

# 1

# THE DIGITAL MARKETING ENVIRONMENT

## LEARNING OUTCOMES

When you have read this chapter, you will be able to:

- Understand** digital marketing concepts
- Apply** nudge theory
- Analyse** the UN's Sustainable Development Goals (SDGs)
- Evaluate** buy now pay later (BNPL)
- Create** a plan to develop digital products

## PROFESSIONAL SKILLS

When you have worked through this chapter, you should be able to:

- Evaluate options to develop digital goods
- Create a campaign using nudge theory

## 1.1 INTRODUCTION TO THE DIGITAL MARKETING ENVIRONMENT

Digital marketing is satisfying customers' needs and wants using digital means. Our digits tap, swipe and pinch our devices for many hours each day. We depend on technology to work, rest and play. Uber was founded over 15 years ago, Airbnb and Klarna are nearly 20, Google is approaching 30, Amazon is over 30 and Apple is almost 50 years old. The company that invented the first PCs, IBM, is more than 100 years old. Computing is now ubiquitous (Weiser, 1991), which means that there are computers everywhere – in our homes and cars, offices and universities, on our trains and buses, in our shops, streets and cities, and in our pockets. Yet we don't even notice their presence. We use these devices for digital marketing,<sup>1</sup> which 'can be defined as using any digital technology to facilitate the marketing process, with the end goal of customer interaction, engagement and measurement' (Zahay, 2021, p. 125).

Digital marketing has evolved from the traditional 7Ps (Booms & Bitner, 1980). In this chapter, we'll look at products and places, payments (pricing) and processes. Chapters 3 to 6 look at digital promotion and physical evidence is addressed when considering websites in Chapter 4. People is explored in Chapter 12, 'Managing Resources and Reporting'.

### THE GLOBAL GOALS For Sustainable Development



**Figure 1.1** The United Nations Sustainable Development Goals

Source: United Nations (2015)

<sup>1</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

These changes in our marketing environment also bring challenges. Back in 1972 at a United Nations conference in Stockholm, the concept of sustainability was discussed. It took another 20 years and a conference in Rio de Janeiro where an agenda was set with goals towards sustainability. Eventually, the United Nations created the Global Goals for Sustainable Development (SDGs) in 2015. The UN website explains that the SDGs are ‘a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity’ (United Nations, 2015, p. 1). There are 17 goals, as shown in Figure 1.1, and Appendix A provides more information about the SDGs and how they relate to digital marketing.

Many organisations have signed up to the SDGs, such as the tech companies Meta, Google (under its trading name of Alphabet), PayPal, Alibaba, Huawei, Samsung and Xiaomi, as well as other well-known brands, including LEGO, Nike, McDonalds and Unilever. The SDGs can help companies to achieve their sustainability objectives. Reporting on progress in meeting the SDGs can help to build trust and transparency, as well as contributing to the climate emergency. Throughout this textbook relevant SDGs are applied to different aspects of digital marketing.

### Activity 1.1 Analyse the SDGs

In groups, analyse which of the global goals (SDGs) apply to your university. What evidence do you have to support your arguments? Where can improvements be made to more closely meet the goals? How well does the university communicate its commitment to the SDGs?

## 1.2 DIGITAL MARKETING KEY CONCEPTS

Originally, digital marketing was called e-marketing (‘electronic’) and it was known as internet marketing. We have expanded beyond internet marketing to more connected devices,<sup>2</sup> hence the term ‘digital marketing’. The origins of digital marketing can be found in direct marketing, where companies tried to connect with individuals on a one-to-one basis through traditional letters. In an online context, this was known as internet marketing and evolved due to technological advances, as shown in Table 1.1 (Aghaei et al., 2012; Goyal et al., 2023).

**Table 1.1** Evolution of websites

Web type	Dates	Functionality	Examples
Web 1.0	1989 to 2004	One-way with no conversations	Broker websites, such as MoneySupermarket.com
Web 2.0	2004	Two-way communication and interactive marketing	Facebook and X (formerly Twitter)

*(Continued)*

<sup>2</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

Table 1.1 (Continued)

Web type	Dates	Functionality	Examples
Web 3.0	2006	The <b>semantic web</b> (see Key Term) and intelligent websites	LinkedIn, matching people to jobs
Web 4.0	Now	Integrated technology through the <b>Internet of Things (IoT)</b>	Smartwatches tracking activity and sharing your location
Web 5.0	In the future	More artificial intelligence with intelligent, connected and self-aware machines	Your computer screen assessing if you are happy or sad and making suggestions

### KEY TERM SEMANTIC WEB

Semantics is the study of what something means. The semantic web is where information is given meaning so that it is read by other computers. Simple text on a page becomes intelligent data and can connect to other webpages. For example, a webpage can include an interactive map, where the map data is stored in a separate system (such as Google Maps), a completed form is emailed to a company's database, or external links to social media take you to the right place.

## 1.2.1 THE INTERNET OF THINGS

The **Internet of Things (IoT)** (see Key Term) occurs when our devices are connected<sup>3</sup> (Miorandi et al., 2012) but perhaps we don't realise the amount of IoT in our everyday lives. One device controls other devices and performs many tasks. For example, you may use your smartphone to pay for food, travel on the bus and discover if lectures are cancelled. In your home, your smartphone may control your music, lighting and heating. Through WiFi, Bluetooth and **RFID** (see Key Term) your smartphone connects your things, allowing you to manage your life with one device.

### KEY TERM INTERNET OF THINGS

The Internet of Things (IoT) 'is used as an umbrella keyword for covering various aspects related to the extension of the Internet and the Web into the physical realm, by means of the widespread deployment of spatially distributed devices with embedded identification, sensing and/or actuation capabilities' (Miorandi et al., 2012, p. 1497). IoT means that any device with smart components (such as sensors, RFID) and connectivity (such as WiFi enabled) can be linked. The devices are often referred to as smart devices, operating in smart systems.

<sup>3</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

**KEY TERM** RFID

RFID (radio-frequency identification) is 'an auto identification technology that uses two main types of devices: a reader, which is the master of the communication, and the tags, which have an associated electronic code they use so as to be uniquely identified. The reader interrogates these tags using radio frequency (RF) signals, and the tags respond with their identification code (ID)' (Landaluce et al., 2020, p. 1).

