Department for International Trade

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SOUTH KOREAN MARKET INTELLIGENCE REPORT 2022

DATA ANALYTICS

Department for International Trade

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CONTENTS

Table of Figures

Table of Tables

01 INTRODUCTION

South Korea (Korea) has an ever-increasing amount of data produced every year meaning that there is a growing demand for effective data analytics tools in both the public and private sector. Although restrictions on the collection, analysis and use of data have acted as a brake on Korea's data industry until now, since 2017 President Moon Jae-In's administration has taken significant steps to create a more open data ecosystem which allows for more innovation and sharpens Korea's global competitiveness in the so-called Fourth Industrial Revolution. This, along with the Covid-19 pandemic's acceleration of the country's digitalisation, has created a fertile data analytics market in Korea.

The Korean data industry is developing fast. The market is currently estimated to be worth GBP 12.4bn and saw a CAGR of 13.3% from 2018 to 2020. Although Korea has turned its attention to data utilisation in the last few years, it does not yet have the strongest base in terms of data analytics technology so it is likely to continue to import technologies and services from abroad over the next few years to support this growth.

British companies may find success in Korea with solutions that help the large conglomerates and brands make better business decisions (e.g. new product and service development), solutions that help marketers develop and implement effective marketing campaigns, and offerings that help data collectors (e.g. financial institutions) analyse and add value to their data. New opportunity areas for data analytics have emerged with the rise of 'convergence' technologies such as smart manufacturing, Internet of Things (IoT) and artificial intelligence (AI). There is also potential for British companies in convergence areas such as mobility (e.g. autonomous vehicles and digital mapping) and digital health (e.g. precision medicine).

UK companies wishing to address Korea's data needs may enjoy strong returns but should expect to face some challenges. Although the country is moving in the direction of providing greater access to information, it is still refining its personal information protection and privacy regulations to accommodate the rapidly growing data industry and this should be taken into account when approaching the market. Also, relationships and a long-term commitment to the market are considered very important in Korea. It can be challenging to overcome the initial hurdle of building relationships, especially for foreign companies, so having the right local on-the-ground support and relevant case studies demonstrating the technology's successful rollout in other markets can make all the difference.

The data analytics market in Korea is fast-growing and there is a strong recognition within the country's business community of the value of applying data techniques to business processes. Korea's large conglomerates are actively looking for best-in-class products from around the world and new government support programmes aimed at helping smaller companies make use of data mean that Korean SMEs are increasingly open to working with foreign solutions. There is, therefore, plenty of potential in Korea for British data analytics firms with the right go-to-market strategy and a strong value propostion.

02

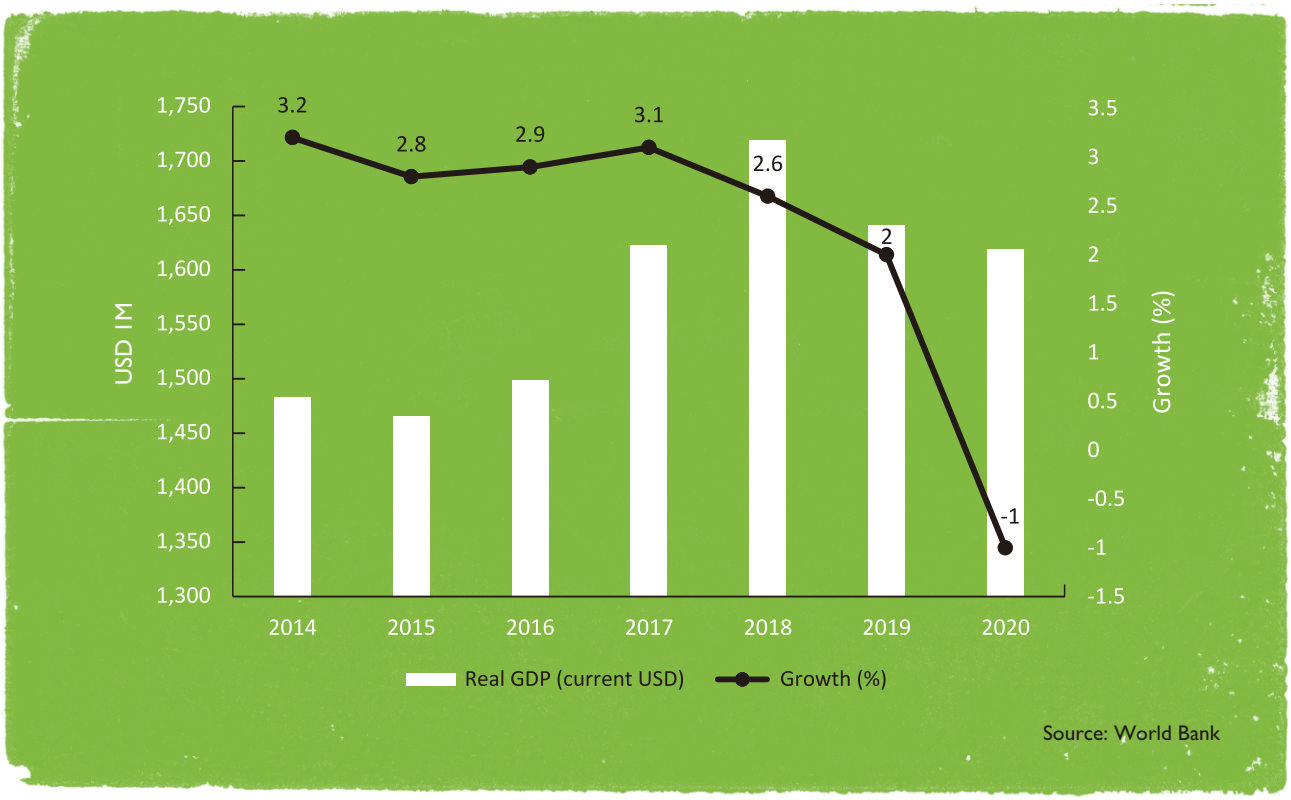
KOREA: AN OVERVIEW

In the space of just 60 years, Korea has transitioned from an agricultural economy to one driven by high value industries such as automotive, shipbuilding and advanced manufacturing. Perhaps most remarkable of all is the country's success in the area of information communications technology where it has become world class in terms of semiconductor, consumer electronics and ICT infrastructure.

