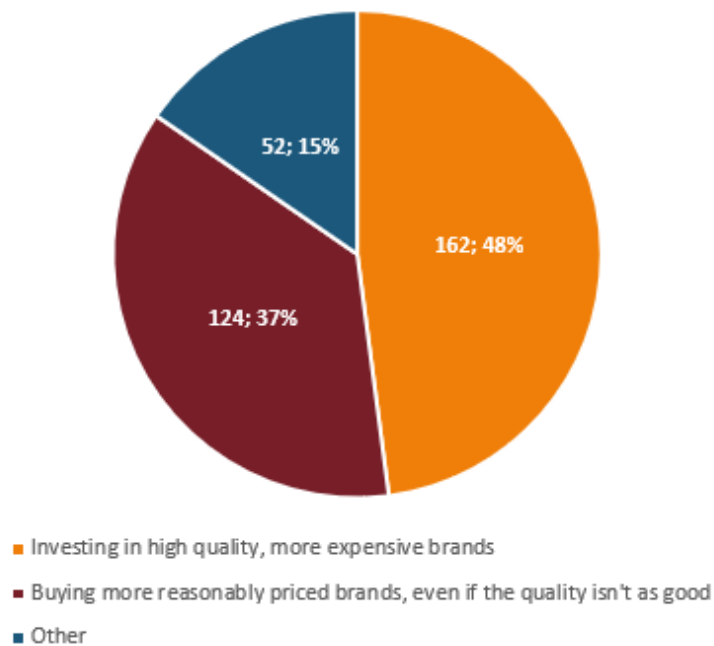


Figure 40: Shopping preference of Consumers

97% of respondents had shopped online in the previous 12 months and consumers are shopping across a range of categories including clothing, hobby related items, household items and groceries:

- 88% had shopped for clothing.
- 70% had shopped for books/music/hobby related items.
- 66% had shopped for household items like beds, TVs, kitchen accessories etc.
- 41% had shopped for groceries.
- 9% included an 'other' option which consisted of electronics, tools, cosmetics/beauty products, travel, petfood, outdoor living.

The top response provided for shopping online was convenience/saves me time with 94% of respondents selecting this reason, so this insight would suggest that shopping online could be here to stay, and it becomes important to understand how to best engage with potential consumers.



Figure 41: Reasons selected for Consumers shopping online

3% didn't shop online in the previous 12 months. The main reason cited was a preference of seeing the product in-store.



Figure 42: Reasons provided for not shopping online

Pre-Covid and current purchasing/research experience findings

Understanding the changes from pre-Covid to current purchasing/research experiences was the next step in this research. There were reductions in those that had ‘never’ or ‘rarely’ bought or searched/researched online from pre-Covid to now and increases across ‘sometimes’, ‘often’ and ‘always’ (Figures 43 and 44).

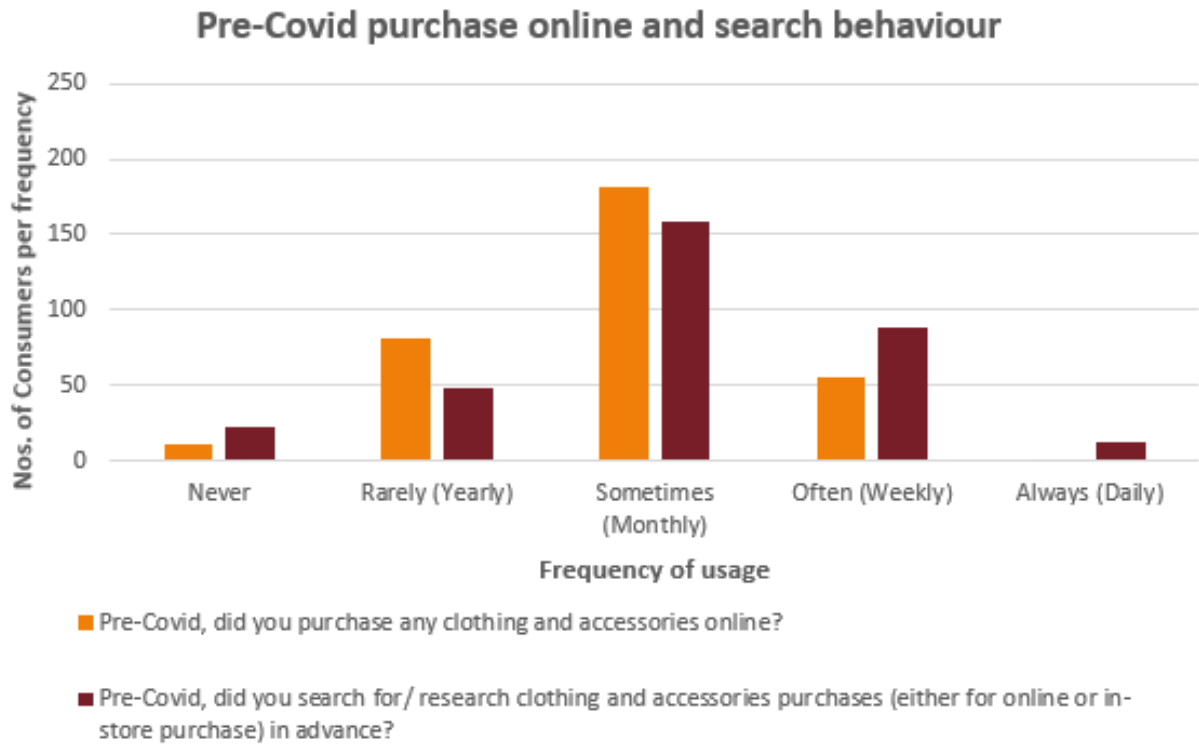


Figure 43: Pre-Covid purchase online and search/research behaviour

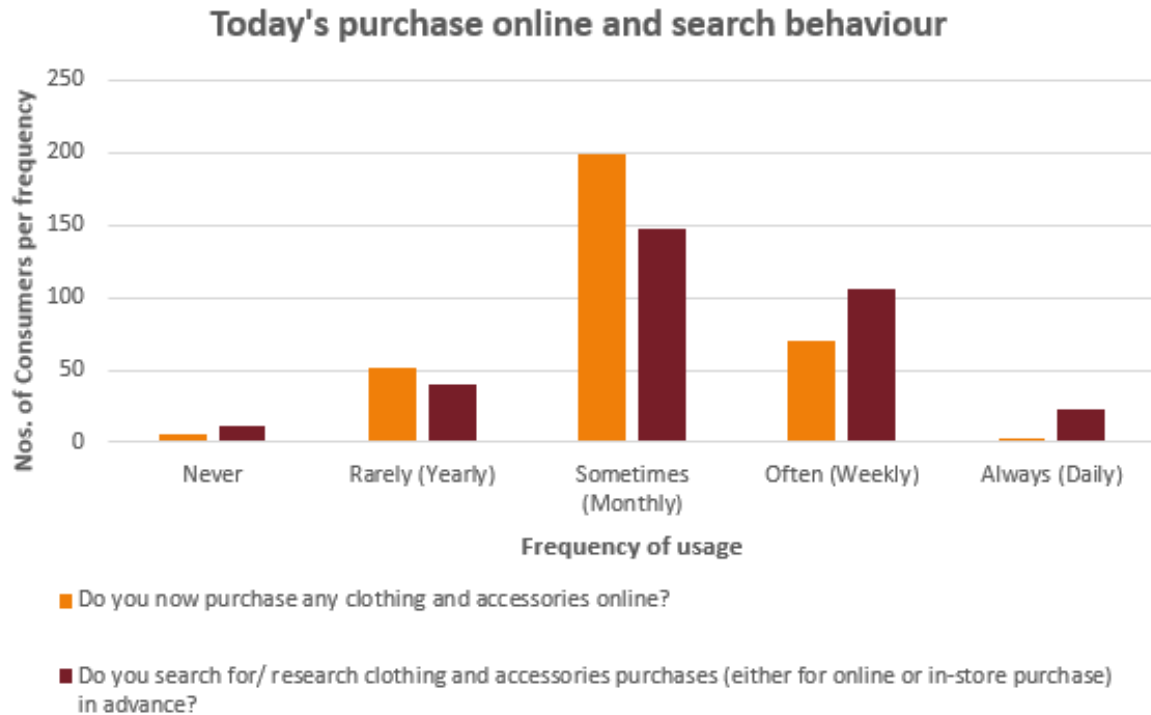


Figure 44: Current purchase online and search/research behaviour

The shift was most evident in the shopping behaviour with 19% of those that currently shop ‘sometimes’, ‘often’ or ‘always’ having moved from ‘rarely’ or ‘never’ pre-Covid. However the movement wasn’t as large as was expected with just 3% (11 participants in total – 6 identifying as male selected this option or 55% and 5 identifying as female selected this option or 45%) answering that they ‘never’ purchased any clothing and accessories online pre-Covid and 24% answering that they ‘rarely’ purchased online pre-Covid (with 55% of those identifying as female and 45% identifying as male). This could potentially suggest that Consumers had already started making the move to online purchasing to some extent prior to COVID-19.

Respondents were asked about their pre-Covid digital marketing technology usage and current digital marketing usage. Search and email marketing has remained consistent. The numbers who ‘never’ used Instagram and TikTok are down compared to pre-Covid.

Interestingly, Facebook’s ‘never’ usage increased. 27% of those that selected ‘never’ had previously used Facebook ‘rarely’, ‘sometimes’ or ‘often’. The majority of those (74%) had categorised their previous usage as ‘rarely’.

Figure 45 shows a side-by-side view of pre-Covid and current usage for each digital marketing technology option.

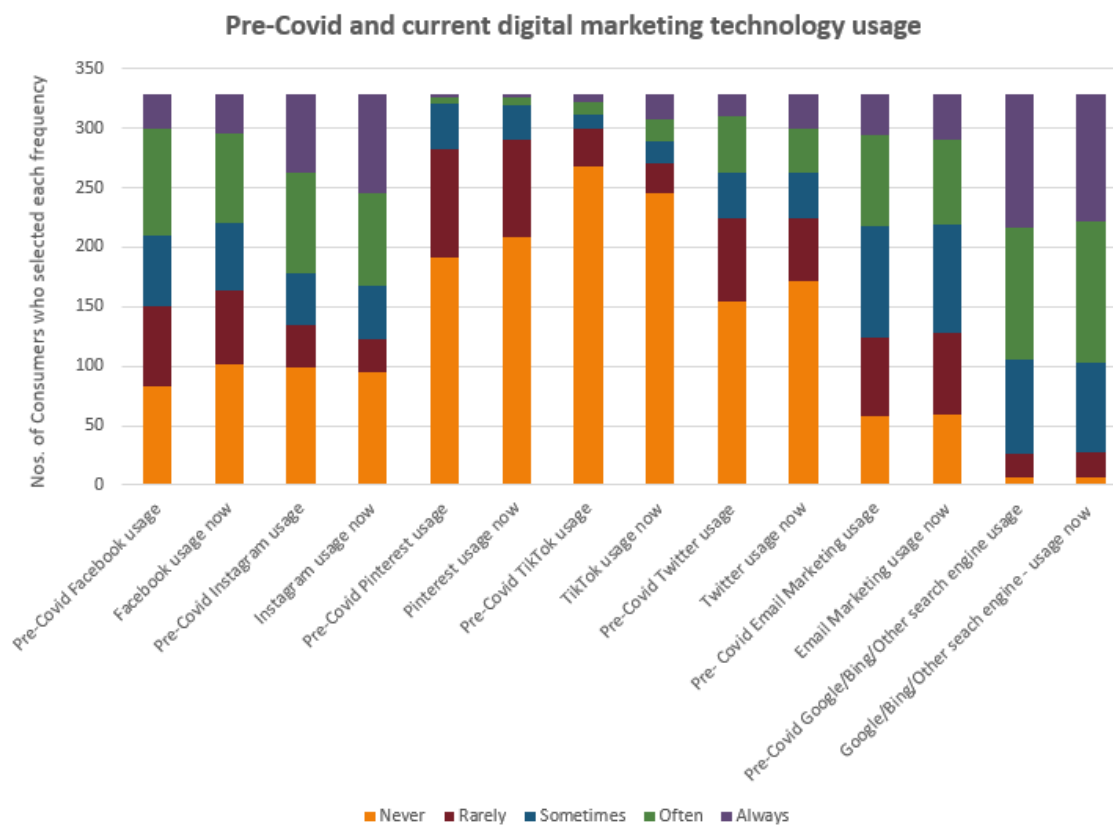


Figure 45: Pre-Covid and current digital marketing technology usage

Most and least preferred digital marketing technology to use when purchasing online

Respondents were asked if they made a purchase online or instore as a result of the platforms listed. 78% of respondents made a purchase as a result of using one of these digital marketing technologies, which would suggest these technologies play a role in decision making. The top technology used from this research was Search for making a purchase (Figure 46).