In cities, the IoT (see Chapter 8) relies on sensors or smart tags which are distributed inside and outside buildings. This enables travel systems to adapt to traffic conditions,<sup>4</sup> smart speakers to provide information (time of the next train), robots to perform tasks (take your food order) and smart billboards to respond to people (read **Discover More** for examples). It provides opportunities for marketing and business growth, such as changing the products advertised on digital billboards depending on the weather, for example, promoting ice cream when the sun shines and soup when it rains!

**DISCOVER MORE ON IOT IN ADVERTISING**

Read Khalil et al.'s (2023) article, 'Intelligent billboards targeted advertising systems' published in the *Journal of Art, Design and Music*, for examples of how the IoT is used in outdoor advertising.

**1.2.2 ARTIFICIAL INTELLIGENCE**

Artificial intelligence (AI) uses computer power to automate processes, often faster than humans (Kaplan & Haenlein, 2019). For AI to be successful it requires data, and lots of it, which is known as big data (see 1.3.2). We use types of AI in our everyday lives. For example, when you use a mapping tool, it blends data from maps of the area, the traffic situation, as well as your walking speed. Satellite navigation (SatNav) in your car also pulls in mapping and traffic data, along with the destination details and driver preferences.<sup>5</sup>

AI started in 1997 with a computer game called Deep Blue. The technology can now process the data much faster, so that GPT systems, such as Chat, Google's Gemini and Microsoft's Open AI, can provide meaningful results. We became more interested in big data with the launch of ChatGPT. To put this into context, Netflix took 3.5 years to gain 1 million users, Airbnb took 2.5 years, Facebook took 10 months, but ChatGPT took just 5 days (Leaver & Srdarov, 2023).

<sup>4</sup>This relates to SDG 11 (Sustainable Cities and Communities)

<sup>5</sup>This relates to SDGs 4 (Quality Education), 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

An essential aspect of AI is **machine learning** (see Key Term), so every piece of content that you add to ChatGPT contributes to its database and can be used by others. According to Wang, Huang and Zhang (2019, p. 2), '[t]here are four training categories of machine learning algorithms: supervised, semi-supervised, unsupervised and reinforcement', which are outlined in Table 1.2.

**Table 1.2** Types of machine learning

Type of machine learning (ML)	What this is	Example
Supervised	The ability to follow rules or pre-agreed themes (predictive analytics); it helps organisations to identify trends and make data-driven decisions	Supervised ML identifies potential spam in your inbox (if this = that, then this...) Credit scoring for consumers uses ML
Unsupervised	The discovery of hidden patterns in data, where the data is provided and the machine identified previously unidentified trends	Unsupervised ML can identify consumers who are more likely to buy some products, having added other products to their online cart
Semi-supervised	A blend between supervised and unsupervised, with some themes identified	ChatGPT uses semi-supervised ML based on themes created by the coders and ML discovers more themes from its users
Reinforcement Learning	Where an 'artificial intelligence (AI) agent interacts with its surrounding environment by trial-and-error method and learns an optimal behavioral strategy based on the reward signals received from previous interactions' (Shakya, Pillai, and Chakrabarty, 2023, p. 1)	Often used in factories using robotics which are 'rewarded' for completing tasks and 'punished' when errors occur  Paid ads, through systems such as Google's Max Performance, use reinforcement learning, showing the best performing ads and removing those that don't achieve the set goals (see Chapter 4)

### **KEY TERM** MACHINE LEARNING

According to Professor Tom Mitchell, who wrote the best-selling book on the subject, 'Machine Learning is the study of computer algorithms that improve automatically through experience' (Mitchell, 1997, p. 1).

IBM suggests that 'Machine learning is a branch of artificial intelligence (AI) focused on building applications that learn from data and improve their accuracy over time without being programmed to do so', adding that 'Machine learning focuses on applications that learn from experience and improve their decision-making or predictive accuracy over time' (IBM, 2020, p. 1).

### **DISCOVER MORE ON ARTIFICIAL INTELLIGENCE**

Read Chapter 5, 'AI, big data and business intelligence', in A. Hanlon (2024) *Digital Business: Strategy, Management & Transformation*, published by SAGE, for more details on AI.

### 1.2.3 THE DIGITAL MARKETING TOOLBOX

Traditional marketing communications tools included advertising, sales promotion, public relations (PR), sponsorship, direct marketing and personal selling. They were considered to be the marketing communications toolbox, enabling marketers to communicate with customers. As digital marketing has evolved, so has the marketing communications toolbox. The first digital communication tool was email, which expanded to include websites, blogs and search engines. Social networks followed and then social media advertising. These digital tools were no longer just about simple communications; they enabled two-way or multiple-conversations. They provided rich data and the ability to see which tools were most successful. It is why marketing communications tools are now known as the digital marketing toolbox.<sup>6</sup>

The impact of digital technology has changed how many organisations execute their marketing campaigns and has resulted in the decline of traditional marketing tools, as shown in Table 1.3.

**Table 1.3** The move from traditional to digital marketing tools

Traditional	Digital	Why the change?
Newspaper and magazine adverts	Online adverts; social media, Pay Per Click (PPC)	Newspaper and magazine sales have declined and it's easier to target people online
Door-to-door sales people	Email	Door-to-door selling is expensive and offers can now be personalised to existing customers via email
Company brochures	Websites	Printing brochures is expensive, as is creating websites, but websites are agile and easier to change as needed
Traditional PR	Online PR, blogs	With the decline in newspaper and magazine sales, the number of staff has declined too; online PR makes the process easier
Directories like the <i>Yellow Pages</i>	Search engine marketing	The default is to search online and voice search is growing, so directories have become smaller and are rarely used
Community groups	Social networks	We live in a more mobile world where people move from home towns to find work, so traditional community groups have declined, but social media networks have increased

However, some of our digital marketing tools started over 50 years ago (email, websites, SEO and paid search). Instead of copywriting, where the focus was on text, content marketing has become a key factor in marketing (Wang et al., 2023), along with the growth of agencies managing paid influencers. This development has reset the marketing tools we use. Figure 1.2 shows the digital marketing toolbox.