With a population of 51 million people, Korea boasts the 10th largest economy in the world, a GDP of £1.21 trillion ($1.63 trillion) in 2020 and a per capita GDP of £23,300 ($31,500) that same year. Whilst no longer experiencing the dizzying growth rates that characterised its early growth phase in the second half of the twentieth century, Korea has maintained strong growth for a developed economy of close to 3% in the years prior to the outbreak of the COVID-19 pandemic.

Total trade (exports and imports) between the UK and Korea was £13bn in the four quarters to the end of Q2 2021, an increase of 6.1% or £749m over the preceeding 12-month period. Of this, UK exports to Korea totalled £7.5bn while its imports from Korea came to £5.5bn. Korea is the UK's 22nd largest trading partner and accounts for 1.1% of total UK trade. The UK and Korea signed a continuity free trade agreement in 2019 which largely replicated the EU-Korea agreement.

Figure 1: GDP and Growth Rates (2014-2020)



03

THE DATA ANALYTICS INDUSTRY IN KOREA

KEY POINTS

- The Korean data market was valued at GBP 12.4bn in 2020 with a CAGR of 13.3% from 2018 to 2020
- Korea has grown quickly to become a developed economy but weaknesses remain in certain industries – the collection, analysis and application of data is one such example
- Korea's data industry has developed steadily and was evaluated at 79.0% of the US in 2020
- Data is increasingly used in large conglomerates and sectors such as finance and telecom but less among SMEs; 86.6% of Korean companies have not adopted any data analytics techniques

The Korean data market is currently estimated to be worth over GBP 12.4bn with a CAGR of 13.3% from 2018. Major companies, such as Samsung, LG, POSCO and Hyundai-Kia, are actively using data analytics for their business management and processes. Many companies are establishing internal big data divisions, and the Korean government is encouraging such efforts, especially for SMEs. Various government agencies and organisations work closely with the industry to align, coordinate and promote business opportunities related to data analytics and big data.

Korea has outpaced most countries in terms of its ICT infrastructure – the country was ranked first in 2020 ICT adoption rate by the World Economic Forum and has a smartphone penetration rate of over 95%, one of the highest in the world. Korea was also second in the 2020 e-Government Readiness Index and recorded an average mobile internet speed of 189.3Mbps in 2021, 243.6% higher than the global average of 55.6Mbps. Korea was the first country to launch its commercial 5G service in April 2019 and has approximately 15 million users which constitute 29.3% of the population.

Not all areas of the information economy have developed at the same rate though. Data analytics is one example of an area where the country's development has not kept pace with its competitors. Stringent privacy regulations as well as tight government oversight have conspired to make it difficult for Korean companies to apply data analytics to understand their customers. Such regulations have also made it difficult for foreign data technology vendors to access the market. However, sectors such as consumer electronics, finance, marketing and retail, as well as e-government, have made substantial progress in applying data analytics in recent years.

The 2020 market report by the Korea Institute of Science and Technology Evaluation and Planning (KISTEP) estimated that Korea will need approximately two years to close the gap with the leading countries in terms of data analytics. KISTEP reached this conclusion by comparing the level of sophistication of data analytics techniques employed across several industries amongst a selection of developed nations, and created a 100-point scale. The top score was indexed to advanced countries such as the US and the EU. Korea's score of 79 and the pace of development in Korea has quickened in the last few years to close the gap with global leaders, expecting it to be bridged by 2023.

Korea is improving its competitiveness in terms of the collection, storage, management and processing of data. However, market specialists report that the country needed to catch up with more advanced economies in the application of data techniques to trading, consulting, analysis and services. This is analogous to the overall structure of the Korean economy, with its strength in hardware engineering and manufacturing but relative weakness in software solutions development. The Korean data market is still focused on investments in infrastructure; however, it is now making headway in its capabilities in software, services and related products. According to the Ministry of Science and ICT (MSIT), growth in the market for storage and service was the highest amongst ICT product-related sales, with 197% and 98% respectively between 2019 and 2020.

Table 1: Korea's Competitiveness in the Global Data Analytics Market

Year	Score (100 max)	Time required to catch up (years)
2018	70.0	2.3
2020	79.0	2.0
Difference	+9.0	-0.3

Source: Korea Institute of Science and Technology Evaluation and Planning

Table 2: Big Data Market Size in Korea (Unit: GBP)

Class	2019	2020	Y/Y growth rate (%)
Server	103.8m	156.8m	51%
Storage	28.3m	84.3m	197%
Network	49.7m	92.1m	85%
Software	258.2m	174.1m	-40%
Service	136.2m	269.4m	98%
Others	N/A	3.9m	N/A
Total	579m	772m	35.4%

Source: 2021 MSIT, K-Data

Table 3: Data Analytics Market Size and Growth in Korea (Unit: GBP)

Sector	2019	2020	Y/Y growth rate (%)
Government/public	258.5m	337.3m	30.5%
Private	317.9m	443.1m	39.4%
Total	576.4m	780.5m	35.4%

Source: 2020, 2021 MSIT & K-Data

Industry Insider's Thoughts

For data analytics to become commonplace, the Korean market requires more time than other countries. A top-down decision-making culture is one of the reasons why it is quite difficult to license and apply data analytics technologies. Even small-scale testing of new technologies requires multiple decision-makers to sign off on contracts. However, major corporations in Korea have begun to open up and utilise their data, and they will become even more active in the next few years. For marketing companies like ours, this means a new, open field for developing new services, increasing our employees' competencies and improving our efficiency through data analytics.