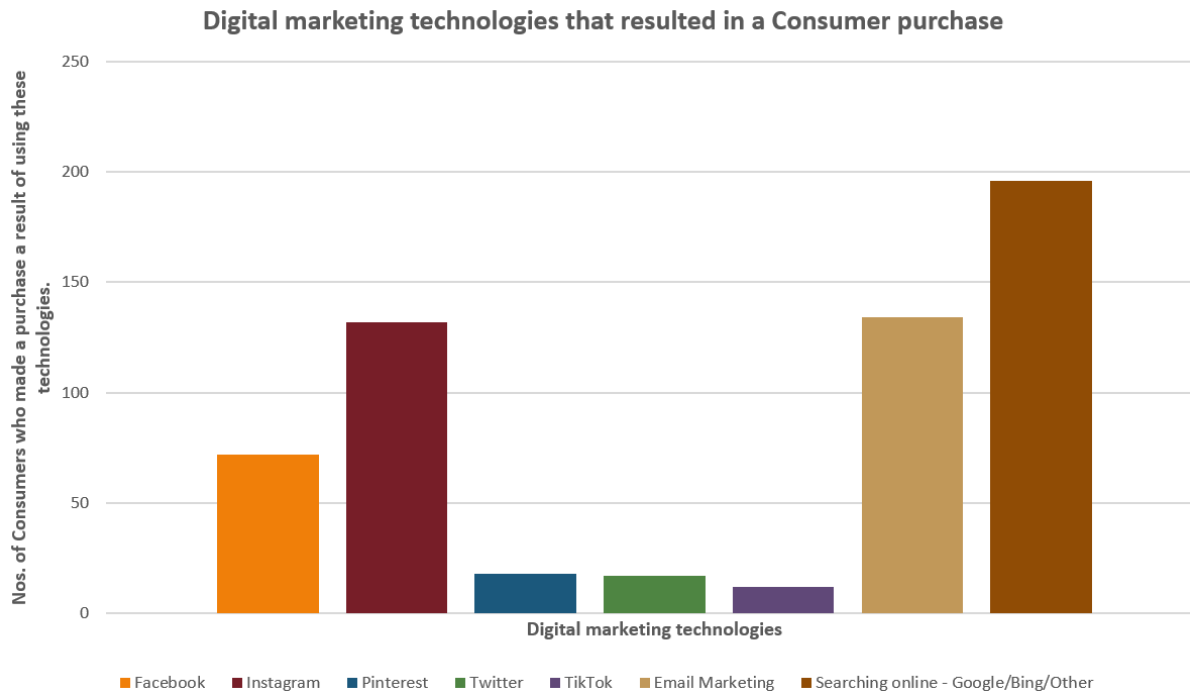


Figure 46: Digital marketing technologies that resulted in a Consumer purchase

Consumers were asked which platform they most preferred to use when making a purchase online from the list of technologies that SMEs were asked about, namely Facebook, Instagram, Pinterest, TikTok, Email marketing, Search, and what their reasons were for that decision. Figure 47 highlights the results from this question. Search was the most preferred technology (73%) selected. 65% of women selected Search compared to 80% of men who selected Search.

While the numbers are lower for social media technology preferences, Instagram was the top social media technology selected by both women and men. 18% of women selected Instagram compared to 10% of men who selected Instagram. Djafarova and Bowes (2021, p.5) found that Instagram was the most used social media platform by women and the reason cited was due to the “visual element”. However, in that same research, Djafarova and Bowes (2021) found Twitter to be the most used platform for men, which is in contrast to the findings in this paper.

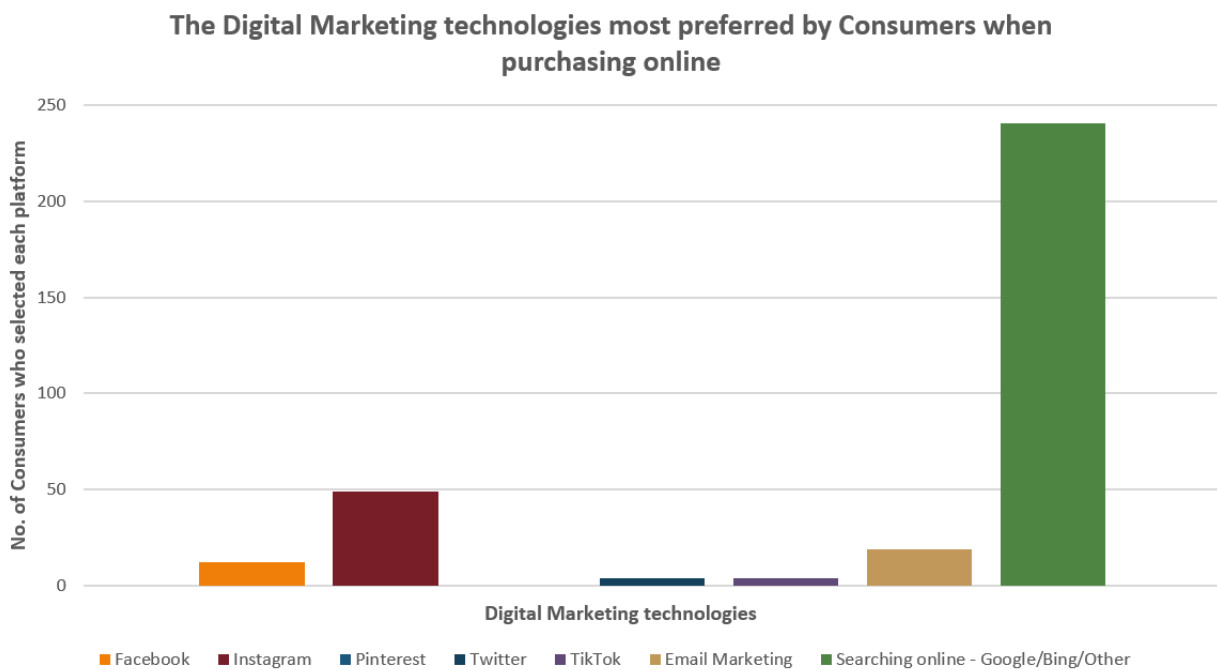


Figure 47: The digital marketing technologies most preferred by Consumers when purchasing online

The main reason provided for selecting Search was that the platform was easy to use with 90% either agreeing or strongly agreeing. The detailed breakdown is included in Figure 48.

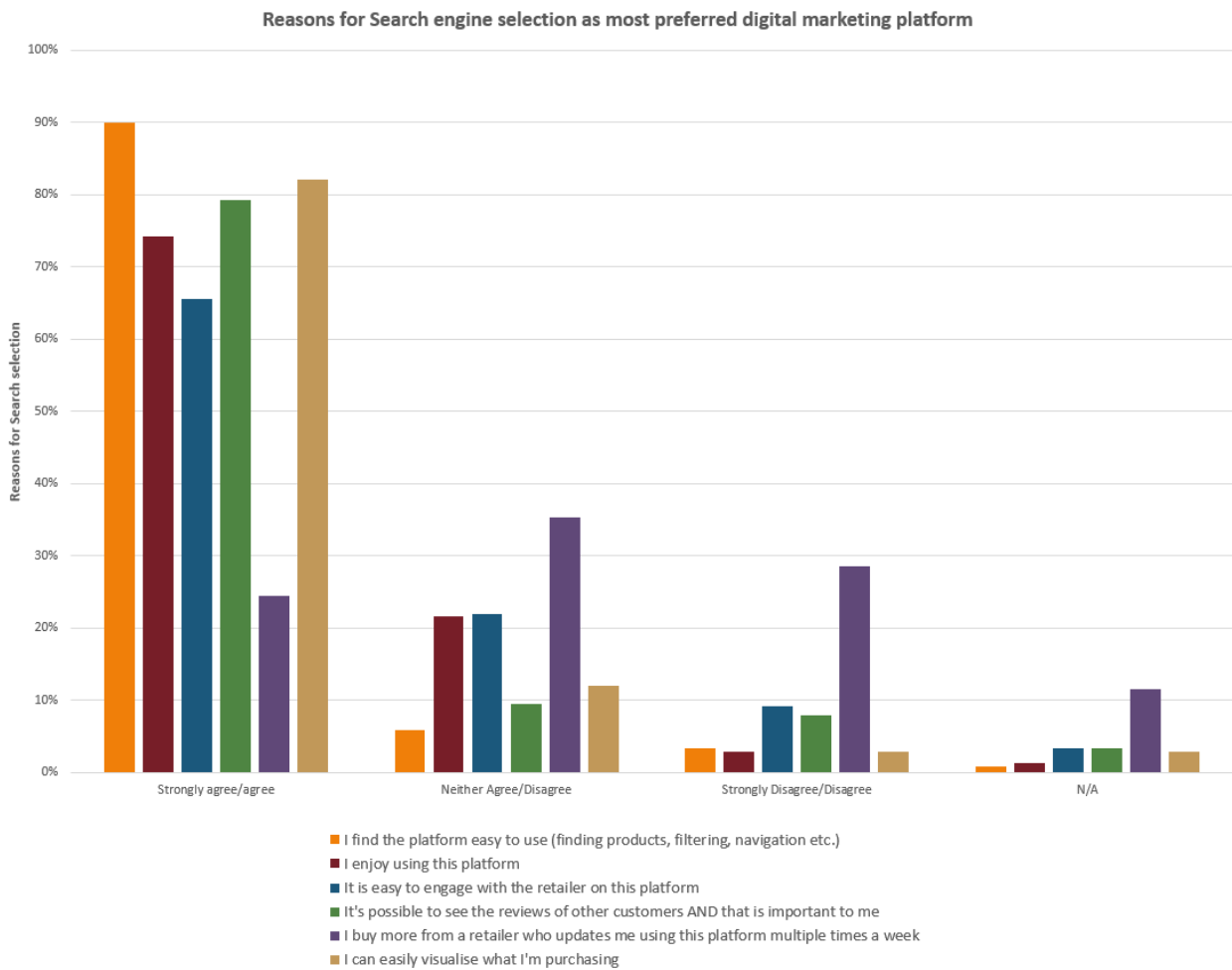


Figure 48: Reasons for search engine selection as most preferred digital marketing platform by Consumers.

The least preferred option was Facebook when purchasing online, followed closely by TikTok.

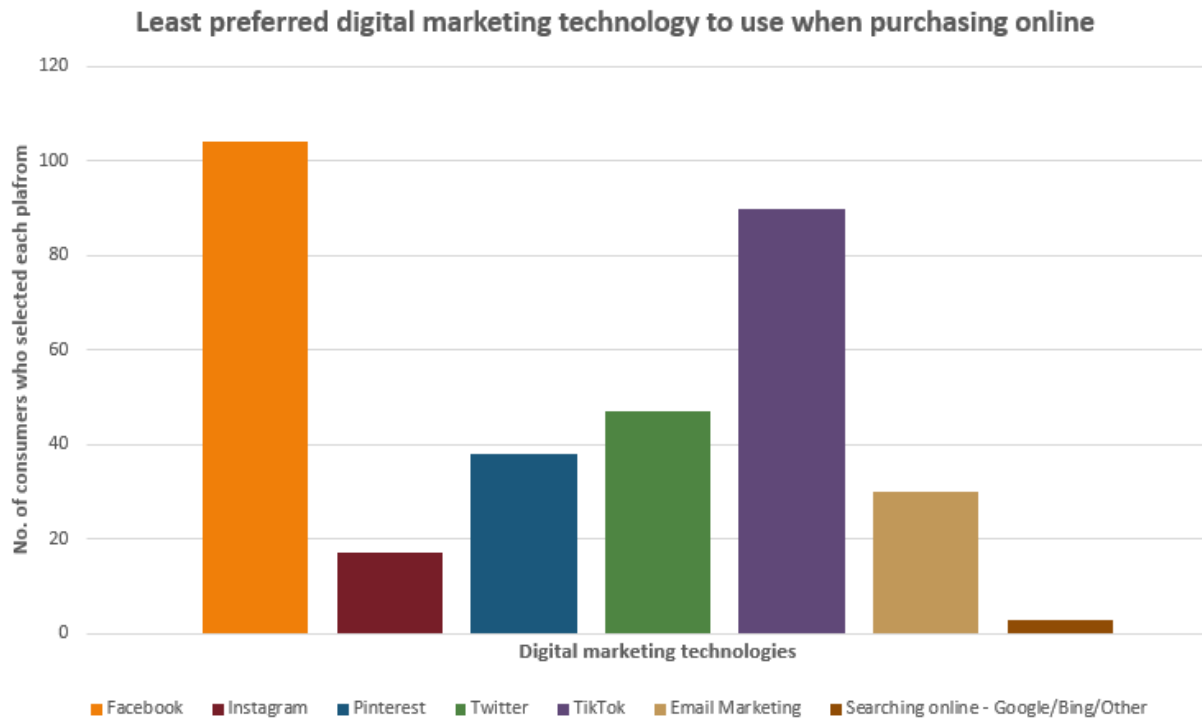


Figure 49: Consumers’ least preferred digital marketing technology to use when purchasing online

The main reasons selected across all platforms were: ‘don’t enjoy using it’ (169 people selected this) and ‘concerned about how my data is stored’ (99 people selected this). Figure 50 provides a breakdown of reasons selected across each platform.