<sup>6</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)



**Figure 1.2** The digital marketing toolbox

To better understand each of the digital toolbox components, they will be explored in Chapters 3, 4, 5 and 6.

### **CASE EXAMPLE 1.1** Northvolt's connected gigafactories

Northvolt was founded in Sweden in 2016 and its gigafactories in Skellefteå, Sweden and Heide, Schleswig-Holstein in Germany 'make green batteries for a blue planet'. The headquarters is in Stockholm, with another office in Gothenburg, and there is an R&D facility in Västerås. The business has expanded to Poland, Germany and Canada.

The growth in electric vehicles and need for rechargeable batteries have seen Northvolt grow from 2,000 employees in 2021 to over 5,000 people in 2023. Founded by two former Tesla employees, Peter Carlsson and Paolo Cerruti, who wanted to reduce fossil fuel usage, it gained funding from banks and private investors (including Daniel Ek from Spotify). The first gigafactory in Sweden was huge – 500,000 square metres – the size of a small city. As a result, the factory had to ensure everything was connected, including the machines, the materials, the temperature, other sensors tracking progress (Northvolt, 2024a) and probably the staff! Northvolt has created its own Internet of Things in its gigafactories. As

<sup>7</sup>This relates to many SDGs, including 9, 11, 12 and 13



the business noted: 'A connected factory is one we can better understand, quantify and optimize' (Northvolt, 2024a, p. 1).<sup>7</sup>

Northvolt has built digital into all its processes. For example, if you apply for a job with Northvolt, you submit your LinkedIn profile. Online communications are a key area for Northvolt: engaging on social media, managing the websites and generating online PR. Online PR stories explain how the company is embracing AI. According to a Swedish tech news site, Northvolt has recruited former AI researcher from Apple, Siddharth Khullar, who has assembled a machine learning team (Techarenan News, 2024). At 'the company's main manufacturing facility in Skellefteå, the team has already deployed AI-powered sensors and software to enhance production and testing processes. They are also using AI integration for research and development at Northvolt Labs in Västerås' (Techarenan News, 2024, p. 1).

The purpose of AI is to improve the efficiency of battery production in its factories through machine learning. One use of AI is manual inspections as 'Northvolt's main factory alone has some 4,000 inspection points' (Lindeberg, 2023, p. 1). This is an area that can go wrong and requires a lot of time. Because manual inspections are 'subject to the risk of human error, the time-consuming nature of this task can make it a bottleneck on the production line' (Northvolt, 2024b, p. 1). Khullar added that 'AI is about returning time to our people, so they can do more' (Lindeberg, 2023, p. 1).

### Case questions

- To reduce fossil fuels, Northvolt needs to use land to build gigafactories. What challenges does this create for the marketing team?
- What are the downsides of a connected factory? Are they always a good idea?
- Technology always creates more jobs than it replaces. Why does new technology scare some people?

## 1.2.4 NUDGE THEORY

Regardless of the tools or technology, in marketing we want people to make decisions, for example, buy products, reuse goods, adopt a healthy lifestyle. This messaging can be achieved using **nudge theory** (see Key Term).<sup>8</sup>

### KEY TERM NUDGE THEORY

Nudge theory was originally proposed by Thaler and Sunstein (2008). Rooted in psychology, the idea was that someone could be gently encouraged or nudged to do something, rather than being forced, if choices were presented in a different way. This is a key method used in marketing campaigns by governments where they are seeking behaviour change, for example, for health purposes, such as diabetes management or stopping smoking.

<sup>8</sup>This relates to SDGs 3 (Good Health and Well-being) and 12 (Responsible Consumption and Production)

Nudge theory has been tried with digital data. Banks and financial institutions have launched campaigns that explain how data can be misused, and provide best practice on password management. Yet data leaks, breaches and mismanagement occur (Markos et al., 2023). Many people still overshare and provide enough details for their data to be misused.

### 1.3 DIGITAL PEOPLE AND DATA

If you're a student at university now, there's a good chance that you're a digital native. You've been born into a time when mobile phones, tablets and wearables are the norm. The research says that you rarely watch TV in real time, and you'd rather view TikTok or YouTube. You never send letters, you use WhatsApp. You don't use printed business directories, you ask Siri.

But not everyone was born when computers were the norm, so we have 'digital natives' and 'digital immigrants', which are part of our generational cohorts,<sup>9</sup> as shown in Table 1.4, which also provides the sources for these terms.

**Table 1.4** Generational cohorts

Generational cohort	Birth years	Sources and year
Baby Boomers	Mid-1946 to mid-1964	Porter, 1951
Generation X	Mid-1960s to the late 1970s/early 1980s	Coupland, 1991
Digital Immigrants	Before 1980	Prensky, 2001
Digital Natives	After 1980	Prensky, 2001
Net Generation	Between 1982 and 1991	Tapscott, 1998
Millennials	In or after 1982	Howe & Strauss, 2000
Google Generation	After 1993	Rowlands et al., 2008
Generation Y	Between 1981 and 1999	Bolton et al., 2013
Generation C	After 1990	Dye, 2007
Gen Z	Mid-1990s to early 2010s	Drugaş, 2022
Generation Alpha	Early 2010s to mid-2020s	Drugaş, 2022

Generational cohorts are typically 15 years apart. This is because there is no official agreement on the terms, nor are they formally defined by governments. They are usually created by researchers and consultants who witness different behaviours.

The terms 'digital native' and digital immigrant' are considered by some as being controversial or divisive. The work has been criticised due to the phraseology and people have objected to the labels. The originator of the terms was Marc Prensky (2001), a teacher who realised there was a noticeable difference between students who had always used technology and teachers who hadn't. He described the situ-

<sup>9</sup>This relates to SDGs 4 (Quality Education) and 10 (Reduced Inequalities)

ation as being similar to learning a new language, where immigrants move into a new country and learn the language but it is never their mother tongue, so they are likely to always retain an accent. In the same way, Prensky thought that those who had to learn about technology would retain this 'accent'. This means that people who are less familiar with or have no access to technology may need training to understand how it works.

## **DIGITAL TOOL** Digital Now

Digital Now was created by the United Nations Development Programme to educate citizens about digital communications in the workplace. It includes links to podcasts, the latest digital communications trends and guidance on digital campaigns.

