

**Real-time data:
The speed to business value**

An executive summary report
produced by the CEBR



INTRODUCTION

Real-time data: The new frontier

Businesses around the world have arrived at a new frontier of data management and analytics. We're entering the era of fast data, where big ideas are fueled by insights gleaned from data in real-time. For those who can take full advantage, the potential is significant.

Accordingly, it's no surprise that 2021's [Microsecond Mindset](#) study, commissioned by KX, revealed that implementing and utilizing real-time analytics is now a priority for most businesses.

A year on, and the Speed to Business Value report produced in collaboration with the Centre For Business & Economics (CEBR) – a leading economics consultancy – goes a step further, revealing not only the broad business benefits businesses can gain by investing in real-time data systems, but crucially the actual \$ values and positive impact on revenues.

Based on a combination of comprehensive cross-market study with in-depth qualitative research and econometric modelling, this report uncovers how real-time data can drive business value across a range of key value outcomes.

“The findings of this study clearly show that by implementing real-time data analytics technologies, businesses globally can realise significant value. From process improvements to cost reductions and tangible impact on business revenues, the benefits are wide-reaching.”

Kathy Schneider,
Chief Marketing Officer, KX

Key findings

The analysis outlined in this report finds that implementing new real-time data analytics and systems leads to:

- 1 Potential revenue increases of 28.1% across the board, potentially totaling almost \$4.2 trillion
- 2 Over 80% of firms reported revenue increases after deploying real-time analytics systems and processes
- 3 A rise in positive customer feedback for 98% of firms
- 4 More efficient processes for 62% of businesses
- 5 \$321 billion of non-people operational cost savings, with a potential to reach \$379 billion in the future
- 6 A reduction in data anomalies in all industries and locations
- 7 Total increases in Gross Value Added (GVA)¹ of \$1.9 billion across all countries and sectors from using a real-time data system to process and manage data, with a potential to grow by a further \$868 million



Investment in real-time analytics has added a potential \$2.6 trillion to global revenues across the four key industry sectors surveyed

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The adoption of real-time data analytics has the potential to add \$11.1 billion in wider economic impact across all the industries surveyed

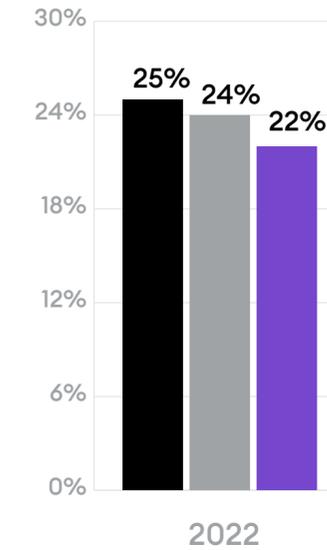
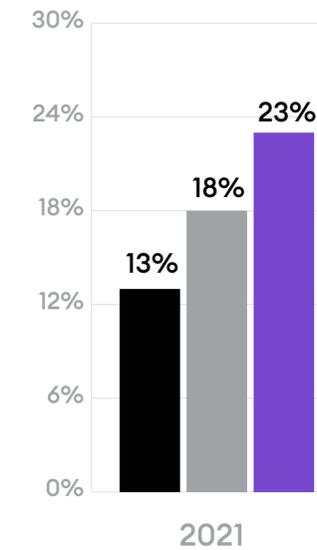
INTRODUCTION

Defining real-time: Businesses are thinking faster

Firms' understanding of 'real-time' has evolved significantly in the last year.

From conversations with our customers and prospects, we know that the window to create differentiated value is narrowing for organizations in every market and sector. The faster they can act on insights derived from data created in-the-moment, the better the outcome.

Now businesses have a more accurate understanding of what real-time means, it's time to focus on the benefits and financial returns real-time capabilities can generate for firms across the globe. In 2021 just 13% of businesses defined real-time as up to the millisecond, in 2022 this has jumped to 25%.