Mobile and Media Solutions Senior Manager – HS Ad

Industry insiders have highlighted three major areas where change is required for the industry to flourish:

1. Further enhance adoption of the technology in the public sector, creating opportunities for companies to win government contracts, develop technologies and integrate them in people's everyday lives
2. Enable SMEs to adopt data analytics technologies more quickly via government-backed incentives and the easing of data protection regulations
3. Encourage a greater influx of technologies from other advanced nations to increase competitiveness

In recent years, Korea has seen positive developments in all of these areas but the government's role has been particularly noteworthy. Table 3 shows that the data analytics market in Korea is broadly divided into two subcategories: the private sector and government/public sector. In 2020, 43% of the market's entire value – about GBP 337.3m – was produced in the government sector. The government sector's CAGR from 2015 to 2020 was 49.7%. The growth rate from 2019 was 30.5%.

According to MSIT and K-Data, in 2020 86.6% of Korean companies, excluding public organisations, are not using any data analytics techniques in their business processes.

Further, over 73.8% indicated that they did not intend to introduce data analytics in the foreseeable future.

Figure 2: Adoption of Big Data in 2020

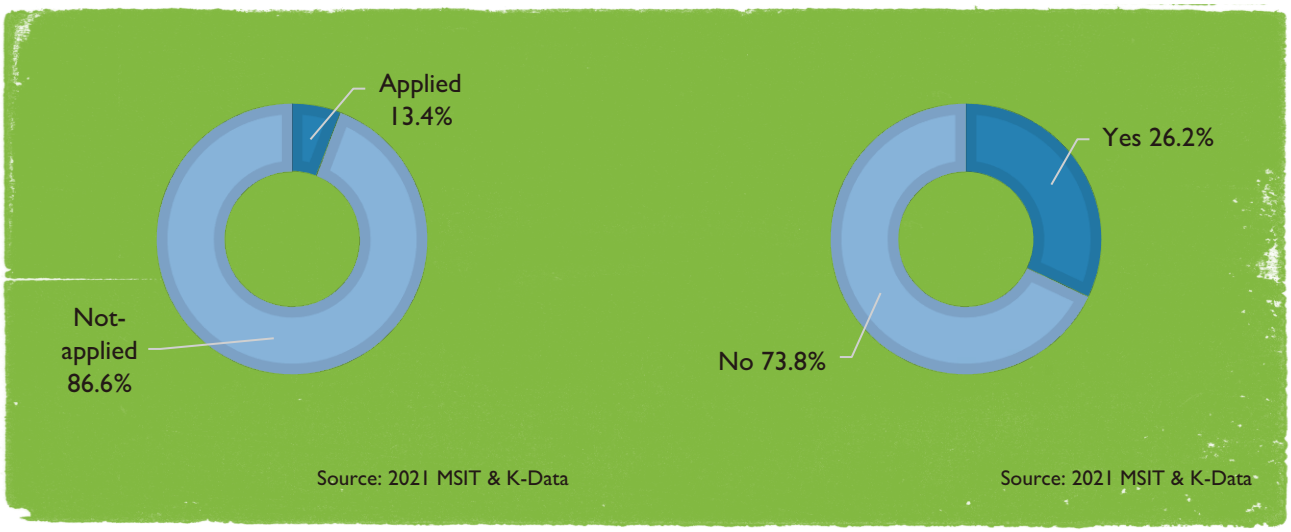
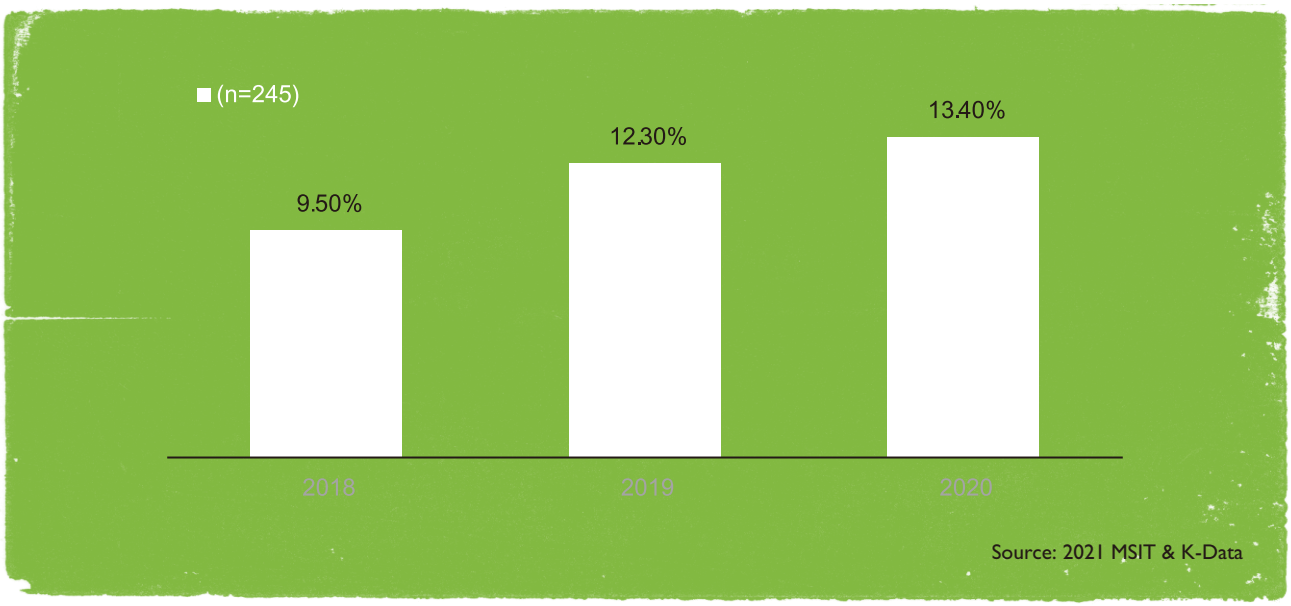