- You can explore it here: [digitalnow.undp.org](https://digitalnow.undp.org)

### 1.3.1 BIG DATA

Digital people have become digital data. There is so much data that it is referred to as big data. Big data refers to large datasets that are measured in gigabytes ( $10^9$  bytes), terabytes ( $10^{12}$  bytes) or petabytes ( $10^{15}$  bytes). It's now moved to zettabytes  $10^{21}$  (1,000,000,000,000,000,000,000), where one zettabyte is equal to a trillion gigabytes.<sup>10</sup> The data is so large that it may not be possible to scroll through to find useful insights and you may need coding skills (e.g. R or Python) or special software (e.g. Hadoop) to make sense of the data. This is where AI can help, by examining the data at speed.

Big data is all around us. Social media companies, including Facebook, Twitter and Google, gather big data. For example, Facebook stores your data securely in data warehouses. They generate significant volumes of data daily. When you add a post or an image, or like a page, that's all data. The characteristics of big data are referred to as the 7Vs (Mikalef et al., 2018) and include the size of the data (volume), the speed at which the data is generated (velocity), the different types (variety) of structured and unstructured data (Laney, 2001), the quality of the data being analysed (veracity), how insights vary over time as data is reinterpreted (variability), the patterns that can be seen in the data (visualisation) and how data generates business value through useful insights (value).

The velocity is hard to keep up with, as over a billion users add data every second. The variety of data includes structured elements (liking pages, clicking on links) and unstructured elements (adding free text content, such as comments) (Sarker, 2021). The quality or veracity varies – you might 'like' a page to add complaints, or you might not accurately add all your details.

<sup>10</sup>This relates to SDG 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

Your social media profile shows your personal details, plus your buying behaviour is captured. This data is fed back to data specialists where the data is integrated to better inform market research companies. The data can be overlaid with additional data from third-party sources. For example, health insurance companies know your age, job role, where you live, your family composition, typical diet, height, weight, health problems and where you visit on holidays. Some companies offer free fitness trackers for cheaper insurance premiums, which allows them to assemble a full profile of your daily life. When this data is added to your social media profile it creates a richer profile of the individual.

### 1.3.2 COLLECTING AND MANAGING BIG DATA

Collecting and managing the data requires expertise. Professional data specialist companies include:

- CACI, whose 'Ocean' database provides demographic, digital and lifestyle details on millions of adults in the UK
- Nielsen, a worldwide data specialist, which has amassed data on consumers in nearly 50 countries
- Kantar, a media group that has captured data around the world on how people think, feel and act, globally

These companies offer invaluable resources when you are a busy marketing manager and want to target the right customers with the right message. As professional organisations, they abide by strict codes of conduct. However, there are less scrupulous firms capturing, selling and using data without consent.

## ETHICAL INSIGHTS Web scraping

Web scraping is an automatic process that uses tools to extract web data such as email addresses, job role and company details (Krotov & Johnson, 2023).<sup>11</sup>

For example, 'the Center for Computer and Information Technology (CIT) at Murray State University, a midsize, regional university in western Kentucky, scrapes public data via LinkedIn to identify and profile all university alumni who graduated from current and former programs related to computing. This builds a closer connection with Murray State's alumni base to increase their engagement in decision-making processes' (Krotov & Johnson, 2023, p. 482).

Web scraping is a reasonable basis to gather data and is easier than telephoning hundreds of alumni. However, there is a dark side to web scraping, where data is gathered and sold without following data protection guidelines. For example, within five days of having my academic email address published on a university website, my data had been

<sup>11</sup>This related to SDG 16 (Peace, Justice and Strong Institutions)

scraped and sold as 'new data'. There is currently no legislation that governs web scraping (Krotov & Johnson, 2023), so it is not technically illegal. However, using the data may be, and often results in getting emails blocked and reported as spam.

- How can unsuspecting companies ensure that the data they are buying has been legitimately gathered?
- Web scraping saves researchers time and is an efficient way to gather and classify data. Researchers need to state how they have gathered data and the techniques they have used. Should businesses have to do the same?
- AI will enhance web scraping, making it faster and easier. Will businesses need to remove their staff emails on their websites or rely on spam filters to remove unwanted messages?

Big data matters to marketers as we can make informed decisions by understanding customer behaviour. Whether that's knowing the best times to send emails, add offers or change advertising images, big data enables organisations to make better decisions about all aspects of marketing.

### 1.3.3 DATA PROTECTION

Poor behaviour around selling data without explicit consent and the lack of care managing customer information has been recognised worldwide. For example, there have been multiple data breaches, such as the Cambridge Analytica scandal, and well-known brands admitting to being hacked and losing customer data.<sup>12</sup>

#### Smartphone Sixty Seconds® – Learn more about Cambridge Analytica

- On your mobile phone, search for *Cambridge Analytica*.
- What do you discover?
- Were you already aware of the scandal?
- Whom did the scandal impact and why does it matter?

While data protection legislation has been introduced in most countries, it is fragmented, as these examples show:

- The African Union (AU) Convention on Cybersecurity and Data Protection (known as the AU Convention) was proposed in 2014 and some African countries have adopted it or have created country-specific data privacy legislation.

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<sup>12</sup>This relates to SDG 16 (Peace, Justice and Strong Institutions)

- China has several legal frameworks governing data, including the Cybersecurity Law (2016).
- Australia has Australian Privacy Principles (APPs) (2019) which provide guidelines on what is and is not acceptable.
- New Zealand has Privacy Principles and a Privacy Act, introduced in 2020, along with an advertising campaign 'Privacy is Precious – Protect it. Respect it' to explain why it matters.
- Europe (including the UK) has the General Data Protection Regulation. Under GDPR, the maximum fine is €20 million or 4% of turnover, whichever is greater.
- The United States has a fragmented approach, due to the lack of country-wide data protection law, where individual states take different approaches.