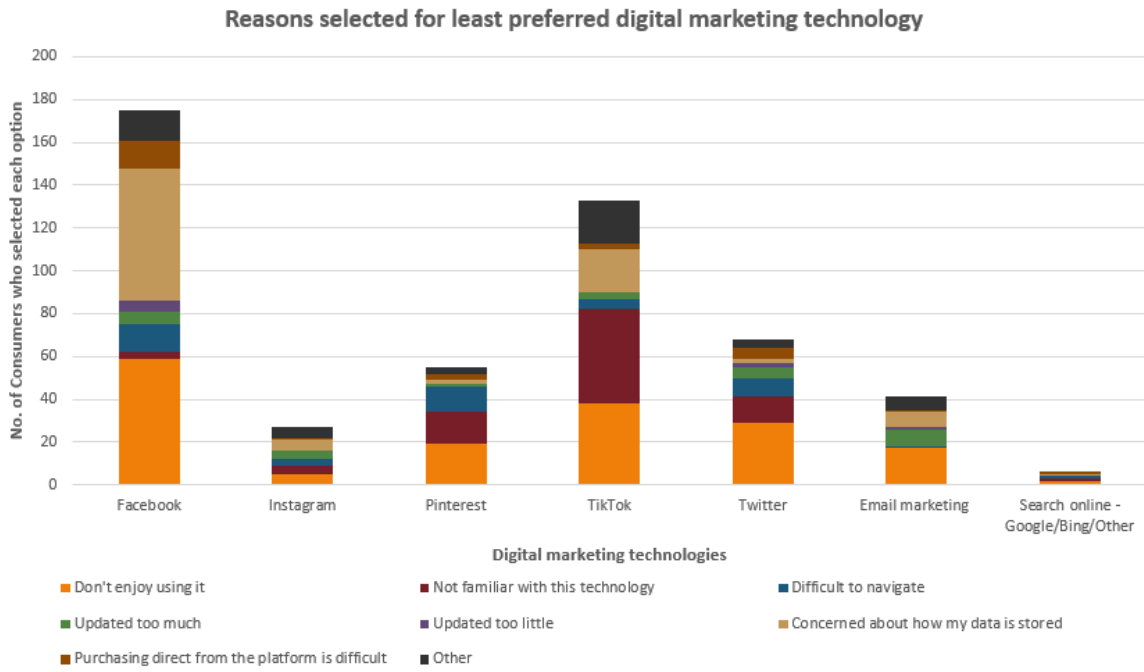


Figure 50: Breakdown of reasons chosen for each least preferred digital marketing technology

Specifically for Facebook, 60% of those that chose this option as their least preferred cited concerns on how their data was stored as the reason. 57% didn't enjoy using Facebook. Full details are included in Figure 51. Given that Instagram and Facebook are both owned by the same company, Meta, it's interesting to observe that one platform suffers more from privacy concerns than the other.

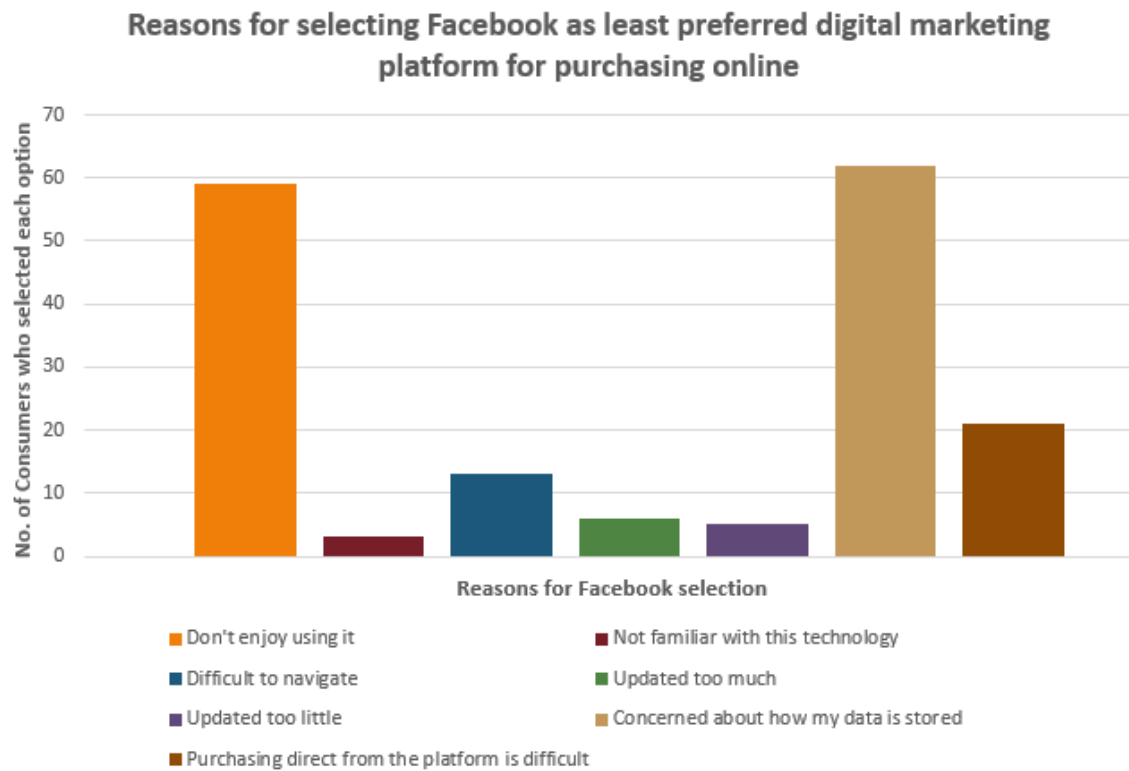


Figure 51: Reasons for selecting Facebook as least preferred digital marketing platform for purchasing online

For TikTok, 49% were not familiar with the technology and 42% don't enjoy using it.

On further analysis of those who selected ‘concerned about how my data is stored’ across each technology chosen, it was found that the most concerned were in the 46-55 age group and by those who were employed. Table 11 shows the full details of this.

Table 11: *Detailed analysis on the profile of those who cited concerns on how their data was stored as one of the reasons for selection of their least preferred technology*

Demographic data on those who cited concerns on data as one of the reasons for their least preferred technology selection	
Gender	
Male	45%
Female	55%
Age Profile	
18-25	1%
26-35	24%
36-45	29%
46-55	36%
56-65	7%
66 and over	1%
Prefer not to say	1%
Profile	
Employed	90%
Self-Employed	2%
Unemployed	1%
Retired	4%
Student	2%
Other	1%
Shopping Style	
Investing in high quality, more expensive brands.	48%
Buying more reasonably priced brands, even if the quality isn't as good.	34%
Other	17%

Additional Consumer insight/feedback

Consumers were asked if there was anything they would change in relation to their most preferred technology – ‘What change could this platform make to make it even easier for you to use?’. 118 respondents provided change requests. These included:

- Product descriptions/Visualisation recommendations (19%).
- Navigation and filtering, including delivery to Ireland, sustainable products, stores that have a physical presence etc. (15%).
- Ease of use, including ease of purchase (11%).
- Less ads (9%).
- Privacy/security, including verification of site, buyer protection (8%).
- Relevancy (7%).
- Personalisation (5%).
- Pricing, including price tracking and price comparison (5%).

75% of the recommendations were related to Search engine technology. The remaining recommendations were spread across Instagram (13%), email marketing (8%), Facebook (3%), TikTok (1%), Twitter (2%). Comments included:

- Product description/Visualisation related: “360 view”, “More video”, “For clothing, I think online stores should incorporate a Virtual dressing room”, “better visual organisation for iphone use”, “More detail on ethical and carbon costs needed”.
- Navigation and filtering related: “Have filters for environmental friendly products”, “Filter out non-local choices by default”, “Enable filtration to show only bricks-and-mortar stores”, “Make it easier to restrict search results to just shops in Ireland”.
- Ease of use related: “Pictures which link direct to placing orders”, “Greater ease to transaction”, “Direct purchasing from Instagram rather than going through links”.
- Less ads related: “less promoted links”, “less clutter”, “Google has increased the amount of paid search results and it now takes longer to scroll to get to highest search results rather than paid content”.
- Security related: “I’d appreciate if there was a way to ensure legit business were at the top of the search - sometimes trying to find out about legitimacy of a website selling

products I may want to purchase”, “make it more trusted - I don't want to buy because the retailer paid, I want to buy because it's credible”.

- Relevancy related: “Returning wider search results. All results tailored to my search history, makes it hard to find, local suppliers”, “Have more optimized results from the search”, “Improve the local relevancy”.
- Pricing related: “Pricing history feature”, “Price comparisons”, “Tracking historic prices, similar to PriceSpy, so I know I'm buying at a good price”.

Consumers were also given an opportunity to share anything they wished on the usage of technology to purchase online and what's important to them as consumers. 87 consumers elected to share feedback and this feedback adds some extra insight into the data collected. These were grouped into the following themes:

- Ease of purchase - 18 comments related to:
 - Easy of navigating the site being important;
 - Ensuring a minimum number of steps to checkout;
 - Remembering the basket when a consumer leaves and comes back;
 - Example of comments included: “to minimise clicks & steps, to be able to move back and forth to checkout basket to continue shopping, to easily edit checkout basket, to create a basket and come back to it hours/days later and not have to repeat the action of adding items.”
- Privacy/Data security - 14 comments related to:
 - Data protection and ease of declining cookies;
 - Secure checkout;
 - Example: “Fear of fraud especially at the moment- reluctant to use bank card”.
- Delivery and returns - 14 comments related to:
 - Transparency and speed of delivery;
 - Free and easy returns;
 - Example: “Platform must easily display how to return items, how long delivery will take”.

- Reviews (12 comments) and Visuals/Videos/Clear descriptions (5 comments) included:
 - The importance of reviews related to the company consumers are purchasing from as well as the accuracy of the product details being offered;
 - The quality of the images or videos being shown;
 - Example: “people's experience with the product, direct link to the product, several images or video about the product”.
- Price comparison/deals - 11 comments related to:
 - Consumers comments that they were pricing around for the best deal and comparing across online stores;
 - Example: “I prefer the search so that I can find specific items and find good bargains across a range of sites”.
- Amazon - 7 comments:
 - Amazon was commented on a number of times – ease of use, quick to find what you are looking for, verified sellers. However, there was feedback that some of the ratings didn't appear to be trustworthy.
 - Example: “Its easy to search and find items by multiple sellers. There should be an Irish equivalent for Irish SME, essentially a Portal to multiple businesses. If I have to go through 5+ SME sites to try and view and compare products I'll give up. I'd pay slightly more for it on Amazon as my time is worth more for ease of use”.
- Other: App experience (2), Values of company (2), more Choice (4), Customer Support (4), Convenience (7).

Summary of Consumer questionnaire findings

The main findings were:

1. Consumers are not just purchasing for themselves – they are purchasing for their partner, their kids, family members, their pets etc.
2. Their main reason for shopping online is convenience, followed by more choice.
3. According to consumers who completed this survey, the most preferred digital marketing technology to use when purchasing online is search engine technology with 71% selecting this technology. 90% found it easy to use and 74% enjoyed using it.
4. The least preferred digital marketing technology to use to purchase was Facebook with 31% of respondents selecting it. The second least preferred was TikTok with 27% selecting it. Trust/data privacy was found to be important to Consumers in this research and negatively impacts usage.
5. Consumers are looking for:
 - more effective product descriptions and visualisation (19%)
 - more functional navigation and filtering (15%)
 - better ease of use, including ease of purchase (11%)
 - less ads (9%)
 - more protection, including verification of site, buyer protection (8%)
 - better relevancy (7%)
 - enhancements around pricing info, including price tracking and price comparison (5%)

7.5 Summary of findings

From the interview process, the SME and Consumer questionnaires, and the content analysis, the key findings were:

- The main change in digital marketing technology usage from pre-Covid to now was a decrease in those that ‘never’ used digital marketing technology in that period
- SMEs’ most used technologies were Instagram and Facebook. The main factors contributing to this were:
 - *Relative Advantage* - easy to engage with my customer through this platform (Facebook 91%, Instagram 95%).
 - *Compatibility* - attracts the right customer for my business (Facebook 83%, Instagram 80%).
 - *Complexity* - easy to set up (Facebook 73%, Instagram 89%) and easy to use (Facebook 91%, Instagram 95%).
 - *Observability*: must be on this platform as my competitors are (Facebook 100%, Instagram 84%).
- While Instagram and Facebook were deemed most useful, the numbers of SMEs that were easily able to measure the return of investment/efforts with these platforms wasn’t high with just 36% agreeing with this statement for Facebook and 32% agreeing with this statement for Instagram.
- Instagram and Facebook usage was confirmed by content analysis of over 100 retailers with 98% of SMEs using Instagram and 97% of SMEs using Facebook. Facebook appeared to be updated more regularly than Instagram.
- SMEs’ least used/not used at all technologies were Pinterest and Twitter, followed closely by TikTok. ‘Lack of time’ and ‘Customers/audience for my product/store aren't using it’ were the main reasons selected for the options chosen.
- The platforms that were perceived as most useful during the CDJ from an SME perspective were:
 - Pre-Purchase: Instagram and Facebook.
 - Purchase: Instagram and Email Marketing.
 - Post Purchase: Email Marketing and Instagram.