Figure 3: Have Adopted or Plan to Adopt Big Data in the Future

Figure 4: Timeline for Introduction of Big Data by Korean Companies



The public, finance and telecom and media sector dominate in terms of number of data analytics tools use cases, surpassing the manufacturing sector that lead the table several years before. The manufacturing and retail sectors show potential growth in big data usage in the coming years while the current leaders seem likely to expand their big data usage.

Until the recent government initiatives followed by the rise of 'untact' industry during the Covid-19 pandemic, many Korean professionals acknowledged the potential importance of data analytics but were hesitant to adopt such techniques and technologies largely due to a general lack of experience and an uncertainty about the profitability of such investments. However, as the Moon administration launched the fourth industrial revolution initiatives from 2017, companies could observe reference cases by first-movers in the market during the first 2-3 years of a 'reviewing period'.

For UK companies, this means that the Korean market offers opportunities and that the time is right to start exploring these – once early adopters make their move in Korea, others tend to follow very quickly. What it also means is that UK companies would be well advised to take a broad approach to the market, targeting multiple customers in the early stages, and through multiple PoCs, narrow down their pipelines to several high-value customers with whom to build long-term relationships.

Industry Insider's Thoughts

Companies like CJ recognise the need to develop technologies that allow for smarter decision-making in areas such as policymaking and e-government, healthcare, energy and corporate management. Korea used to be a country where data extraction and use was limited due to security concerns but we now see that both the public and private sector are opening up to the idea and policymakers are giving us more space to do interesting things with data.

Senior Manager – CJ Olive Networks

Table 4: Adoption of Big Data by Surveyed Companies in 2019 and 2020 (Unit: %)

	2019		2020				
Category	Cases	Adopted	Cases	Adopted	In Progress	Considering	None
Total	1,309	14.6	1,248	15.5	4.0	8.9	71.6
Public	76	51.3	65	52.3	10.8	4.6	32.3
Finance	90	34.4	90	32.2	4.4	16.7	46.7
Retail/Service	333	15.3	249	16.9	3.6	8.0	71.5
Manufacturing	203	15.3	221	16.7	5.4	13.1	64.7
Medical	89	5.6	99	8.1	0.0	1.0	90.0
Telecom/media	89	15.7	92	21.7	3.3	1.1	73.9

Source: 2020, 2021 MSIT & K-Data

Figure 5: Data Analytics Ecosystem

04

GOVERNMENT INITIATIVES

Key Points

- The government has assumed a leading role in promoting Industry 4.0 and funding big data projects
- The government announced its Digital New Deal policy in August 2020 and committed to launching open data platforms for sectors such as finance, healthcare, automotive and telecommunications
- The Korean Personal Information Protection Act (PIPA) ranks among the toughest data privacy laws in the world. Uncertainty over its details and enforcement hamper innovation with data-driven processes but amendments to improve innovation have been passed since 2020
- The government is working on regulatory and ethical frameworks to support the data industry

The Korean government has taken an active lead in policy-making related to industries of the so-called 'fourth industrial revolution'. It is important for British companies that seek to do business in Korea to pay careful attention to government-run projects as they can become a focal point for establishing priorities and the direction of research funds for private sector firms as well.

When President Moon Jae-In took office in May 2017, two of his main campaign promises were the creation of jobs and an economic policy based on 'innovative growth'. As his government policy started taking shape over the course of 2017 and early 2018, it became clear that the fourth industrial revolution would play a central place in achieving these two goals, especially after Moon established the Presidential Committee on the Fourth Industrial Revolution and the Ministry of SMEs and Start-ups.

Big data plays a key role in the government's science and technology policy plan for the fourth industrial revolution. To pursue this and expedite the economy's recovery from Covid-19, the government announced the Korean New Deal in August 2020. One of the initiative's two branches is the Digital New Deal, which focuses on strengthening the country's technological infrastructure such as 5G, AI and big data by investing KRW 58.2tn (GBP 37.5bn) into data dams and digital transformation. The project consists of opening data systems on a government level and promoting the distribution and usage of data in Korea. The government plans to open big data centers that collect and make public data from specific sectors such as automotive, finance, healthcare and telecommunications.

The Digital New Deal five-year data dam project aims to create a total of 31 data platforms and 330 big data centres supporting the platforms by 2025. Currently 16 platforms have been created, each focusing on specific sectors such as finance, environment, culture, transportation, healthcare, retail-consumer, telecommunication and SMEs. Through 2022, these platforms will be enhanced and further integrated with data platforms established by private entities. The government also plans to make public data that is meant specifically for AI machine learning and mentions the finance and legal sector explicitly in this regard. As of November 2021, 180 data centers have been established or connected to the data platforms through MSIT's cooperation with public and private entities.

The Korean government is also taking initiatives to incorporate data analytics into individual lives. MyData, a government-driven programme to allow citizens to manage personal financial data, was officially launched in January 2022. The service allows customers of government-approved financial institutions to receive customised and comprehensive data of their transactions, all bank account balances, loans and insurance among others from the firm of their choice through mobile apps. This initiative is notable not only because data transfer in Korea's finance sector, along with the medical sector, has been regulated more strictly than any other sectors but also because it is part of the government's groundwork for fintech innovation.