However, one state in America has created new legislation to provide greater protection for consumers: the California Consumer Privacy Act of 2018 (CCPA as amended). According to the State of California's Department of Justice, Office of the Attorney General (2021), the CCPA provides:

- The right to know about the personal information a business collects about them and how it is used and shared
- The right to delete personal information collected from them (with some exceptions)
- The right to opt out of the sale of their personal information
- The right to correct inaccurate information
- The right to limit use and disclosure of sensitive personal information
- The right to non-discrimination for exercising their CCPA rights

The challenge is that the legislation applies only to a single state in the USA, but it's the state where Facebook (which owns Instagram, Messenger, WhatsApp), Microsoft (which owns LinkedIn, Hololens), Google (which owns YouTube, Android) and Apple have their headquarters. It means that they are governed by these laws, so if they decide to leave California, we should be worried!

The aim of these different laws is to offer consumers more control over the personal data that businesses collect.<sup>13</sup> It moves the power from organisations to consumers, who need to give consent about being contacted, so if you have allowed a company to contact you about an online sale and its staff contact you about a totally different subject, the law is being broken.

There are consequences, and if organisations mismanage the data and it is accidentally shared, leaked or hacked, there may be large fines. The biggest penalties are in Europe and can impact on large companies too. For example, for a large tech company with a turnover of €150 billion, €20 million may not seem great. But when that's 4% of turnover or €6 billion, it gains attention and ensures that these companies take

<sup>13</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 16 (Peace, Justice and Strong Institutions)

privacy more seriously. However, at the other end of the scale, these big fines can result in smaller businesses ceasing to trade if their data is not properly secured.

### DISCOVER MORE ON PRIVACY POLICIES

Read Hanlon and Jones' (2023) article, 'Ethical concerns about social media privacy policies: Do users have the ability to comprehend their consent actions?', published in the *Journal of Strategic Marketing*, 7 July. The article reviews social media consent policies and highlights why many users fail to provide consent.

### 1.3.4 ACQUISITION OF DATA AND TARGETED ADVERTISING

In an online context, we have to consider how the data for targeted or personalised advertising is gathered. Nothing is ever free. If you're offered software, apps or games that are free, you are the product. This means that social media platforms won't charge you to access TikTok, Instagram, Pinterest or Snapchat, but they will gather your data. I can launch an Instagram advertising campaign in around 30 minutes that's targeted at students in your university or location. Or the campaign could target individuals who have downloaded K-pop music, used Uber Eats or like Depop. Your online behaviour is tracked and added to online audiences, making it easier for advertisers to present relevant content to you. Your online search history is remembered and can be used as part of an advertising campaign. Examples of targeted advertising campaigns include to increase awareness of a brand, or to encourage you to consider that brand over others, go to the website to complete a conversion action or share your enthusiasm for the brand with your friends.

So, you might add some data to social media platforms (e.g. your name, location, date of birth), you might behave in a certain way on that platform (e.g. likes, follows, reactions), you might buy products online, and your data in one place might be shared with others and blended together. Figure 1.3 shows the overlap between the different areas. In isolation the data may not paint a full picture, but when it is combined, it can be powerful and enable laser-focused targeting online.

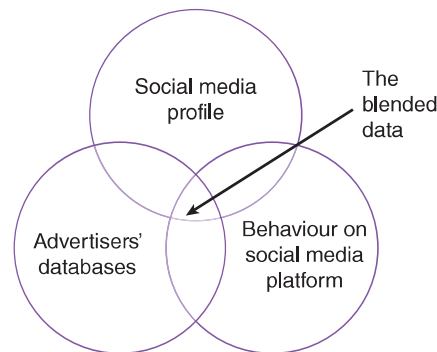


Figure 1.3 The blended data



As a marketer, using blended data saves time and means you promote the relevant goods to the relevant people.<sup>14</sup> Your grandmother might not like K-pop music, but your friends might. So, being able to advertise to specific audiences means campaigns can be better focused and more effective.

One thing to consider is that while much of this data is shared, it's at an aggregated level. This means that you're targeting groups of people who match those characteristics, rather than individuals. This is as a result of the privacy legislation, but does mean that locations without these laws have little respect for our privacy.

One change we are likely to see in the future is consumers being better able to control the sale of their data. The California Consumer Privacy Act (2018) allows individuals 'the right to opt-out of the sale of their personal information'. So we may see companies offering you vouchers, discounts or rewards in return for access to your data.

### 1.3.5 THE RIGHT TO BE FORGOTTEN

Having considered our digital privacy, data protection and data acquisition issues, we might decide we'd prefer that some pieces of online content are removed.<sup>15</sup> As researchers have noticed, this is needed as 'Individuals could perpetually or periodically face stigmatization as a consequence of a specific past action, even one that has already been adequately penalized' (Garg et al., 2020, p. 1).

Under the GDPR legislation across Europe and the California Consumer Privacy Act, individuals have rights to 'have personal data erased' and to 'delete personal information collected from them'. This is commonly referred to as 'the right to be forgotten', which enables individuals to remove unnecessary personal data from search engines.

There are exceptions, and the right to be forgotten can conflict with freedom of information. So if the content serves public interest, it is harder to remove and we can argue that greater online transparency can protect us too. While the right to be forgotten matters, at times it can help inform decisions. Yet it is based on legislation in certain locations only, such as Europe and California, which means that the information may still be available in other countries or states.

## **DIGITAL TOOL** The right to be forgotten

The right to be forgotten in search engines takes place through request forms for removal of content.

- You can explore Google's process here: [reportcontent.google.com/forms/rtbf](https://reportcontent.google.com/forms/rtbf)
- You can explore Bing's process here: [bing.com/webmaster/tools/eu-privacy-request](https://bing.com/webmaster/tools/eu-privacy-request)

<sup>14</sup>This relates to SDGs 8 (Decent Work and Economic Growth), 9 (Industry, Innovation and Infrastructure) and 16 (Peace, Justice and Strong Institutions)

<sup>15</sup>This relates to SDG 16 (Peace, Justice and Strong Institutions)



Digital privacy will continue to be a major issue for organisations, especially as consumers begin to understand the consequences. It means that companies need to ensure they protect and respect our data and that we learn how to better manage our information.

## **ETHICAL INSIGHTS** We have nothing to hide

There is an argument that if we have nothing to hide, it doesn't matter, but privacy is designed to protect us, not to hide us.<sup>16</sup>

Privacy is complicated. An older article by Daniel Solove suggested that privacy can be invaded in many different forms (Solove, 2011). He noted that the focus seems to be on hiding bad things, rather than retaining or protecting private or personal things you don't want to share.