It's noteworthy that participants appear to struggle with how Pinterest, TikTok and Twitter can play a role in their digital marketing activities

- For Consumers represented in this survey, Search was the most preferred technology (73%) to use when making a purchase online. The main reason provided for selecting Search technology was that the platform was easy to use with 90% either agreeing or strongly agreeing.
- The least preferred option for the Consumers represented in this survey for purchasing online was Facebook followed closely by TikTok. The main reasons selected across all platforms for least used or not used at all were: 'don't enjoy using it' (169 people selected this) and 'concerned about how my data is stored' (99 people selected this).

Figure 52 brings a summary of these data points together overlaid on the DOI model.

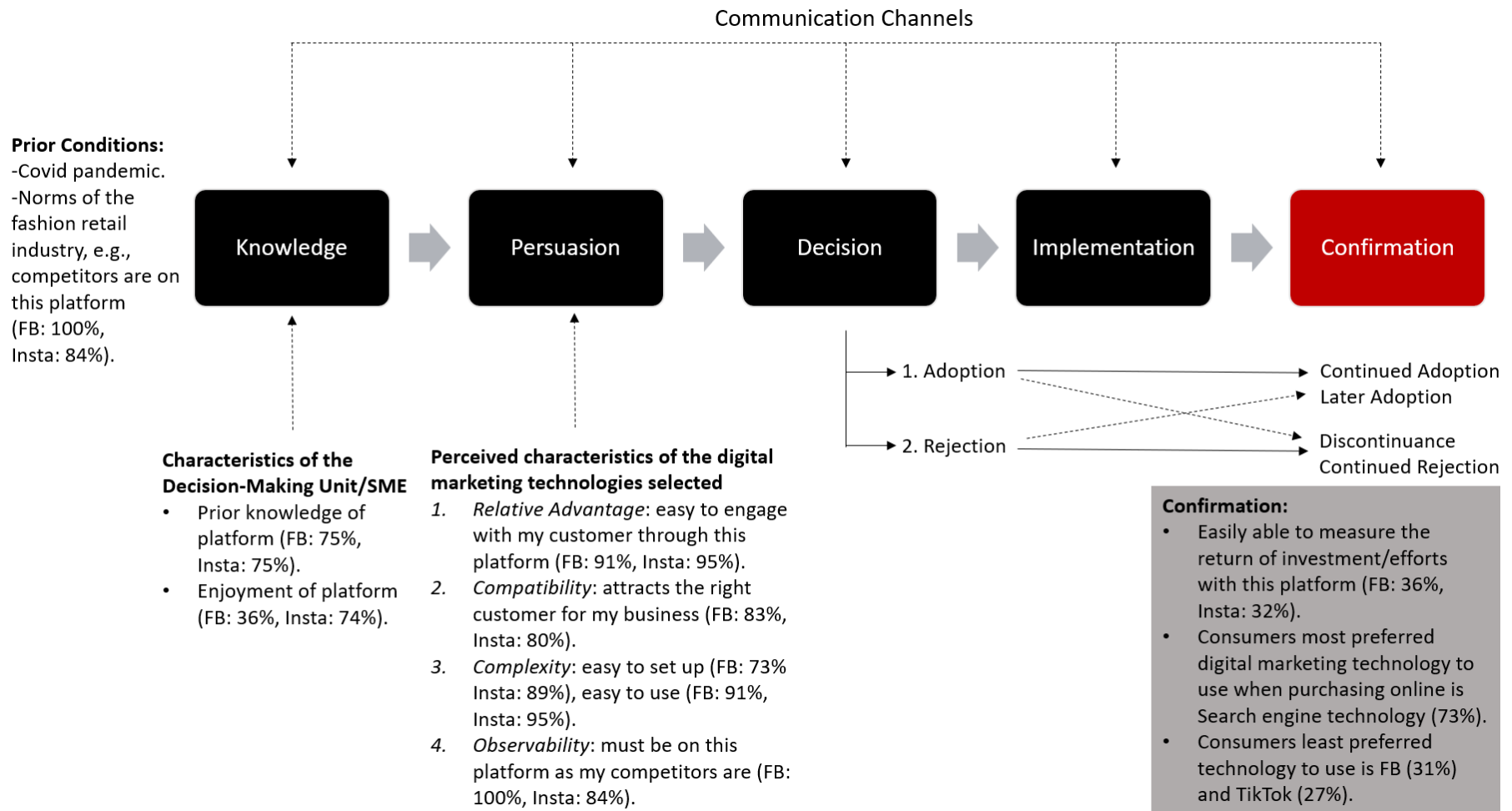


Figure 52: DOI overlaid with survey findings

Note: FB=Facebook, Insta=Instagram

Chapter 8: Summary and Conclusions

8.1 Discussion

There are a number of important findings in this research and contributions to Computer Science.

SMEs appear to have accelerated their progression along the diffusion curve for digital marketing technology, due to the needs created by the COVID-19 pandemic. This appears to confirm Effendi *et al.*'s (2020) findings that the environmental context impacted social media adoption.

While SMEs are using digital marketing technologies, it appears that they are finding it challenging to measure the Return on Investment (ROI) of their efforts. There may be a need for SMEs to prioritise the Confirmation stage of their technology adoption efforts to understand whether their technology choices meet their needs. They appear to be prioritising the use of Instagram and Facebook due to ease of use and their observation of their competitors using these technologies. It could be suggested that they have adopted these technologies due to the “decisions of their neighbors in the social network” (Alkemade and Castaldi 2005, p. 22). Previous research by Van Akkeren and Cavaye (1999, p.65) found that “external pressure” was a factor in SME technology adoption also.

Familiarity of the platform appears to have supported technology adoption which confirms previous research findings (Agarwal *et al* 2000).

Consumers have a preference for Search engine technology as the platform they most prefer to use when making a purchase online as they find it easy to use (similar to findings by Liaw and Huang 2003), can easily visualise what they are purchasing and can find reviews.

Consumers' least preferred technology to use when making an online purchase is Facebook. Concerns on how data is stored and not enjoying the technology were the main reasons chosen for this selection. Lack of enjoyment was also a factor in the selection of TikTok, which was the next least preferred technology to use.

From these findings, there appears to be a disconnect on where SMEs are investing their limited resources (i.e. Facebook and Instagram) versus consumer purchasing preferences (Search engines).

The CDJ is another layer that needs to be considered by SMEs to enable them to be successful in attracting the right audience for their products. While Search is the most preferred technology by Consumers when it comes to purchasing online, other platforms may be playing other roles that are important to an SME. SMEs appear to struggle with the role that Pinterest, TikTok and Twitter play in the CDJ with little usage on these technologies to date.

Consumers shared a number of areas that would make it easier for them to use these technologies: improvements in product descriptions/visualisation, navigation and filtering, improvements for ease of use, reduction in ads and better consumer protection.

Some of these SME findings appear to be validated also by Ratnasingam *et al.* (2021), who found that COVID-19 accelerated digital marketing adoption amongst furniture retailers in Malaysia, however they have not gained the maximum benefits of this adoption due to a lack of expertise in this area.

The next sections address key concerns to bridge the gap between SMEs using digital marketing technologies and consumer needs: assessment of confirmation stage, usability and enjoyment, and finally privacy concerns.

Confirmation Stage: Assessing whether SMEs are getting the ROI from their digital marketing technology choices

SMEs may have adopted digital marketing technologies without fully comprehending how to get the most value from that technology. This would appear to confirm Kwon *et al.*'s (2021) findings on this:

SBMs' decision to use SM(Social Media) is directly driven by the pressure to meet their customers' demand for SM presence or the fear that they may stay behind their competitors who use SM. In fact, findings of this study suggest that external pressures may rather increase

SBMs' perceptions of barriers to using SM. Given that external pressures are also linked to increased perceived usefulness of SM, the pressure from external environments are likely to push SBMs to adopt SM when they do not yet fully understand the ins and outs of SM, often leading them to taking faulty steps in their SM activities and feeling challenged.

(Kwon *et al.* 2021, p. 6)

Familiarity with the technology, observability and ease of use appear to have driven their technology adoption choices. However, with Consumers appearing to prefer Search engine technology as their technology choice when making a purchase, this may be a missed opportunity for SMEs. Ratnasingam *et al.*'s (2021) research also highlights that furniture buyers use Search to find potential furniture suppliers and that there is a need to adopt this technology also to target their potential audience.

Previous research highlighted the importance of SMEs understanding what they are doing when it comes to digital marketing and being proactive (Riyad and Hatem 2013). Digital marketing technology can support SMEs be more competitive (Molinillo and Japutra 2017). So the Confirmation of technology adoption choices is important and is likely to become more important with more digital marketing technology options to choose from. Measuring the ROI of the technology choice is challenging if an SME isn't clear on the role that that technology is playing in their strategy (Todor 2016). Defining the goals or objectives of the SME with the technology options available at each stage of the CDJ will support SMEs understand whether these technologies are supporting their goals.

Usability and enjoyment of technology platforms

There are a number of usability asks that came from consumers. "Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process" (Nielsen, 2012). The importance of product descriptions, product visualisation and navigation were highlighted in the verbatims received. Davis (2015) advises against being simplistic when it comes to usability – "Treating usability as a catchall concept invites failure to distinguish usefulness from ease of use as an important design criterion" (Davis 2015, p.400). Furthermore,

although ease of use is clearly important, the usefulness of the system is even more important and should not be overlooked. Users may be willing to tolerate a difficult interface in order to access functionality that is very important, while no amount of ease of use will be able to compensate for a system that doesn't do a useful task.

(Davis *et al.* 1989, p.1000)

With this context, ensuring there is value from the platforms selected and that that value can be easily measured is paramount. Existing tools should be improved, and become easier to use, to help SME users to make decisions in their marketing strategies to both attract and retain customers. Given the feedback on product descriptions and visualisation, this research suggests that there is a need to enhance this experience for Consumers when shopping online. For example, Virtual Reality (VR) can lead to enhanced sales (Park and Kim, 2018), although consumers have “a limited awareness regarding VR and therefore require more time to accept the technology” (Xue *et al.* 2020). 3D images can also drive impact as it “offers user control over the inspection of a product” (Li *et al.* 2002).

Consumers also expect a “seamless, integrated and holistic customer experience, regardless of channel” (Dwivedi *et al.* 2021, p. 7). From an SME standpoint, integration of digital marketing activities with ease of purchase could support both the Consumer experience and the SME in terms of ease of measurement of impact of various channels. Digital marketing technology providers are starting to implement technology solutions to bring many channels together, like Microsoft launching Multi-platform that lets you manage campaigns across Microsoft, Google, Instagram and Facebook (Farley 2022).

Davis *et al.* (1992) also found that perceptions of how useful a technology is the primary reason for technology adoption, followed by enjoyment of that technology. Dickinger (2008) found perceived enjoyment and social norms to support adoption of technology. While increasing the enjoyment of a platform may seem like the solution for SMEs technology adoption, caution is needed as “enhancing enjoyability may increase the adoption of marginal or unproductive systems” (Davis *et al.* 1992, p. 1125). “Enjoyment has a greater positive effect on intentions when the computer system is perceived to be more useful” (Davis *et al.* 1992, p. 1125) so prioritising usefulness of a technology would appear to be more important

than the enjoyment factor. From a Consumer standpoint however, enjoyment could support the customer journey, as it promotes a better user experience (Wirtz and Göttel, 2016).

Consumer Privacy concerns

The research also highlights consumer concerns on privacy and data protection, particularly in relation to Facebook. To ignore these concerns would be a missed opportunity to better engage with consumers. While there are benefits to having access to consumer data, such as personalisation of offerings (Martin and Murphy 2017), the concerns of consumers have to be addressed to provide confidence in the technology available. One piece of feedback from the Consumer questionnaire captures the personalisation paradox (Dwivedi *et al.* 2021) well “I don't want to see ads, but if i have to i want them to be more personalized. At the same time i don't want my personal information to be sold. Solve that controversy.” While personalisation can lead to a higher chance of purchase, it’s important to be transparent with consumers about how the data collection is taking place (Aguirre *et al.* 2015). In a study of 123 participants, it was found:

when firms covertly collect data from customers and use the information to provide highly personalized advertising, it has negative consequences, such as lower click-through intentions. However, if firms take the initiative to inform customers about their data collection procedures, this negative effect disappears

(Aguirre *et al.* 2015 p.43)

In research completed by KPMG, 86% of the respondents said they feel a growing concern about data privacy, while 78% expressed fears about the amount of data being collected (Lucas 2021). In that same research, 30% say they wouldn’t be willing to share their data under any circumstances and 12% would share their data to make ads more personalised (Lucas 2021). Kim and Kim (2011) investigated implementing a third-party privacy seal or certification to build trust and reassure Consumers when purchasing online. They found that such a certification provided “evidence of trust transference from a well-known third-party seal to an unfamiliar retailer website” (Kim and Kim 2011, p.154).