Industry Insider's Thoughts

You should take care with regard to PIPA: it can be difficult to deal with for small companies, both financially and in terms of reputation. It is very protective of the consumer but it makes business-to-customer dialogue difficult. In the US, you can send out direct marketing messages unless receiving bodies tell you to stop but in Korea you cannot send anything unless a consumer explicitly asks you too. We need to protect privacy and avoid spam and other annoying marketing practices but we also need to be able to utilise what we already know about our customers to serve them better.

Marketing leader – SK Planet

Korea has established itself as one of the toughest jurisdictions for personal information protection and privacy compliance with the Personal Information Protection Act (PIPA) at the core of Korean privacy legislation. PIPA requires personal information to be collected exclusively for specific and lawful purposes. It requires the appointment of personal information managers who ensure that all information is accurate and held securely, disclose companies' privacy policy and anonymise information wherever necessary. PIPA also contains separate rules for the initial collection and use of personal information and for any subsequent different use or transfers to third parties.

Since 2020, Korea has been passing amendments to PIPA. The primary motives are to facilitate cross-border data flow and to establish an updated legal infrastructure to accomodate the country's rapid digital transformation. As a result Korea was declared to have an adequate level of personal data protection by the EU's General Data Protection Regulation (GDPR) in December 2021. The approval permits data from the EU to flow into Korea without additional safeguards such as authorisations and corporate binding laws as would be the case for countries in the European Economic Area. The government has also drafted the Framework Act on Promotion of Data Industry and the Promotion of Use, a new law applying to the data service industry in order to establish clear regulations for data collectors, aggregators and resellers, among other entities.

Despite these changes, the overall revision of Korea's data laws is still in its early stages and much uncertainty remains in PIPA's application. The government has been very cautious with the liberalisation of the big data sector in Korea and attaches great importance to the safe storage and transmission of data. It is also conscious of the public's potential unease with regards to making personal data public and has committed to transparency to garner social support. With Korea's history of conservatism in both domestic and cross-border data transfer and slow progress on the liberalisation of data use, foreign businesses looking to enter the market can expect to face challenges in navigating the legal landscape of the country's data industry.

05

OPPORTUNITY AREAS FOR BRITISH COMPANIES

KEY POINTS

- Korea is traditionally more of a fast follower than an innovator – companies are far more likely to adopt new data-based technologies if they are presented with strong reference cases
- Opportunities for British companies exist in new product and service development, marketing, data collection and resale and convergence areas such as automotive and digital health
- The dominance in the digital market by local giant Naver with its "walled garden" approach has traditionally made it difficult for foreign companies to enter the market

There are several specific business areas that can immediately benefit from data analytics solutions and offer opportunities for British companies with the necessary expertise. These include new product development, marketing and data aggregation and resale and have applications in industries such as finance, telecommunication and media, retail and services, manufacturing, construction, and healthcare. The following section will provide more details on these areas and illustrate them with relevant case studies.

DATA ANALYTICS IN NEW PRODUCT/SERVICE DEVELOPMENT

The Korean tech industry has generally been characterised as that of genuinely skilled fast-followers rather than true innovators. This has served the Korean economy well and in the last decade companies such as Samsung and Hyundai have quickly risen to prominence as industry leaders. In the past, Korean companies conducted product development based on imitating successful competitors. Today, Korean companies are turning to their own customers to understand their needs in order to develop tailored products and services.

In applying data analytics, leading players in the Korean market have focused on two main data analytics streams: real-time analytics based on immediate data flow and trend analytics using accumulated data sets. Large conglomerates such as Samsung, LG and Hyundai-Kia are the leading players with market-tested data analytics applications driving their new business development processes. However, many of the country's SMEs are gradually adopting similar procedures. While the market has deployed more locally developed solutions to date, we are beginning to see incorporation of foreign technologies as well.

As a result, the market is wide-open for UK companies to enter but, without a unique value proposition, they will face competition from local players who already have a

domestic track record. This again emphasises the need for offering solutions that can be field-tested with relative ease and without heavy cost, ideally accompanied by solid case studies from other markets with characteristics similar to Korea (e.g. Japan, Taiwan, Singapore, etc.).

Case Studies – Product Development

Lotte Confectionary	
Website	www.lotteconf.co.kr
Problem	How to develop successful products in the competitive confectionary market
Approach	Developed the company's own AI system for big data analysis and identified social and market trends through data collected from Lotte-owned retailers and distributors and social network platforms to brainstorm new products
Outcome	Developed over 10 new products and made highly successful sales from these launches
Developed by	Internal strategy team and 3rd party consultants
Overview	LOTTE CONFECTIONARY is a confectionary manufacturer known for its snacks, drinks and various packaged foods. Lotte cooperated with IBM to build LCIA (Lotte Confectionary Intelligence Advisor), Lotte's own AI system for big data analysis, to employ a data-driven approach to develop new products. LCIA processes data from Lotte-owned F&B groups, social network platforms and other F&B market sources and predicts the upcoming trends. It uses the results to recommend new products. Lotte launched over 10 products using LCIA and has been highly successful. For example, in November 2019, LCIA identified a rapid growth of sales in strawberry, a seasonal fruit in spring, in the past few years. Expecting a continuous rise in strawberry demand, Lotte launched strawberry flavoured versions of its existing products such as Chocopie and Mon Cher in February 2020 in time for the spring season. LCIA also identified a rapid demand for health-conscious foods after consumers started to spend more time at home due to the Covid-19 pandemic. This led to the launch of 'Air-Baked' crisps in June 2020. A month after its launch the product generated GBP 1.5m in sales and in three months, GBP 6m.