Imagine that you have an online diary in which you keep your deepest secrets. It belongs to you and contains your hopes, thoughts and dreams. Although you have nothing to hide, sharing it will be embarrassing and cause you personal distress – it would be an invasion of privacy. In the same way, if you have mentioned or described friends in your diary, it will be embarrassing if these details are exposed, although you may not be harming anyone if they are shared. Or perhaps when you were younger, you shared photos with someone that you'd rather weren't seen now.

Social media networks are hacked more than any other platforms online and these networks contain our personal images, friends' information, thoughts, likes and dislikes. As a consequence, personal data has been leaked many times (Markos et al., 2023). Cybernews claims that over 26 billion records have been leaked from social media and online websites (Petkauskas, 2024).

- How do you feel about the idea that we have nothing to hide? Does it really matter in an age of transparency?
- Have you ever had your data leaked? What action did you take and why?
- How can we better protect our privacy? What role do governments have in privacy protection?

## 1.4 DIGITAL PLACES AND PRODUCTS

Digital content needs places to be stored which is often in the cloud and intangible digital products stored in the cloud include cryptoassets which are explored next.

### 1.4.1 CLOUD COMPUTING

The development of cloud computing enables software and services to run on the internet, which means that we can access our digital technology at any time in any

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<sup>16</sup>This relates to SDG 4 (Quality Education)

location. Our data is stored on the cloud, whether that's Alibaba Cloud, Amazon Web Services, Dropbox, Google Drive, iCloud or OneDrive. And many of the programs we access are cloud based, from Office365 to Dropbox, Netflix to our health records.

The main advantages of cloud computing are that you can work at home, at a friend's house or in a coffee shop, and when you arrive at work or at university, you can continue where you left off, on the same page of the same document – as long as you saved it! However, the technology has created digital disruption, which has created both advantages and disadvantages for product offers worldwide.

Digital products include a range of materials that we use for work, study and play, such as:

- Audio-visual: TV shows, movies, online videos (e.g. YouTube, Twitch, TikTok)
- Business or educational: Computer software (e.g. Microsoft, Google)
- Entertainment: Video games (e.g. Xbox, PlayStation, Amazon, Google)
- Recreational: Sports, cooking or lifestyle apps (e.g. any app store)
- Sound: Recordings, audio books, podcasts, musical compositions, ringtones (e.g. Spotify, Apple, SoundCloud)
- Theatrical: Dramas, plays, musicals (e.g. Netflix, Hulu)
- Visual: Paintings, posters, advertisements (e.g. on social media sites or via specialist retailers)
- Written: Lectures, articles, ebooks (e.g. your university's online learning environment such as Blackboard, Brightspace, Canvas, Moodle)<sup>17</sup>

Many of these digital products are online-only and need internet access to function fully. For example, while at university you have access to thousands of digital products in the form of academic articles from journals. The journals charge the libraries a fee and, in return, share material with academics and students. When you leave university, you no longer have access to this material. You may subscribe to digital products, including apps from Netflix to Strava, paying a monthly amount in return for using the product. The difference with these products is that they have all been created as a result of digital marketing – finding a need and satisfying it online.

## Activity 1.2 Assess your digital products

In groups, assess your digital products, in particular where you are paying a fee or regular subscription. Assess which digital products provide greatest value and discuss why this is. If you were only allowed to keep three of these, which three would you choose and why?

<sup>17</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

## 1.4.2 CRYPTOASSETS

In our digital world, we've seen the development of new types of digital products or cryptoassets which are known as **non-fungible tokens** and are referred to as **NFTs** (see Key Term). An NFT is a one-off creation and can't be divided or shared. It can be a piece of artwork, a sound or other collectible item which is only available to access online.

Cryptoassets gained worldwide attention when an artist known as Beeple turned a collage of many thousands of images that he created into an NFT and placed it for auction via the international art company Christie's. The bidding started at \$100 and the artwork sold for \$69 million, yet the owner will never physically touch the piece – they will keep it in their digital wallet. Just like physical artwork, they can collect or re-sell if they wish. However, this market proved to be a bubble which burst and many NFTs are no longer worth what people paid for them. In addition, there are issues about the environmental credentials of NFTs due to the energy required to create and store the assets.<sup>18</sup>

### **KEY TERM** NON-FUNGIBLE TOKEN

Non-fungible tokens (NFTs) are tokens that represent ownership of unique items. They enable the tokenisation of things, such as works of art or other collectible items. They are secured by a blockchain so that no one can modify the record of ownership and they can only have one official owner at a time. Owners store their NFTs in their digital wallet and retain a crypto key as proof of ownership, so the item can be re-sold.

## Smartphone Sixty Seconds® – Find NFTs

- On your mobile phone, search for *Examples of NFTs*.
- What do you find?
- Were you aware of NFTs already?
- Do you know anyone who has created NFTs as art or collectibles? 1.5 Digital payments and processes

## 1.5 DIGITAL PAYMENT INSTRUMENTS

Digital payment instruments include E-money and digital wallets with payment options to buy now pay later. The digital money cryptocurrency is stored in the crowd and managed via a blockchain. These concepts are explored in this section.

<sup>18</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

### 1.5.1 E-MONEY AND DIGITAL WALLETS

Shopping on the internet requires online payment systems. Although credit cards were established in the last century by Diners' Club in the 1950s, not all ecommerce sites accepted all card types, at least they did not at the start. And what if you didn't qualify for a credit card? In 1998, PayPal became the first online payment system offering an e-money facility. You added credit to the account to use for shopping, just like a pre-loaded credit card (e.g. Starling, Travelex), and could use it to buy goods online.

Beyond e-money, digital wallets have evolved.<sup>19</sup> They do not just store money, they also keep all your items in one place in a single app. This can include your address details, passwords, multiple credit cards, event or travel tickets and membership cards.