Bringing the findings of this research together with the DOI theory suggests that the gap for SMEs is in the Confirmation phase where Consumer preferences need to be understood further and the importance of measuring ROI is highlighted. The prior conditions were set with the pandemic forcing SMEs to move online and take action and Consumers having a need to move online to get access to products. The norms within the fashion retail were formed quickly with those that already had an online presence being able to take advantage of the situation and given the visibility of what they were doing online, pushing others to take some of the same actions from a digital marketing perspective to survive.

Many SMEs had some knowledge of some digital marketing platforms with 83% having previously used Facebook and 95% having used Instagram. Enjoyment by SMEs is evident from this research for Instagram (75%). From a persuasion perspective of these technologies, relative advantage, compatibility, lack of complexity and observability have supported adoption of Instagram and Facebook by SMEs. The content analysis highlighted that SMEs were indeed utilising these technologies. However, the Confirmation stage may still need to be completed by SMEs to understand if these decisions are the right ones for their business or whether additional effort in other technologies may be required.

8.2 Conclusion

This research set out to investigate:

- What digital marketing technologies have SMEs adopted?
- What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre and post Covid?
- How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?

After providing the context to this research and an overview of technology adoption models, this research then aimed to address the research questions through a mixed methods approach that included data collection and analysis:

- Semi structured interviews with SMEs, questionnaires with SMEs and an analysis of 105 fashion retail SMEs' online presence in Ireland to understand digital marketing technology usage.
- Questionnaires with Consumers to understand their technology usage preferences and gain an understanding as to whether those matched with SME decisions and preferences.

RQ1: What digital marketing technologies have SMEs adopted?

There are a number of digital marketing technologies being used by SMEs, but this research suggests that those considered most useful by SMEs for fashion retail are Instagram, Facebook, Search and email marketing. Pinterest, TikTok and Twitter are being used by some SMEs and to a lesser extent. The top 2 most useful are Instagram and Facebook from the questionnaire undertaken by SMEs and this appears to be backed up by the content analysis of over 100 retail sites.

RQ2: What Diffusion of Innovations (DOI) factors affect social media and Search technology adoption, and to what extent did adoption change pre and post Covid?

The results of this research suggests that the most used technologies are Instagram and Facebook and that relative advantage, observability and lack of complexity appear to be the critical factors in the SME decision-making. However, the Confirmation stage does not appear to have been completed yet with a large percentage of respondents not being able to say with certainty that they can measure the ROI of these two platforms. With the OECD (2021) predicting that online purchasing is here to stay, the Confirmation stage cannot be ignored and it's important to ensure that the most effective digital marketing technologies are being used by SMEs to grow their businesses.

During the period since the start of COVID-19, there has been a reduction in those SMEs that have 'never' used these digital marketing technologies between pre-Covid and now, and COVID-19 appears to have been a catalyst to accelerate the fashion retail SMEs' usage of these technologies.

RQ3: How do the potential consumers of these SMEs perceive this technology as it relates to digital marketing and their customer journey?

Consumers appear to prefer Search as their digital marketing technology to use when purchasing online with 90% either agreeing/strongly agreeing it's easy to use. Facebook is the least preferred technology with concerns on how data is stored and lack of enjoyment of this technology appearing to be factors from these results.

When the SME viewpoint and the Consumer perspective is taken into account, there appears to be a mismatch between SME preferences and Consumer preferences. With this insight, the importance of the Confirmation stage in the DOI model is particularly relevant.

8.3 Original Contributions of the Research

The findings in this research contribute to Computer Science research in a number of ways:

- It helps to support an understanding of the factors driving SMEs choice and adoption of digital marketing technologies; identifies factors relevant to SMEs that also affect their customers' journey and it provides recommendations for future design and development to improve the usability, acceptance and adoption of digital marketing technologies.
- It highlights the importance of the Confirmation stage in the technology adoption process. Little research could be found on this part of the DOI framework. From an SME standpoint, this is critical in determining if the decisions chosen are the most appropriate for business performance given the time constraints that SMEs must work within. KPIs such as visits to the SME's website, conversion rate, CPCs are important for understanding the value of the digital marketing technologies being used.
- This research bridges the gap in terms of SMEs and customers needs, with insights from the context of Irish retail marketing technology adoption post-COVID19.
- While individual digital marketing technologies have previously been reviewed and social media technologies have previously been reviewed, this research attempts to evaluate digital marketing technologies as a cluster across social media, Search and email management from both an SME and a Consumer perspective.
- This research also contributes to the data privacy versus personalisation work that has been done. This area is becoming more important to Consumer technology adoption choices, and this brings new challenges that should not be addressed by SMEs, but by designers and developers in existing and future digital marketing technologies to close the gap between SMEs and their customers.

8.4 Limitations and Future Research

Limitations

There are a number of limitations with this research:

- The interviews and content analysis were all done with Irish based fashion retail outlets. The ability of the results being generalised should be further studied.
- Content analysis couldn't be applied to SEM and email marketing given the lack of ability to measure consistently.
- The SME questionnaire sample size of 20 meant that generalisations could not be made due to the variety of products and services.
- The majority (almost 66%) of the Consumer questionnaire respondents were based in Ireland. Further studies need to be carried out to compare results in different geographic or socio-cultural context.
- In the case of both surveys, there was an element of self-reporting from respondents rather than specifics being objectively measured. These results therefore need to be interpreted with caution.
- This research did not include a comparison to larger retailers and their impact on SME decision making, which could be valuable to understand how SMEs could compete with bigger players in this space.
- Other digital marketing technologies could be included to broaden this further, including Amazon and a SME's own app experience.
- Incentivising the local economy is one of the targets for sustainable development, and the impact of digital marketing technology in supporting this should be further evaluated.

Future Research

This research has opened up interesting data points that are worthy of further analysis:

- The Confirmation stage of DOI is an important area for deeper investigation. While this research highlights its value in the digital marketing technology adoption area, this should be researched further in other areas.
- 27% of Consumers shopped for themselves only, while the majority (73%) shopped for others also. Understanding the opportunity here could open up new possibilities for businesses from a personalisation standpoint and is worthy of further analysis in conjunction with data privacy concerns.
- Privacy and trust will need to play a bigger part in technology adoption decision making given the Consumer awareness of issues in this area. Evaluating how digital marketing technologies can help SMEs manage consumers data and choices safely will become more important.
- Time is a critical factor for SMEs in digital marketing technology adoption. There is a need for digital marketing technology providers to simplify the process of managing multiple platforms in a seamless way for SMEs and make it easy to measure the return of investment. Research on usability in this area would support technology development. As Ritz *et al.* (2019, p.193) also highlights, this is important as “a wake-up call to the digital media industry, because neglecting small businesses’ digital marketing needs could mean losing profitable interactions with a powerful economic segment”.
- With more digital marketing technologies becoming available, like TikTok and Pinterest, understanding the impact of each technology on a SME’s particular audience and the incremental value of adding an additional digital marketing channel to the mix will become critical for SMEs. Deeper analysis on each individual platform and it’s benefits for different audience types could be beneficial.
- Many usability opportunities were raised in this research, particularly around navigation and product visualisation. This is worthy of a deeper analysis and testing to support improvements for consumers.

- Environmental factors around sustainability and local shopping availability could be valuable to explore given the feedback on being able to filter for local products and being able to find more sustainable option.
- Finally, at the time of writing the Search experience is going through radical change with the advent of Open AI. Given consumers' preference for Search, it will be important to evaluate how this evolving experience can be utilised by SMEs to support their business. An example of this experience from a fashion retail perspective is in Figure 53.

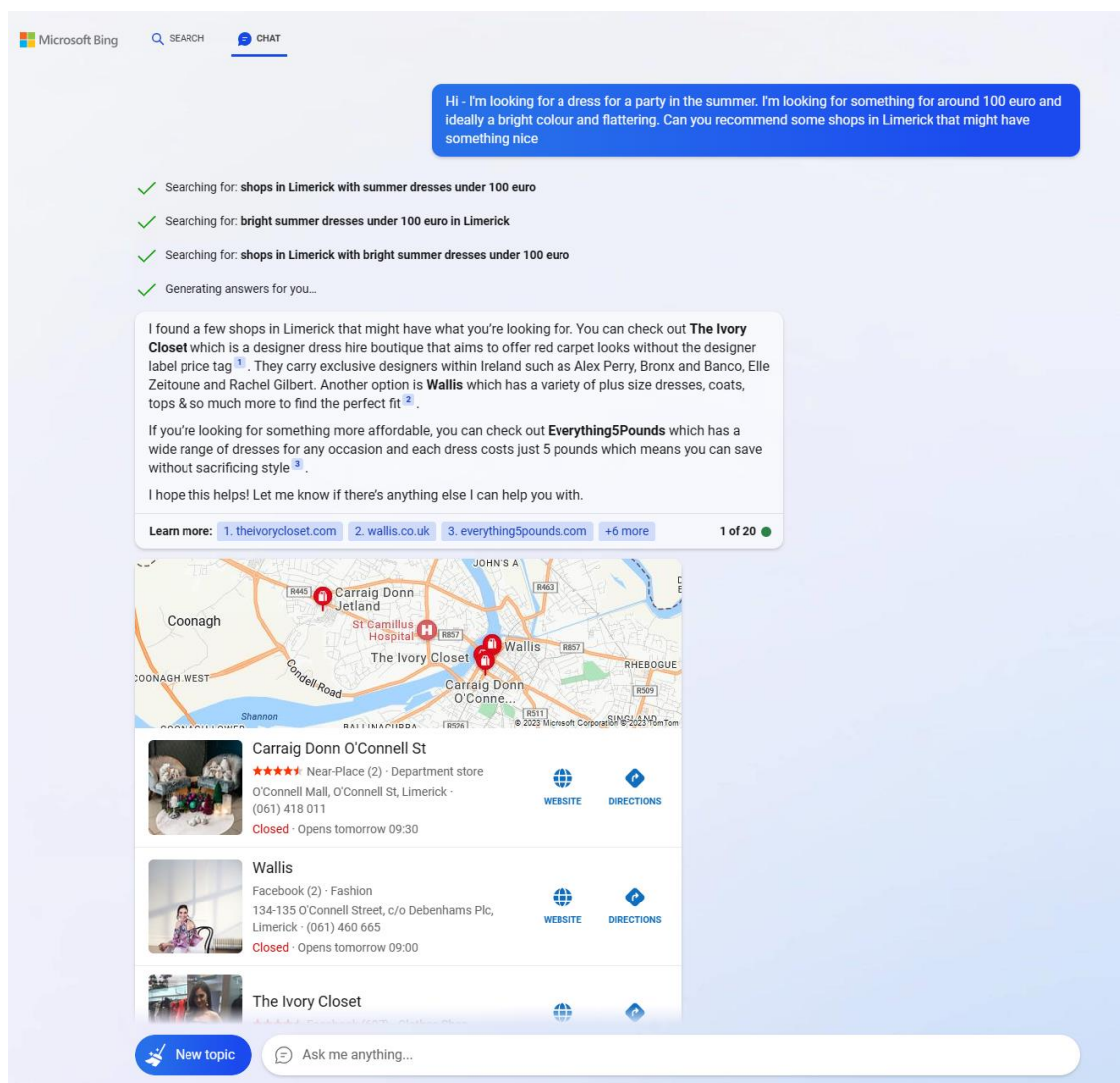


Figure 53: Screenshot from a Search query run on the Bing chat experience built on Open AI (Microsoft Edge browser Version 113.0.1774.42 (Official build) (64-bit) [accessed 26 Mar 2023])

8.5 Recommendations for technologies supporting digital marketing for SMEs

Given the findings and the online opportunity with the number of people purchasing online increasing (Pasquali 2023), there are a number of recommendations that are worth considering to enhance the SME experience with digital marketing technologies:

- Mapping out the customer journey for their target audience: different technologies are serving different stages of the customer journey. For pre-purchase, a stronger focus on Search technology to target the SME audience may be appropriate.
- Defining the goals of each platform already adopted: in order to effectively measure the success of a platform, clearly defining the goals of that platform first are important (Lal *et al.* 2020), e.g. is it attracting new clients to the SME website?
- Putting measurements in place to evaluate each of these goals: once goals have been identified, setting up tracking is important. Measuring ROI is critical to understand what's supporting the SME meet their goals and equally importantly, what is not supporting them, or at least not adding incremental value over other platforms.
- Regularly review measurements and make adjustments or optimisations as necessary.
- Based on those results, review activity and technologies adopted to maximise limited resources and budget. As new technologies become available, assess whether they support the SME needs more than the current technologies adopted. This could mean discontinuance of an already adopted technology during this critical Confirmation stage.
- Consider potential technology solutions that bring together multiple technologies and allow changes to be managed within one user interface. This may make it easier to compare results across platform to inform better decision making.

Offering time saving, integrated solutions that easily enable an SME to measure ROI and Consumers to find their desired products will likely lead to positive outcomes for both SMEs and Consumers. Digital marketing technology providers would benefit from integrating HCI expertise into the design of their products.