How businesses define real-time:

■ 'up to the millisecond' ■ 'up to the second' ■ 'up to the minute'

25% of businesses now define real-time as 'up to the millisecond'

SECTION 1

The operational benefits of real-time data analytics

In every industry surveyed (including Manufacturing, Automotive, Finance and Insurance, and Telecommunications) real-time data has a powerful role to play in powering performance, driving efficiencies, and providing insight.

Based on the quantitative research, the first section of this report explores the implementation of real-time data and systems against 4 Value Outcomes that should be of interest to every business looking to increase operational performance and drive commercial growth.

As is to be expected, the potential of each Value Outcome varies across industries and indeed across countries – but in all instances, the story is compelling.



THE OPERATIONAL BENEFITS OF REAL-TIME DATA

Value Outcome One: Detecting anomalous operational or financial activity

Anomalous data – defined as data points, events, or observations outside of a dataset’s normal behavior – can be a key indicator that something has either already caused or or likely to cause an issue somewhere in the business.

The ability to detect and respond to anomalous incidents quickly is critical, particularly because gaining the ability to react in real-time can limit the cost of anomalies.

As Fig. 1 shows, different industries currently have varying levels of ability to detect anomalies in real-time. Taking the UK as a case study, the Telecoms industry leads the way in terms of real-time detection, with 28% of businesses spotting anomalies in milliseconds and a further 49% in seconds.

In Manufacturing, however, 55% take minutes to spot a problem, while one in 10 take hours – a failure which could have significant financial repercussions. As Fig. 2 indicates, the UK isn’t alone in this: American Manufacturing businesses

Figure 1: Time to detect anomalies in the UK

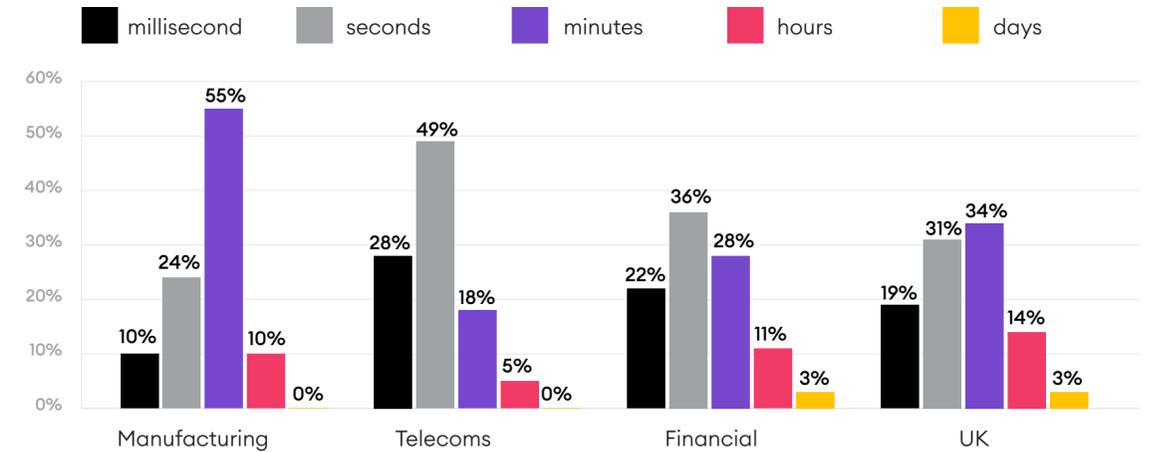
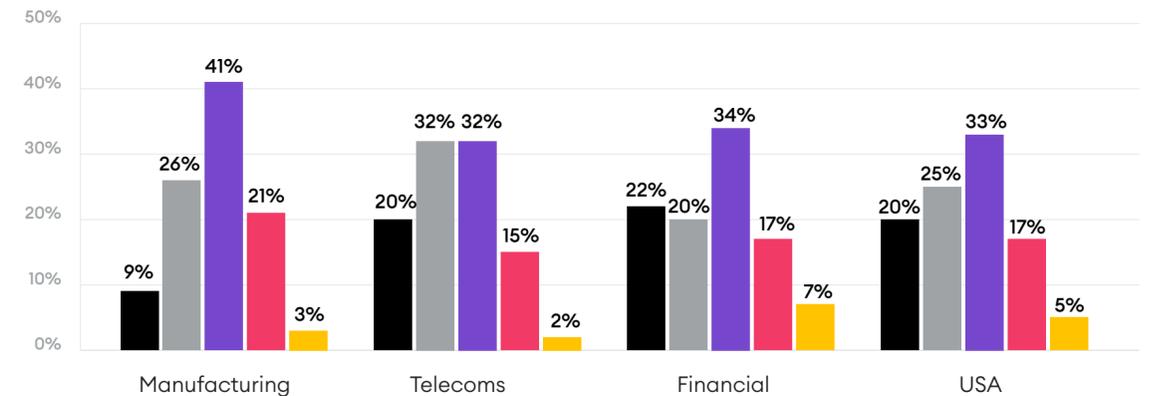