Korea Telecom (KT)	
Website	www.kt.com
Problem	How to tailor mobile plans to customer demographics
Approach	Analysed 1st party data correlating age, gender and mobile data use of customers to uncover patterns and develop tailored subscription plans
Outcome	Developed a plan for younger customers. Gained 400,000 new subscribers
Developed by	Internal strategy team and 3rd party consultants
Overview	KT is Korea's second-largest mobile telecommunications company with more than 17 million mobile subscribers. As such, over the years it has accumulated large amounts of 1st party quantitative user data. However, only recently did KT begin to use advanced analytics tools to transform the data into useful and actionable information. By correlating mobile usage patterns with demographic and payment data, KT's data analytics team found that among customers under the age of 24, nearly 70% relied on their parents to cover the costs of their plans. Moreover, 60% of this group exhibited intensive data usage between 6 and 9 pm, and among those, 66% enjoyed multimedia services such as music and video streaming. With this in mind, KT developed a new plan dubbed 'Y24' allowing 3 hours of unlimited data access at peak times and a cheaper monthly fee. This new plan brought in 400,000 subscribers in just over a year.

DATA ANALYTICS IN MARKETING

The size of the digital marketing sector in Korea in 2021 was estimated to be GBP 4.9bn, with 60% of the total spent on mobile advertising. While this represents only a fraction of Japan's market (estimated at GBP 15.7bn in 2021), in per capita terms it is similar. Considering Korea's lower GDP, digital marketing represents a higher share of GDP in Korea than it does in Japan.

The increasing demand for data analytics in marketing reflects Korea's rapid digitalisation. Businesses in the so-called 'untact' industry have boomed in the pandemic – the e-commerce market saw a yearly growth of 19.5% in 2020 and 19.8% in 2021 and is now estimated to be worth GBP 118.5bn. Online activities and purchases allow especially large companies with the resources to amass large amounts of data and channel it to data-based marketing strategies to remain competitive.

Traditionally, digital marketing in Korea has revolved around local search platforms such as Naver, Daum (owned by Kakao) and Nate (owned by SK Communications). The three still hold over a combined 70% of the country's search engine market but 65% is held by Naver while Daum and Nate continue to shrink. On the other hand, Google's share continues to increase annually. Over the last several years, digital marketing channels have been largely diversified, especially with Kakao expanding its messenger application to include news, shopping and banking platforms. The significant growth of mobile application use to access online platforms has also contributed to new digital marketing strategies such as live commerce, in which products or services are promoted and sold through interactive liverstreams.

Table 5: Korea's Local Online Platforms 2020 (Unit: GBP)

Company	Revenue	Employees	Employees	Key Target Industries
Naver	3.3bn	4,346	Search portal Advertisement Crowd intelligence Social media	B2C B2B
Kakao (platform business only)	1.3bn	3,283	Social media Search portal Advertisement	B2C B2B
Nate (SK Communications)	19.8m	235	Search portal Advertisement Social media	B2C B2B

Source: Intralink research, multiple sources

What also sets domestic search platforms apart from their global counterparts is the access to data that they allow marketers. These companies take the 'walled garden' approach and do not open their content platforms to integration with external data management platforms (DMPs). Only select local partners – so-called "media reps" – are authorised to buy media and provide performance reports to their clients. This ecosystem makes it difficult for foreign companies with data-driven marketing solutions to make compelling value propositions directly to Korean advertisers. Instead, such companies tend to work through partnerships with local media reps as intermediaries. For example, the Korean media rep MezzoMedia formed a partnership with Google DoubleClick Bid Manager (DBM).

However, the media landscape is evolving as global social media sites such as Facebook, Instagram and YouTube have gained prominence and been chipping away at Naver and other domestic players' market shares. Google currently holds 27% of the search engine market share. The global social media sites offer more open APIs and are more open to working with external DMPs. Therefore, demand is increasing for data analytics and big data solutions designed for ad agencies and advertisers.

Riding the wave of these changes in the market, Western companies like SocialBakers and Strike Social have made breakthroughs in the market by bypassing media reps and securing deals directly with Korean ad agencies and advertisers in the last several years. A recent notable case was Sprinklr's strategic partnership with Pentacle, a local advertisement agency known for establishing DMPs for eBay Korea and large Korean corporates such as Lotte Department Store and Hyundai Motors. Pentacle reported a significant rise in CTR and customer engagement as a result from its campaigns created by combining its analytic solution with Sprinklr's AI system. Korean corporates' activities also show a high interest in searching globally for data-driven marketing solutions. For instance, LG Electronics have recently acquired the Silicon Valley-based Alphonso and SK C&C entered a strategic partnership with Tableau to strengthen its data analytic capabilities.

Industry Insider's Thoughts

Data analytics was something new to us back then and nobody could guarantee the result. But we used data analytics' results wisely and made our way to the top in the market. We must remember it is not simply about data: how to utilise all that data is the key. The idea of automation is great but our success was thanks to the efforts of lots of people working together across different departments.

Marketing Strategy Team Leader – Samsung Electronics discussing its use of data analytics in the B2C SSD market

As digital media spending continues to increase, more opportunities for data science specialists will emerge. While the market for general purpose digital marketing data analytics is already crowded, demand for niche applications such as focusing on one specific social network (e.g. Instagram) while adding more depth to the analysis is growing.