E-money has evolved as PayPal is an accepted payment method across many websites, alongside credit and debit cards backed by Visa, MasterCard and Amex. PayPal also does more than regular credit cards; it offers peer-to-peer payments, enabling you to send and accept money to and from friends. In addition to PayPal, there are other systems, such as Alipay, Google Pay and Apple Pay. These are more like digital wallets and can be used for contactless payments offline.

The social media networks are getting involved too. In China, WeChat Pay is well established, and Facebook Pay is available in some parts of the world. These systems enable people to send money to friends via WeChat, Facebook, Instagram, WhatsApp or Messenger. Social media payment systems offer access to those who do not have banking services and remove a barrier to online shopping.

### 1.5.2 BUY NOW PAY LATER

Digital payments are evolving, for example, allowing consumers to shop and pay later. The **buy now pay later** (see Key Term) concept includes Afterpay, Klarna, Laybuy, Payright and Zip Money. These BNPL companies offer different payment options and use push notifications to advise when payments are due. Many well-known retailers use BNPL methods online to encourage immediate rather than delayed purchases.

#### **KEY TERM** BUY NOW PAY LATER

Buy now pay later (BNPL) allows consumers to buy items in a series of instalments. It's not a new concept and in the UK was known as 'buying on tick', where the tick represented a ticket. Your name was added in a book, the total cost noted and you paid back in weekly sums.

The digital version allows you to download and pay via an app. You choose the BNPL company as your payment method (instead of credit card or online banking) and decide how to pay. This may be 'Pay in 4' – that's four equal payments over two months or pay in full 30 days later. The downside is that if you miss a payment, you're charged a default fee and this can get out of control if not managed well.

<sup>19</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

### Activity 1.3 Evaluate BNPL

In groups, discuss buy now pay later (BNPL). Consider the advantages and disadvantages that it offers to consumers and companies. Are there better alternatives available and what might these be? Should new forms of digital payments be regulated or not, and why?

#### 1.5.3 CRYPTOCURRENCIES

In 2009, a new form of digital currency was introduced, a cryptocurrency<sup>20</sup> called Bitcoin. Created anonymously, it works on the basis of peer-to-peer financing. There are no banks, no third parties, no bank vaults and no cash machines involved with Bitcoin. Your cryptocurrency is stored in a digital wallet, which is kept on your computer or stored in the cloud. You buy, store or sell cryptocurrency on digital currency exchanges. For example, billionaire twins Cameron and Tyler Winklevoss, known for suing Facebook as they believed that Mark Zuckerberg had stolen their idea (which became a film, *The Social Network*), formed a digital currency exchange in 2014. Named Gemini, it was founded and is regulated by the New York State Department of Financial Services to allow customers to buy, sell and store digital assets such as Bitcoin.

Although Bitcoin may be the best known, there are over 4,000 cryptocurrencies available, for example Ethereum and Litecoin. Transactions are recorded online in a transparent register or ledger, which is called a blockchain, and all transactions are checked electronically.

Using Bitcoin as the example, new Bitcoins are created by mining and an industry of Bitcoin miners has developed. Bitcoin miners de-code online encrypted mathematical challenges using algorithmic processes. In exchange for their work in finding and recording Bitcoins on the blockchain, they are given Bitcoins.

There are downsides to Bitcoin. The whole process is anonymous, giving rise to the potential for money laundering as well as illegal or terrorist uses, which has resulted in many mainstream banks refusing to accept Bitcoin or closing accounts trading in the currency. A major challenge is that there are no guarantees if the coins are lost, and there have been many issues with all aspects of Bitcoin, from hacked wallets to software scams. Although some universities have accepted payment in Bitcoin, it's a complex area and you can lose all your money! It's an area that you need to investigate in detail before getting involved in it, although Bitcoin has created awareness of a new, disruptive digital currency.

<sup>20</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

### 1.5.4 BLOCKCHAIN

One technological innovation within digital processes is blockchain<sup>21</sup> or distributed ledger technology (DLT). Generated through the development of Bitcoin, a blockchain is a distributed database where no one person or organisation stores all the data; it is securely shared in the cloud over several systems, records all actions and is open for verification (Workie & Jain, 2017).

Blockchain was initially aimed at securely recording all Bitcoin transactions, but its usefulness on a wider scale for 'interorganizational cooperation' was then realised (Gupta, 2017, p. 3). The benefits of DLT are:

- One single person does not control all the data
- Datasets are portable
- Records are transparent
- It has greater data integrity as records cannot be changed later
- It is a more efficient system

Blockchain technology is already used in food safety. For example, the French supermarket Carrefour uses blockchain to track foodstuffs, including milk and fruit, from the farmer to its stores. The farmers can add where and when the goods were harvested, picked or packed, the distributor can add collection times and the supermarket can record when the goods were placed on the shelves.

Other ways blockchain can be used include:

- Medical records: Every specialist, every appointment, diagnosis, treatment and prescription history can be viewed in one place
- Education and training data: All results, certificates, accreditations, memberships and awards are in one place
- Property records: A property passport can be established that lists all safety checks, mortgages attached to the property, equipment installed (and removed), planning permissions and ownership

There are drawbacks to blockchain technology too: supercomputers use a lot of energy – some say as much as a small country! The database keeps growing and it is getting slower, and if you make a mistake, it is there forever and can't be changed. Once content is added, it can't be corrected – while that has advantages, it is also a disadvantage.

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<sup>21</sup>This relates to SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure)

## CASE EXAMPLE 1.2 Using crypto to reward citizen science

Air pollution is 'killing an estimated seven million people per year, causing environmental damage and climate change', according to lawyer Martina Otto (2024, p. 1), who is Head of Secretariat, Climate and Clean Air Coalition for the United Nations Environment Programme (UNEP). Otto states that 'Air pollution does not recognize borders or boundaries. It must and can be addressed locally, regionally, and globally to combat this climate and health emergency' (2024, p. 1).

One business that is working to combat air pollution, by providing reliable data about where it occurs, is PlanetWatch. Based in France and founded by experts from Italy, PlanetWatch is 'Building A Green Data Economy' by 'gamifying air quality monitoring to empower organizations with accurate data to fight air pollution' (PlanetWatch, 2024a, p. 1). PlanetWatch has created an air quality map (see [map.planetwatch.io](http://map.planetwatch.io)), which allows citizens, governments and businesses to monitor the air quality in their area and take action to improve it. The map is created with air quality monitoring sensors, which are connected through the Internet of Things (IoT) by people and organisations all over the world – the PlanetWatchers. This approach makes PlanetWatch part of citizen science as the general public contributes to the research.