8.6 Additional recommendations for digital marketing technologies to address customer needs and concerns and improve user experience

There are a number of recommendations that are applicable for digital marketing technology providers. For an SME to take on a new digital marketing technology platform, it must add incremental value:

Uniqueness of innovation is the extent to which the innovation can be substituted by a previously understood innovation. If the actor can readily interchange new innovation with prior innovation and achieve the same desired results, the new innovation is relatively incremental. If no earlier innovation can act as an effective substitute for new innovation, the innovation is relatively radical.

(Rose 2015, p.1)

Incremental value in digital marketing technology could include a number of areas:

- Privacy is becoming more important for Consumers and as a result, SMEs will need technologies that will support them in this area. Technology providers can enhance a user's perception of their platforms by taking proactive action (Lwin *et al.* 2007) to assure SMEs and Consumers alike.
- Usability of platforms for both SMEs and Consumers is important. SMEs are time poor and need to be able to easily measure the results of their digital marketing efforts. Consumers want to be able to filter for local stores, want more options around imaging to view products, want to be easily able to compare pricing across stores and want ease of purchase when they find their desired products.
- Bonetti *et al.* (2018) explored Augmented Reality (AR) and Virtual Reality (VR) in online retailing. Their research suggested that online Consumers were positive on the role of AR. It highlighted that collaboration was needed between AR and VR technologies providers and retailers. Integrating these experiences with digital marketing platforms could lead to rich customer experiences. It should be noted that this could be an expensive option, but could provide “exciting, entertaining and useful experiences for consumers” (Boardman *et al* 2020, p. 11) and if integrated with digital marketing technologies in an easy-to-use way for SMEs, it could be very effective.

As highlighted at the outset of this research, the main goal of HCI is to achieve high usability for users (Hartson 1998) and the findings and research in this dissertation would suggest that this usability needs to include both SMEs' and Consumers' perspectives and needs.

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Appendices

Appendix A – Interview Ethics request

Appendix A contains the participant information sheet and consent form used for the interview part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

Participant information sheet

S&E REC No.
2021_07_01_S&E



INFORMATION SHEET

Dear Participant,

My name is Helena Dillon and I am currently undertaking a Masters of Science at the University of Limerick under the supervision of Dr. Tabea De Wille. The title of my proposed research is ‘Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)’. The purpose of this project is to evaluate search and social platforms for SMEs to use.

As part of this study, I would like to interview you to get your view on the platforms (e.g., Search technology, social media) you use to promote your products and drive awareness of your business. The interview will take place online using Microsoft Teams and will last approx. 30 minutes. The interview will be audio recorded with your permission and the recordings will be destroyed once they have been transcribed. There is no risk to you when participating in this study. Your participation will remain anonymous and your name or any other information that would identify you will not be used in the final report.

There are further phases to this project, and I would be grateful if you could indicate, on the consent form, whether you would be willing to be contacted further about this project. Phases 2 and 3 will be an in-depth case study, and a questionnaire will be sent to a much wider audience via LinkedIn etc.

Your participation is voluntary, and you have the right to withdraw at any time. To participate in this study you must be over 18 years of age.

If you have further questions regarding this research, please feel free to get in touch with either myself or my supervisor using the email addresses listed below.

If you have concerns about this study and wish to contact someone independent, you may contact: The Chair, Faculty of Science & Engineering Research Ethics Committee, University of Limerick, Limerick. Tel: 061 237719

Yours sincerely,

<i>Helena Dillon</i> <i>Helena.Dillon@ul.ie</i>	<i>Supervisor: Dr. Tabea De Wille</i> <i>Computer Science and Information Systems</i> <i>Telephone Number +353 61 213176</i> <i>Email address Tabea.dewille@ul.ie</i>
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Ethics Consent Form

S&E REC No. 2021_07_01_S&E



FACULTY OF SCIENCE & ENGINEERING RESEARCH ETHICS COMMITTEE

Ethical Consent Form

I, the undersigned, declare that I am willing to take part in research for the project entitled “Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)”.

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me, and I have full knowledge of how the information collected will be used.
- I am aware that my participation in this study will be audio recorded and I agree to this. However, should I feel uncomfortable at any time, I can request that the recording software be switched off.
- I am aware that such information may also be used in future academic presentations and publications about this study.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation without having to explain or give a reason, up to a period of two weeks after the data collection is completed.
- I acknowledge that the researcher does not guarantee that they will not use my name or any other information, that would identify me in any outputs of the research.
- I declare that I am over 18 years of age.
- I declare that I have read and fully understand the contents of the Research Privacy Notice.

Signature of participant

Click or tap to enter a date.

Date

____ Helena Dillon _____
Signature of Investigator



____ 29/06/2021 _____
Date

Consent to Contact about Similar Future Research

By **ticking the box**, I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me.

Online Consent Form

Interview: Consent form

* Required

1. Name *

2. Email address *

3. I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate. The nature of my participation has been explained to me, and I have full knowledge of how the information collected will be used. I am aware that my participation in this study will be audio/video recorded, and I agree to this. However, should I feel uncomfortable at any time, I can request that the recording software be switched off. I am aware that such information may also be used in future academic presentations and publications about this study. I fully understand that there is no obligation on me to participate in this study. I fully understand that I am free to withdraw my participation without having to explain or give a reason, up to a period of two weeks after the data collection is completed. I acknowledge that the researcher does not guarantee that they will not use my name or any other information that would identify me in any outputs of the research. I declare that I am over the age of 18. I declare that I have read and fully understand the contents of the Research Privacy Notice. *

Please select if you consent

Please select if you do NOT consent

4. I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me. *

Yes

No

Submit

Never give out your password. [Report abuse](#)

Appendix B – SME questionnaire Ethics request

Appendix B contains the participant information sheet and consent form used for the SME questionnaire part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

Participant information sheet

2022_03_05_S&E



INFORMATION SHEET

Dear Participant,

My name is Helena Dillon and I am currently undertaking a Masters of Science at the University of Limerick under the supervision of Dr. Tabea De Wille and Dr. Katie Crowley. The title of my proposed research is ‘Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)’. The purpose of this project is to evaluate search and social platforms for SMEs to use.

As part of this study, I would like to conduct a survey/questionnaire to understand your digital marketing platform usage to promote your products and drive awareness of your business. This survey/questionnaire is focused on specific platforms that were identified during the interview stage of this work. The survey/questionnaire will take place online using Microsoft Forms and will last approx. 10 minutes to complete. There is no risk to you when participating in this study. Your participation will remain anonymous and your name or any other information that would identify you will not be used in the final report.

Your participation is voluntary, and you have the right to withdraw at any time. To participate in this study you must be over 18 years of age.

If you have further questions regarding this research, please feel free to get in touch with either myself or my supervisor using the email addresses listed below.

If you have concerns about this study and wish to contact someone independent, you may contact: The Chair, Faculty of Science & Engineering Research Ethics Committee, University of Limerick, Limerick. Tel: 061 237719

Yours sincerely,

Helena Dillon
Helena.Dillon@ul.ie

Supervisor: Dr. Tabea De Wille
Computer Science and Information Systems
Telephone Number +353 61 213176
Email address Tabea.dewille@ul.ie

Ethics Consent Form

S&E REC No. 2022 03 05 S&E



FACULTY OF SCIENCE & ENGINEERING
RESEARCH ETHICS COMMITTEE

Ethical Consent Form

I, the undersigned, declare that I am willing to take part in research for the project entitled
'Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)'

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me, and I have full knowledge of how the information collected will be used.
- I am aware that such information may also be used in future academic presentations and publications about this study.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation without having to explain or give a reason, up to a period of two weeks after the data collection is completed.
 - I acknowledge that the researcher does not guarantee that they will not use my name or any other information, that would identify me in any outputs of the research.
 - I declare that I am over 18 years of age.
 - I declare that I have read and fully understand the contents of the Research Privacy Notice.

Signature of participant

Click or tap to enter a date.

Date

Signature of Investigator

Click or tap to enter a date.

Date



Consent to Contact about Similar Future Research

By **ticking the box**, I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me.

Appendix C – Customer questionnaire Ethics request

Appendix C contains the participant information sheet and consent form used for the end user/customer part of this research. The same information, in a web-based format, was provided to those that agreed to participate in the interview.

Participant information sheet

2022_06_08_S&E



INFORMATION SHEET

Dear Participant,

My name is Helena Dillon and I am currently undertaking a Masters of Science at the University of Limerick under the supervision of Dr. Tabea De Wille and Dr. Katie Crowley. The title of my proposed research is ‘Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)’. The purpose of this project is to evaluate search and social platforms for SMEs to use.

As part of this study, I would like to conduct a survey/questionnaire to understand your shopping preferences and whether that has changed since the onset of the pandemic. This survey/questionnaire is focused on specific platforms that were identified during the interview stage of this work. The survey/questionnaire will take place online using Microsoft Forms and will last approx. 10 minutes to complete. There is no risk to you when participating in this study. Your participation will remain anonymous and your name or any other information that would identify you will not be used in the final report.

Your participation is voluntary, and you have the right to withdraw at any time. To participate in this study you must be over 18 years of age.

If you have further questions regarding this research, please feel free to get in touch with either myself or my supervisor using the email addresses listed below.

If you have concerns about this study and wish to contact someone independent, you may contact: The Chair, Faculty of Science & Engineering Research Ethics Committee, University of Limerick, Limerick. Tel: 061 237719

Yours sincerely,

Helena Dillon

Helena.Dillon@ul.ie

Supervisor: Dr. Tabea De Wille

Computer Science and Information Systems

	<p><i>Telephone Number +353 61 213176</i></p> <p><i>Email address Tabea.dewille@ul.ie</i></p>
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Ethics Consent Form

S&E REC No. 2022 06 08 S&E



FACULTY OF SCIENCE & ENGINEERING RESEARCH ETHICS COMMITTEE

Ethical Consent Form

I, the undersigned, declare that I am willing to take part in research for the project entitled
'Search technology and social platform technology adoption in Small and Medium Enterprises (SMEs)'

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me, and I have full knowledge of how the information collected will be used.
- I am aware that such information may also be used in future academic presentations and publications about this study.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation without having to explain or give a reason, up to a period of two weeks after the data collection is completed.
- I acknowledge that the researcher does not guarantee that they will not use my name or any other information, that would identify me in any outputs of the research.
- I declare that I am over 18 years of age.
- I declare that I have read and fully understand the contents of the Research Privacy Notice.

Signature of participant

Click or tap to enter a date.

Date

Signature of Investigator

Click or tap to enter a date.

Date

Consent to Contact about Similar Future Research

By **ticking the box**, I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me.