Case studies - Marketing

SK Telecom	
Website	www.sktelecom.com
Problem	How to increase the efficiency of marketing text messages
Approach	ApproachAnalysed customers' transaction records using SK Telecom's 'T Membership' for its subscribers
Outcome	Created a text message marketing service that customises messages sent to each SK Telecom user based on data collected from his or her purchases using 'T Membership' and personal information collected for service subscriptions. Recorded over 60% increase in average weekly sales in the first five weeks.
Developed by	Internal strategy team and local ad agency
Overview	SK TELECOM is one of Korea's two largest telecom companies. In April 2020, SK Telecom launched 'T-Deal', a customized text message marketing service that sends messages with product information or coupons with links to the purchasing websites to mobile service subscribers. SK Telecom's customers are eligible for T-Membership, which gives access to various discounts, promotions and other benefits from a wide range of partnered retailers, services and organizations. SK Telecom used data collected from subscribers' activities using T-Membership to identify each subscriber's interests to provide information on products that each customer is likely to purchase. T-Deal saw successful results from its 5-week pilot service for 419 products from 54 companies. The average weekly sales rose more than 60 percent every week and the response rate was 6.17%. SK Telecom explained that the response rate is much higher than Naver and Kakao's similar services. T Deal has since added new features such as customer reviews and gifting options, through which the operators have been able to collect more data. By the third quarter of 2021 sales from T deal recorded a yearly increase of 857.3%.

Innocean	
Website	www.innocean.com
Problem	How to understand the customer's online journey to tailor promotions
Approach	Analyse 1st party data and internet browsing behaviour to learn customers' interests and interactions with website content
Outcome	Developed a new platform for the main website of Hyundai Motor Company
Developed by	In-house data analytics department and 3rd party DMP vendor
Overview	INNOCEAN is an affiliate of the Hyundai Motor Company and a full-service ad agency providing marketing services such as traditional and digital advertising. Its main customer – Hyundai – wanted to deepen its understanding of visitors to its main Korean website: what is the customer journey prior to landing on Hyundai's page? What are these customers' interests? In the past, much of the digital advertising budget was apportioned to Naver ads but the effectiveness was unclear. In response, Innocean decided to develop a new 'smart platform' borrowing bits and pieces of technology from several DMP vendors to scour the internet for actionable data on Hyundai's customers. With this platform and 1st party sales data as a reference point, Innocean could understand customers' previous purchase history, visit records, browsing habits, search history, etc.

DATA COLLECTION, AGGREGATION AND RESALE SERVICES

Thanks to Korea's world-class telecommunication infrastructure, the capability to handle data in Korea is constantly increasing. With digital transformation accelerated by government initatives and the pandemic, the number of personnels directly handling data in the data industry increased by 14.5% in 2020. Among the different types of data service, data resale and provision service accounted for the highest market share – 48.6%, in 2020. Restrictions imposed by PIPA and no clear framework for running a data aggregation and resale business has long been an obstacle in Korea. The government has only recently tackled the latter issue by drafting a new law to imporove the regulation of the data service industry.

This obscure legal aspect is different from Western markets where companies routinely purchase 3rd party consumer data from credit card processing companies like Visa or MasterCard, or from marketing platforms like Adobe, Krux or Lotame. Korean card companies are now monetising data that has been amassed for some time but which has sat largely unused. In allowing companies to monetise data they collect, the finance industry saw new opportunities first, followed by the telecoms sector.

British companies looking to enter the data collection and resale market in Korea will face a challenging environment, but opportunities have increased under the Moon administration. Especially in the telecommunications and finance sectors there are possibilities, but also the legal sector, healthcare sector and the transport sector might prove to be fertile ground for British data collection and resale companies.

Industry Insider's Thoughts

Many banks in Korea receive government funds. Because government policies and regulations affect how banks and the finance industry move, bringing in changes or new applications was never easy. But if there is a government drive, things can be very different. Recent improvement in fintech, flexible certification approvals and other liberal movement in this field are really happening in Korea.

Head of Big Data Centre – BC Card

Case studies – Data Handling

BC Card	
Website	www.bccard.com
Problem	How to make data trading more accessible and affordable to merchants
Approach	Use anonymised financial data along with public data in an open platform
Outcome	Create a secure platform to encourage data exchange
Developed by	In-house data team
Overview	BC CARD is a subsidiary credit card company of KT Capital Co., Ltd. offering transaction authorisation, authentication, clearing and settlement, issuing and merchant management services. BC Card has one of the most sophisticated big data centres in the country, providing expenditure trend reports to businesses and merchants. Recently, it also began offering a combined analysis of domestic credit card expenditure data, social media and telecommunications data, categorised by user nationality (Korean, Chinese and other foreigners). BC Card has traded 'anonymised data' directly with corporate customers but is now working on creating an open platform.

Hyundai Card	
Website	www.hyundaicard.com
Problem	How to empower customers with better information on products they buy
Approach	Analysed customer F&B spending data by geography and demographics
Outcome	Developed a mobile application to serve B2B and B2C customers with reliable reviews and market intelligence. Doubled transaction volume
Developed by	In-house data team and 3rd party app developers
Overview	HYUNDAI CARD provides credit cards and financial services such as instalment financing, cash advances and loans. The company analyses customer spending data to understand customers' shopping preferences. In the food and beverage category in particular, this data is made available to private and corporate customers via service called 'My Menu'. It is more reliable than other internet-based review services as it references actual credit card transaction data, and uses vast amounts of it. App users can check what is popular in a given neighbourhood and receive promotional coupons or credit card loyalty points for going with the recommendation. This also allows for cooperation between Hyundai Card and top-rated merchants.

DATA ANALYTICS IN OTHER AREAS

Applications for data exist in many other areas besides the specific use cases outlined above. The Korean market is showing strong interest in the areas of 'Smart Factory', 'Smart Manufacturing', 'Smart Grid', and Internet of Things just to name a few examples. These sub-sectors require a combination of several different technologies, both on the hardware and the software side, but data analytics can be considered the lingua franca meshing the emerging technologies together. Companies such as LG CNS, POSCO ICT, Hyosung ITX or Samsung SDS, operate 'smart' divisions and offer consulting and systems integration services.