To capture and sort their data from different sources, PlanetWatch uses AI. For example, some sensors are professional, heavy-duty devices that are permanently installed and others are temporary or mobile. Some sensors are for outdoors, others for indoors, and some are portable sensors. This means the volume, velocity and veracity of the data varies. AI sorts the data according to the sensor type, location and time it was collected. The data is not stored on a central database, but on a blockchain, which ensures the data cannot be changed once it has been entered automatically.

PlanetWatch generates an income from the sale of data to government bodies and by selling sensors. Prices of sensors range from €2,500 to €80. Sensors require an annual licence to connect to the network, and licences range from €250 to €35 a year. In exchange for running sensors and sharing the data, PlanetWatchers are given Planet Tokens (\$PLANETS). The \$PLANETS are a cryptocurrency and 'can be redeemed for air purifiers and other useful products' (PlanetWatch, 2021, p. 12). The \$PLANETS can be converted to cash and the current daily value is \$0.001239.<sup>22</sup>

### Case questions

- PlanetWatch has created a digital product based on an environmental need. Is this the future of addressing the climate emergency?
- PlanetWatch uses digital tools to capture and share data, using AI, blockchain and cryptocurrency. Why don't more businesses adopt this approach?
- How can citizen science projects such as PlanetWatch engage citizens without them needing to invest in sensors?

<sup>22</sup>This relates to many SDGs, including 8, 9, 13 and 15



The digital marketing environment is fast moving and changing how we work, study and use our free time. New digital marketing concepts continue to gain attention, and although many were established several years ago, the evolution of technology is making access to these tools easier.

## JOURNAL OF NOTE

Originally called the *Journal of Direct Marketing*, in 1988 its name changed to the *Journal of Interactive Marketing*, to better reflect the wider impact of digital marketing on consumers. It's likely to be available via your university or study centre to access and explore further.

## CASE STUDY

### BORN DIGITAL – UBER TECHNOLOGIES INC.

*This case study continues in all chapters.<sup>23</sup>*

Uber was born in the digital environment, in 2008. On a cold December evening, two friends, Travis Kalanick and Garrett Camp, were attending the LeWeb tech conference in Paris. That winter's evening they watched as many limousines dropped off guests at a nearby location and drove away empty. Camp already had an idea for ride-sharing in San Francisco that summer. But standing in the snowy weather and struggling to get a taxi, the concept developed. They realised there should be a way to stop the cars leaving with no passengers, especially as they needed a ride.

The friends had separately launched digital businesses with mixed success. Kalanick was a founder of Scour and Red Swoosh, peer-to-peer file-sharing companies. Scour filed for bankruptcy due to legal difficulties and Red Swoosh was sold, leaving Kalanick with \$2 million. Garrett Camp gained a Master's degree in software engineering and co-founded StumbleUpon, a personalised search engine which was bought by eBay. Together, the friends founded UberCab in San Francisco in March 2009. Using a smartphone app, which connects drivers and riders, people could get a ride in many locations. The technology was enabled through Web 3.0 and the development of smartphones. Apple's first iPhone had only just launched in 2007, when the concept of apps was further developed. The Internet of Things enables drivers and riders to use their GPS (global positioning system). This means drivers can see where the nearest riders are located and riders can see when their cab is nearby. Plus, as digital wallets have developed, riders no longer need to carry cash. They can pay in advance within the app using e-money such as Apple Pay, Google Pay or WeChat Pay.

According to Uber Technologies Inc. (2024b, p. 1), 'the first Uber rider requested a trip across San Francisco'. Three years after the visit to LeWeb, Uber launched in Paris and started internationalising the business. The firm has grown significantly, with nearly 6 million active drivers per month, 32,800 employees globally, availability in

<sup>23</sup>This relates to SDGs 8 (Decent Work and Economic Growth), 9 (Industry, Innovation and Infrastructure) and 16 (Peace, Justice and Strong Institutions)



over 10,000 cities and operations in approximately 70 countries (Uber Technologies Inc., 2023b). Yet, with annual sales of nearly \$26 billion, the firm continued to make financial losses until recently.

This sounds like the perfect business, but there have been challenges. A new chief executive officer (CEO) joined Uber in 2017. Dara Khosrowshahi left Expedia to manage Uber, so has had experience of working in a world driven by technology. As Uber has had negative publicity, Khosrowshahi (2019, p. 1) posted an open letter on the website, which explained that:

Some of the attributes that made Uber a wildly successful startup—a fierce sense of entrepreneurialism, our willingness to take risks that made Uber a wildly successful startup—a fierce sense of entrepreneurialism, our willingness to take risks that others might not, and that famous Uber hustle—led to missteps along the way.

These errors have been well publicised by Uber competitors, such as taxi companies worldwide. As for the founders, they have left the business as very wealthy individuals. Travis Kalanick resigned in 2019, following many serious issues about the company which he seemed to ignore, and Garrett Camp left in 2020.

You'll discover more about Uber at the end of each chapter as this case continues throughout the book, applying the different concepts that are covered.

### CASE QUESTIONS

- Uber's founders had previous experience starting technology companies. How does this help when creating new tech companies?
- Founders of tech companies are often entrepreneurial but sometimes seem to lack the skills to manage businesses as they grow. Why is this and does it matter?
- Uber is one example of an app that provides a service. What other examples can you suggest from your own country and what challenges have they encountered?
- Do we need any more technology start-ups, or do we have all the apps necessary for living in the digital environment?

### FURTHER EXERCISES

1. Evaluate the impact of the digital environment on an organisation you are familiar with.
2. Applying nudge theory, create a campaign targeted at students to encourage better digital privacy management.
3. For an organisation of your choice, create a plan to develop digital products.
4. Artificial intelligence discriminates against certain groups in society. Discuss and justify your response.

## SUMMARY

This chapter has explored:

- Key issues in the digital environment
- Digital concepts and AI
- Ethical issues concerning our data
- Types of digital products
- Different types of digital payments and currencies

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