Appendix D – SME Questionnaire findings

Pre- and Post (Now) Covid digital marketing technologies usage

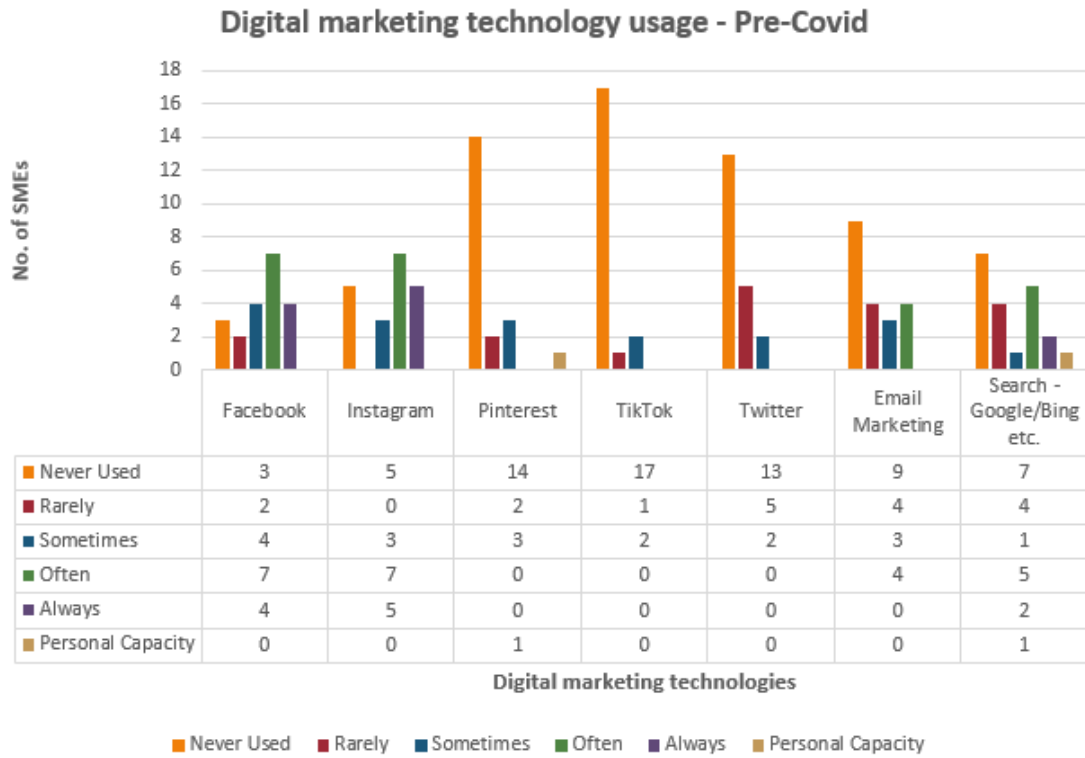


Figure 54: Digital marketing technology adoption by SMEs – Pre-Covid

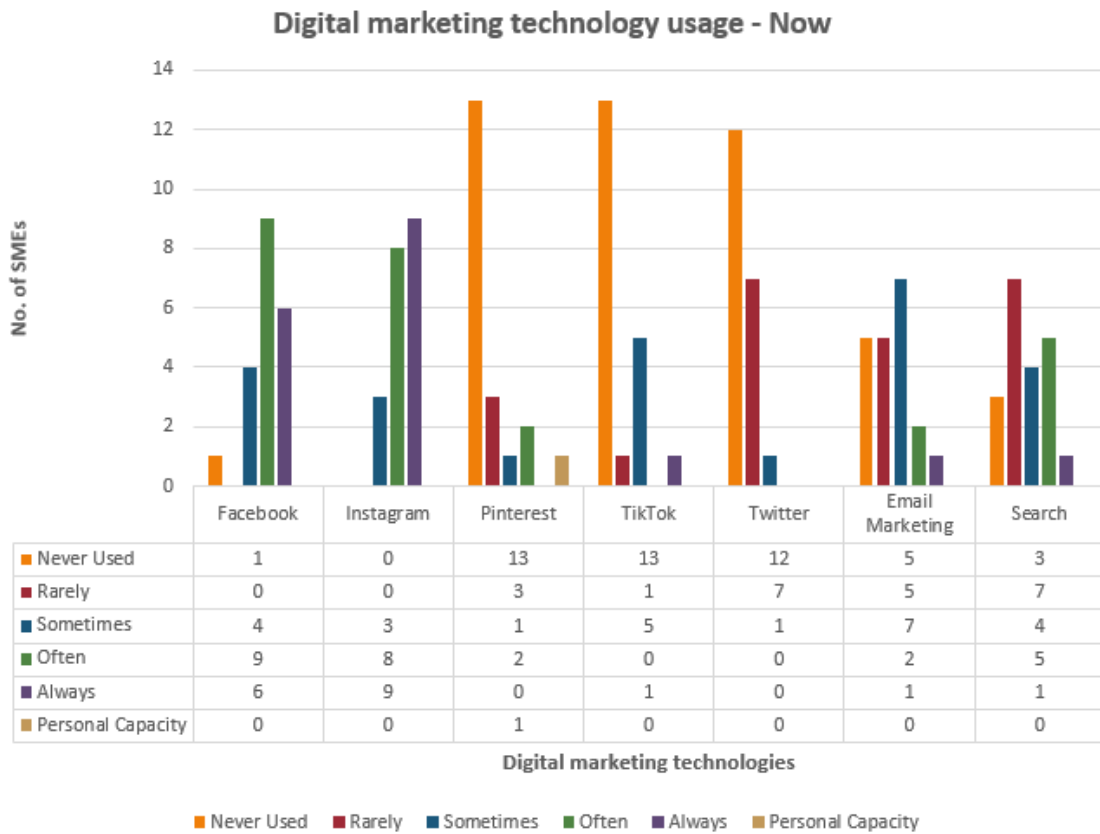


Figure 55: Digital marketing technology adoption by SMEs – Today

Most useful digital marketing technology from an SME perspective

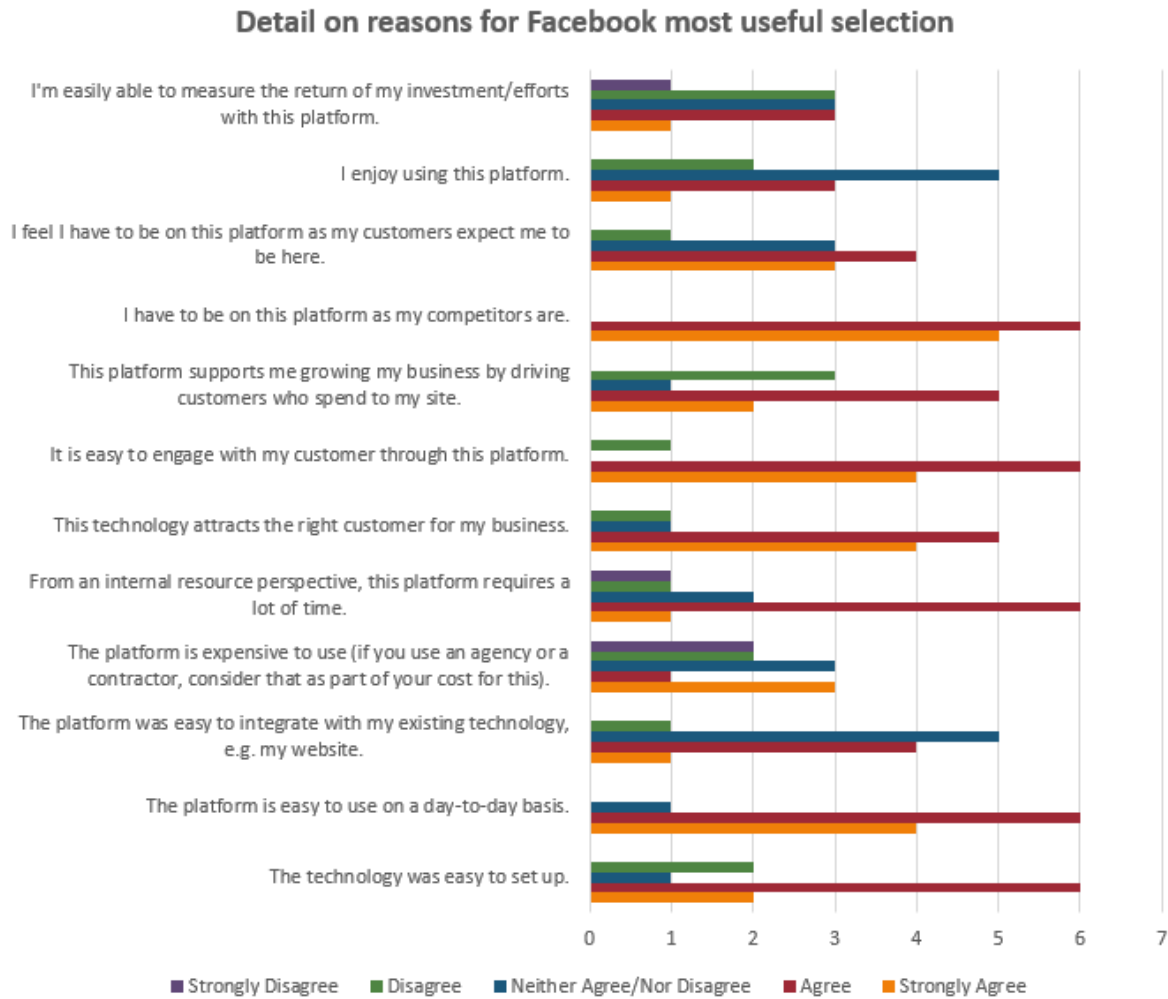


Figure 56: Detail on reasons selected for Facebook as most useful digital marketing technology from an SME perspective

Detail on reasons for Instagram most useful selection

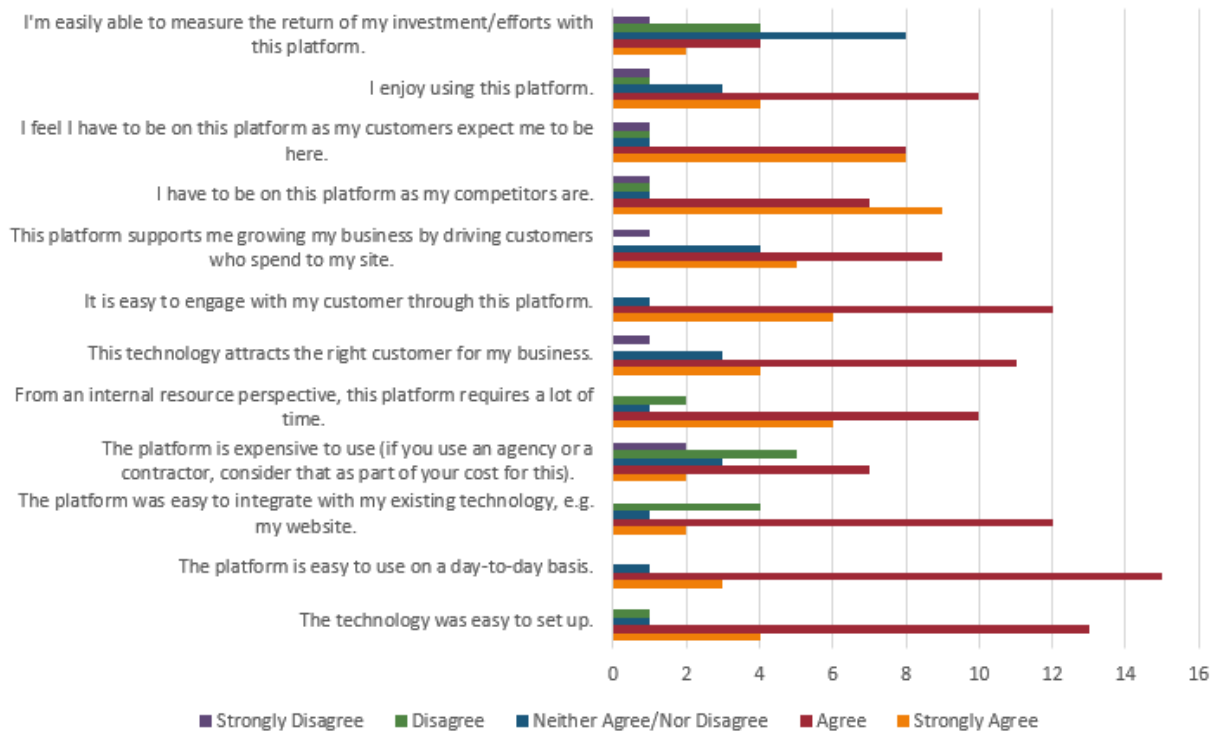


Figure 57: Detail on reasons selected for Instagram as most useful digital marketing technology from an SME perspective

SMEs' perception of most useful technology for Pre-Purchase, Purchase and Post Purchase

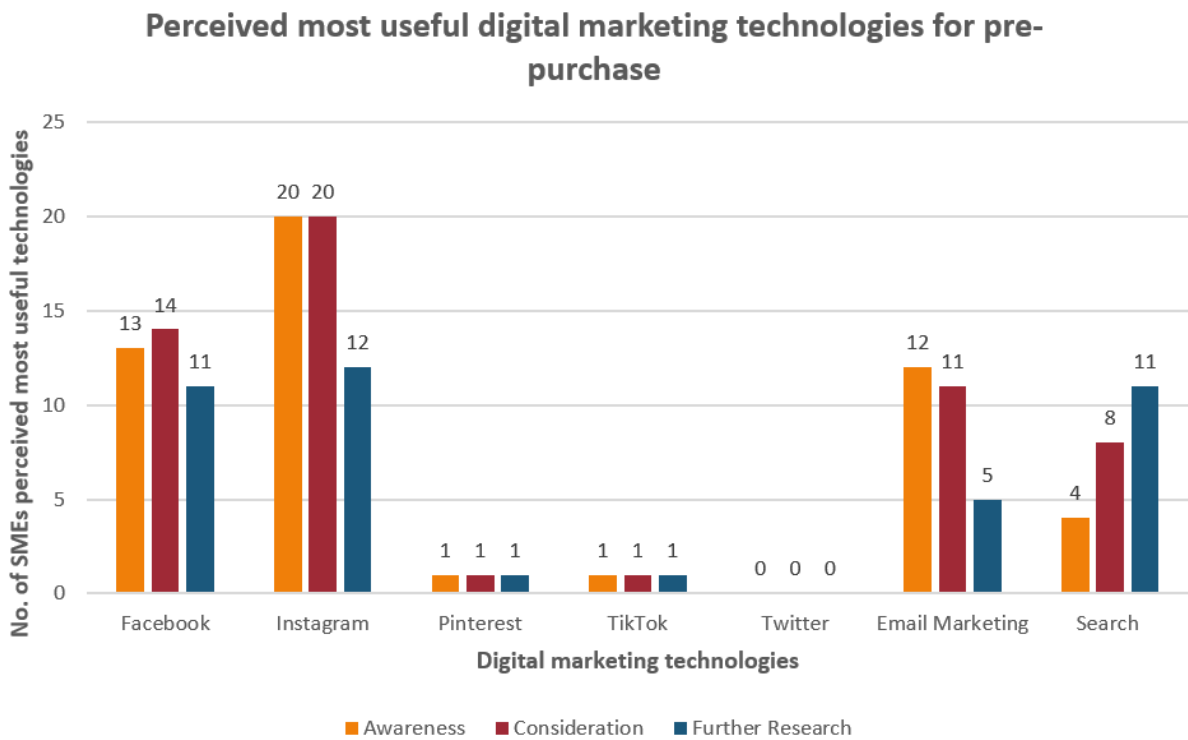


Figure 58: SMEs' perception of most useful technology for Pre-Purchase in the CDJ