One convergence area of big data, AI and IoT that has grown significantly over the past few years is mobility. With more and more companies and the government getting involved in autonomous vehicles, there is a high demand in technologies such as digital mapping, data collection and facilitating technologies (e.g. sensors). Kakao has been a pioneer in Korea's MaaS by introducing its taxi-hailing app Kakao T Taxi, which has now amassed over 28 million users. Kakao Mobility, which spun off from Kakao in 2017, has massively innovated the service not only with its advanced allocation system but also automatic features for safety and payment among many others. Telecommunication conglomerates are also at the center of the mobility sector with SK Telecom amassing over 30 million users for its AI-based navigation application 'T map'. The other two telecommunication firms, KT and LG Uplus operate a competing navigation system that the two jointly developed called 'One Navi'.

Another area where there are opportunities for British data companies is the healthcare sector. There is an open data hub for healthcare data in Korea (opendata.hira.or.kr) which accumulates and distributes various types of data. The hub has an open API which gives access to a wide selection of data, including symptom search requests, increase rates in diseases and types of medical treatment received by patients. Although data in the healthcare sector has become more accessible, Korean companies do not currently have the means to effectively process or analyse the data. Other opportunities exist in data analytics for the development of new medicine. This convergence area with AI is one of the focus points of the government's initiatives and has shown active growth in the recent years, especially by the number of successful start-ups.

Case studies – Data in Other Areas

Jeju Energy	
Website	www.jejuenergy.or.kr
Problem	Slow operation rate and frequent breakdowns of wind turbines
Approach	Conducted a big data analysis on causes of breakdowns in relevant devices
Outcome	55% decrease in breakdown rate, 90% improvement in efficiency
Developed by	3rd party consultancy
Overview	JEJU ENERGY is a local public enterprise under the Jeju Province Office. It oversees the development, use and distribution of energy technology in the Jeju region. The company's turbines in its wind power plants were aging and had decreased 40-60% in operation efficiency. Through consultancy, Jeju Energy conducted a six-month analysis of breakdown causes for different devices operating the turbines and was able to address the source of the breakdowns and take preventive measures. The outcome was a 55% decrease in breakdown rate and 90% increase in productivity.

06

MARKET ENTRY STRATEGIES

Key Points

- Direct sales into the large conglomerates is possible but on-the-ground support is strongly advised
- Partnering with local systems integrators or value-added resellers is advisable for foreign companies
- Foreign companies can apply to participate in government-led projects but there are barriers:
  - Culture, language, business environment, etc.
  - Preference towards local businesses adding at least some value to the products or services

While selling directly to the public sector is difficult for foreign companies, private sector companies in certain sectors can be approached and served directly, even without a local distribution/SI partner. Marketing agencies, for instance, are relatively open to learning about new data analytics solutions. Major marketing agencies such as Innocean, Cheil or NAS Media already have experience collaborating with foreign technology vendors to offer services to their Korean and global clients. Other data technology companies, such as SK Planet or Daumsoft, are also increasingly collaborative on a global scale

However, UK businesses looking to engage in a strategic partnership or introduce their technology or product to Korea should take into account both business-related and cultural factors before setting out. British businesses can approach the Korean market either through direct sales from the UK, by appointing an agent or distributor, or by setting up an office in Korea.

Direct Sales From the UK

The simplest market entry option is for UK companies to sell or license a particular data analytics solution directly to Korean end-users. The main downside of a direct sales approach is the lack of local language and time-zone support as Korean companies tend to be particularly demanding of their partners. This can be mitigated by using a contract-based local liaison capable of bridging time-zone, language and cultural gaps without the long-term commitment of local incorporation and hiring. Market specific factors to consider include:

- Do we have a strong differentiator – something that sets us apart from our competitors in the market?
- Do we have a strong track record in other major markets? Korean companies are not easily convinced to use a new, disruptive technology as a first-mover without case studies
- Are we willing to localise the product for the market and/or for local regulations, if necessary?
- Are we ready to provide a Proof of Concept (PoC) at little or no cost to the customer? Korean companies will look to drive the price down and will not commit before proving the value through testing
- How do we provide after-sales support? Korean customers expect high-quality, local-language support

Appointing a Reseller or Distributor

Perhaps a more common way to approach the market is to seek a partnership with an established local company that complements your product, has experience in the target sector and can help navigate the legal environment. A local channel partner, perhaps a systems integrator (SI), can provide services such as pre-sales, sales, consulting, installation, technical training, service maintenance, technical support and system integration in the Korean market. Even large multinationals usually take this route in the early stages of market entry. Market specific factors to consider when seeking a partner include:

- Does the partner already serve the type of customer that we do?
- Does the partner have a good understanding of the market in general and my particular application?

- Does the partner already offer solutions similar or synergistic to our offering?
- Is the partner focused on short-term wins or will they be able to drive our business in the long run?
- Does the partner have specific experience with public sector projects?
- Are we comfortable communicating with the local partner and are they transparent with us?

Establishing a Local Presence

There are broadly three ways of establishing a local presence: (1) a liaison office, (2) a branch office or (3) a local corporation through foreign direct investment (FDI). Setting up a liaison office is a simple process but a liaison office can only perform non-profit generating activities in Korea such as market surveys, research and development and quality assurance. Setting up a branch office can be a complicated process that requires a lot of specific documentation to be translated but it will allow for sales activities and the exchange of revenues with the head office. The most common process for an overseas company to open a branch office in Korea is through FDI where an initial investment is made by the head office which in return owns stock in the branch. The local corporation leads independent activities and is authorised to perform direct transactions. Market specific factors to consider when establishing a local presence in Korea include:

- Is our business generating enough revenue in Korea to consider a local presence? Businesses usually consider establishing a local presence after several years of sales (either direct or through a partner)
- Do we need to engage in profit generating activities, or not?
- Will we transfer staff from our head office or hire local staff? Both options have legal implications that need to be considered
- What location shall we pick for our local presence? Scouting, negotiating, and conclusion of contracts are very time-intensive processes that often are hard to conclude without local support

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