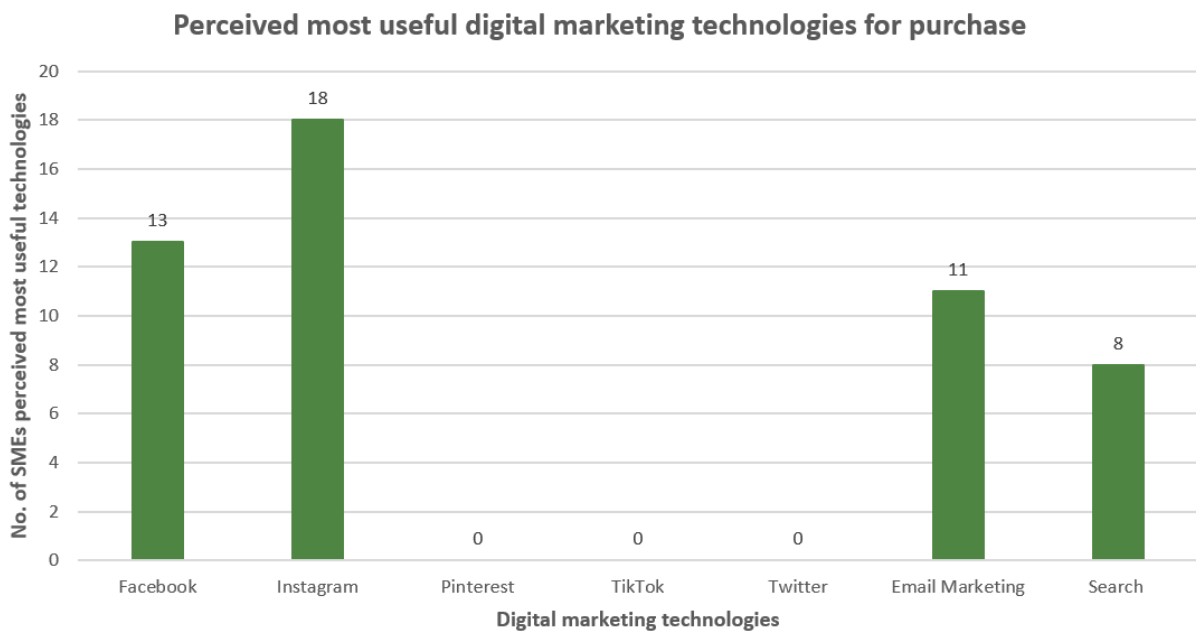


Figure 59: SMEs' perception of most useful technology for Purchase in the CDJ

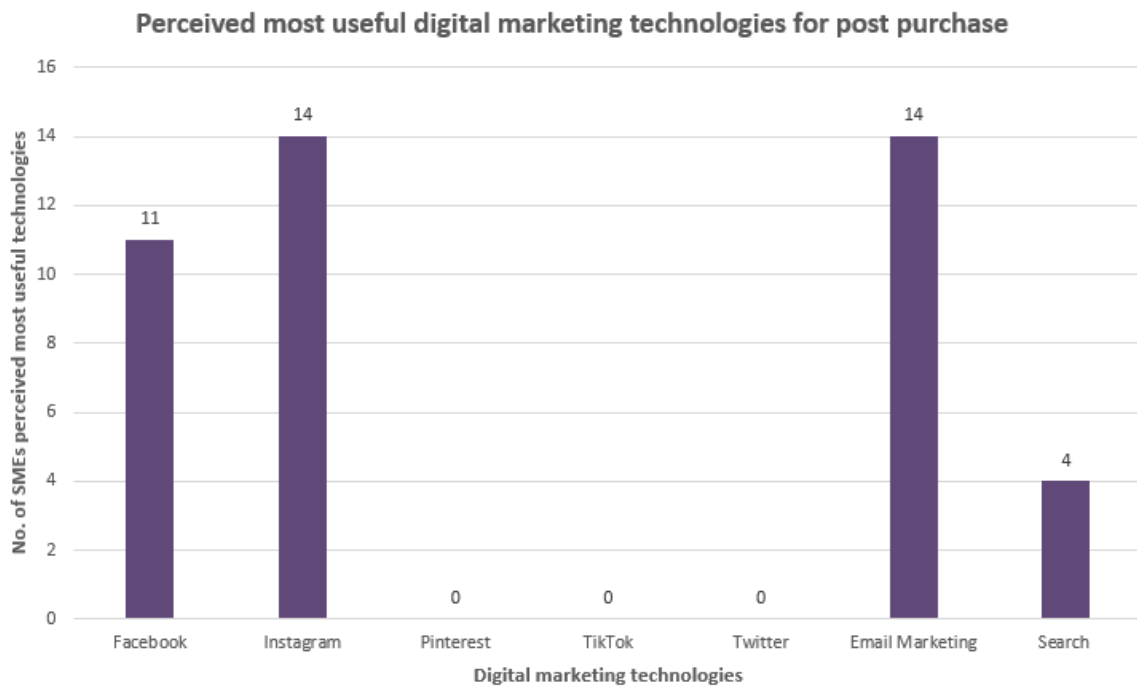


Figure 60: SMEs' perception of most useful technology for Post Purchase in the CDJ

Content analysis findings based on store product type

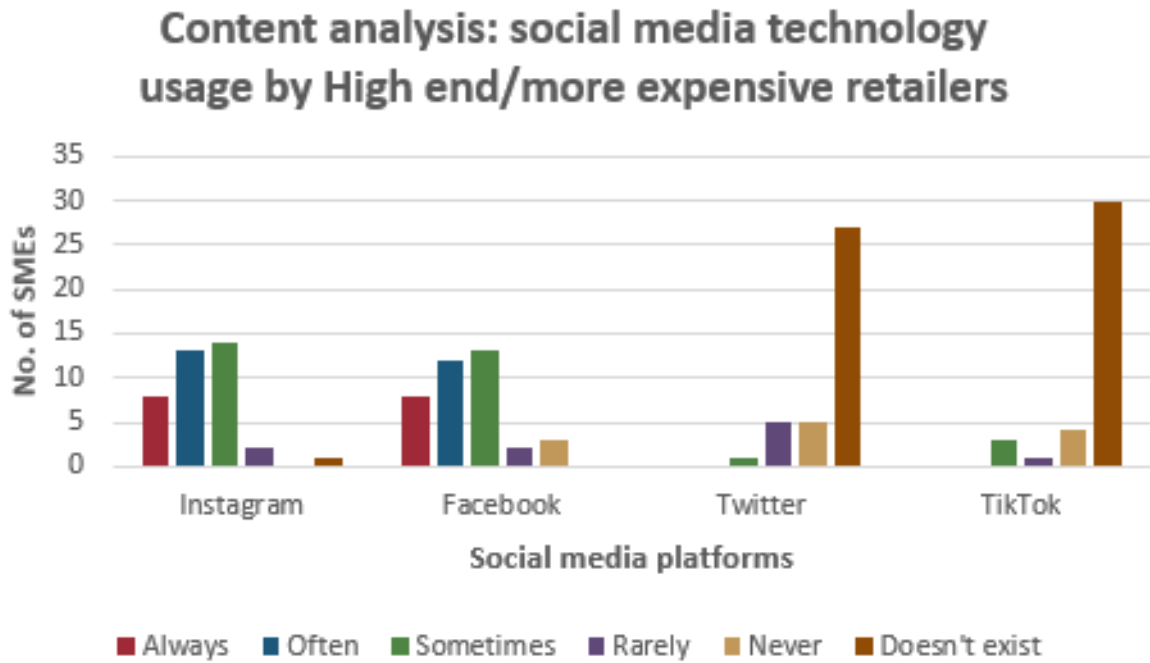


Figure 61: Social media technology usage by ‘High end/more expensive’ retailers

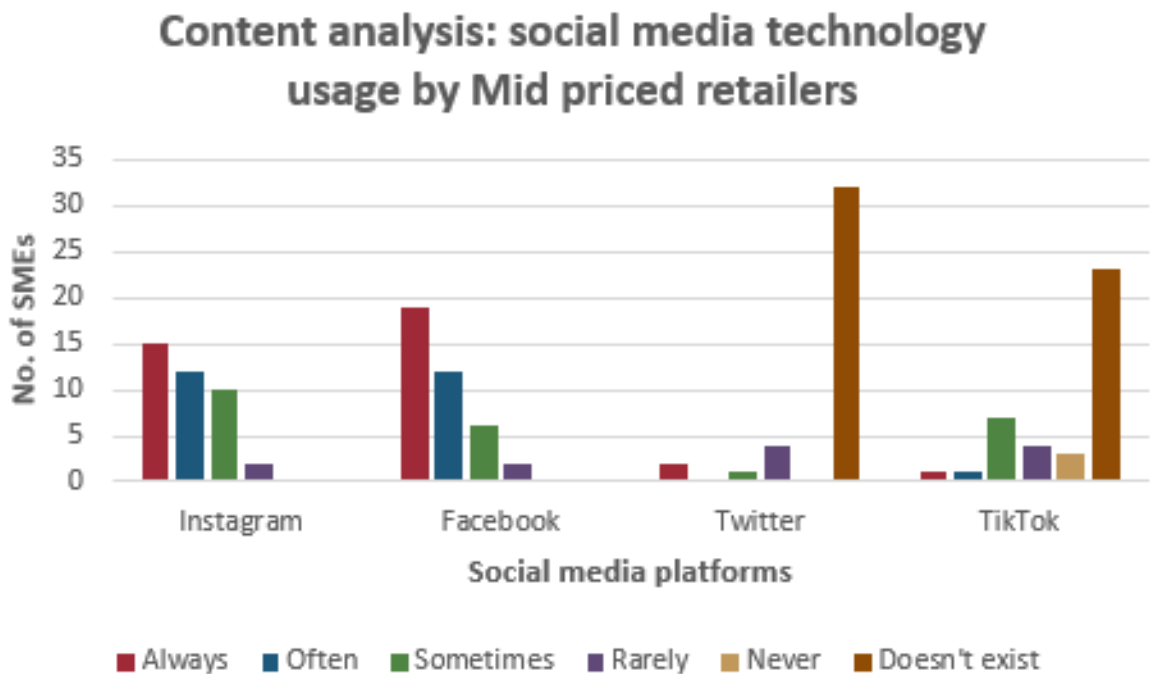


Figure 62: Social media technology usage by ‘Mid priced’ retailers

Content analysis: social media technology usage by Reasonably priced retailers

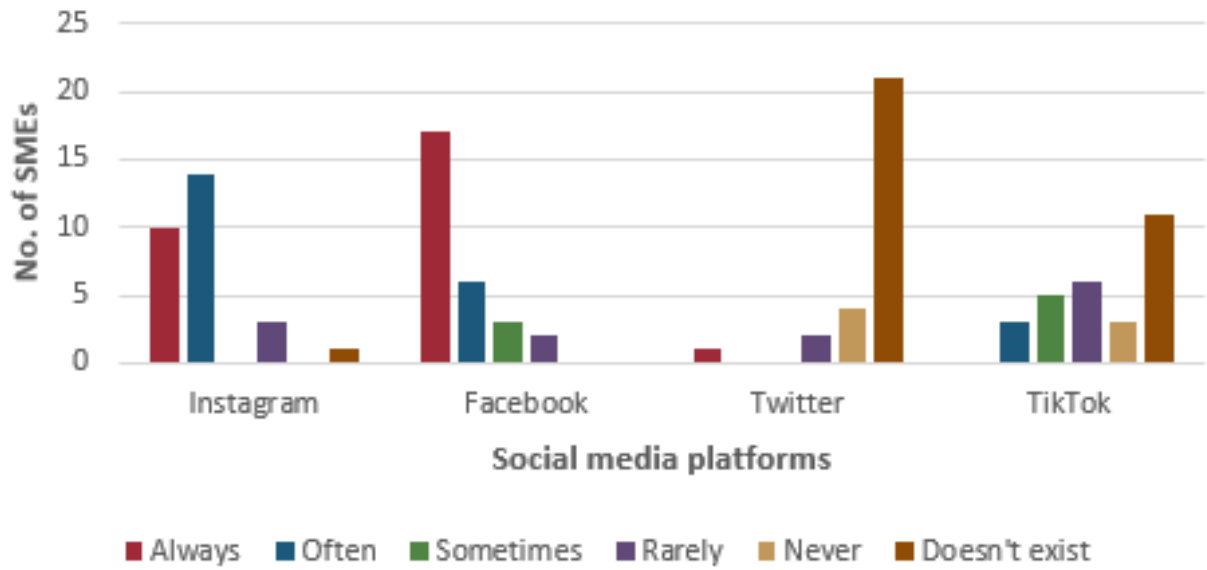


Figure 63: Social media technology usage by ‘Reasonably priced’ retailers

Appendix E – Summary infographic sent to SME interview participants

Infographic that was sent to SMEs that were interviewed for review.