Figure 2: Time to detect anomalies in the US



1 in 10

manufacturing businesses
take hours to spot a
problem which could have
significant repercussions

THE OPERATIONAL BENEFITS OF REAL-TIME DATA

Value Outcome One: Detecting anomalous operational or financial activity (cont)

likewise struggle to spot anomalies quickly.

In the UK's Manufacturing industry, anomalies cost at least a moderate amount of financial loss for over a quarter of businesses.

In Finance, almost six in 10 suffer at least a moderate financial impact. In the US (Fig. 4), a similar story can be seen: almost half of manufacturers have at least moderate costs resulting from anomalies, while 66% in Telecoms and 54% in Finance report the same.

The good news? As shown in Fig. 5, the implementation of real-time data delivers positive results across every industry. In the UK's Telecoms industry, 100% of businesses saw at least some reduction in costs, with 24% seeing a significant reduction.

This trend holds true across all countries surveyed (including USA, France, Germany, Singapore, and Australia), demonstrating that the implementation of real-time data can not only reduce operational problems, but the costs associated with those issues.

Figure 4: Cost of anomalies in the US

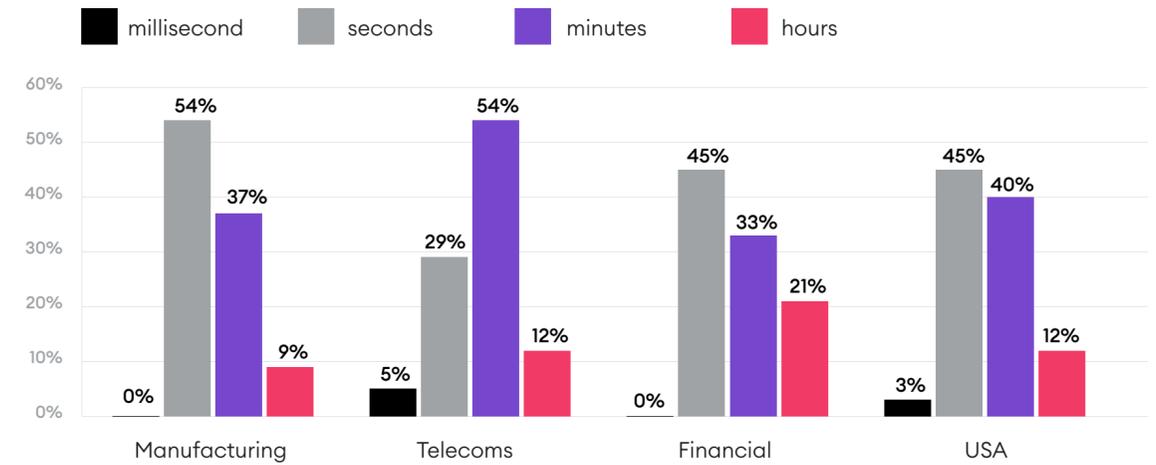
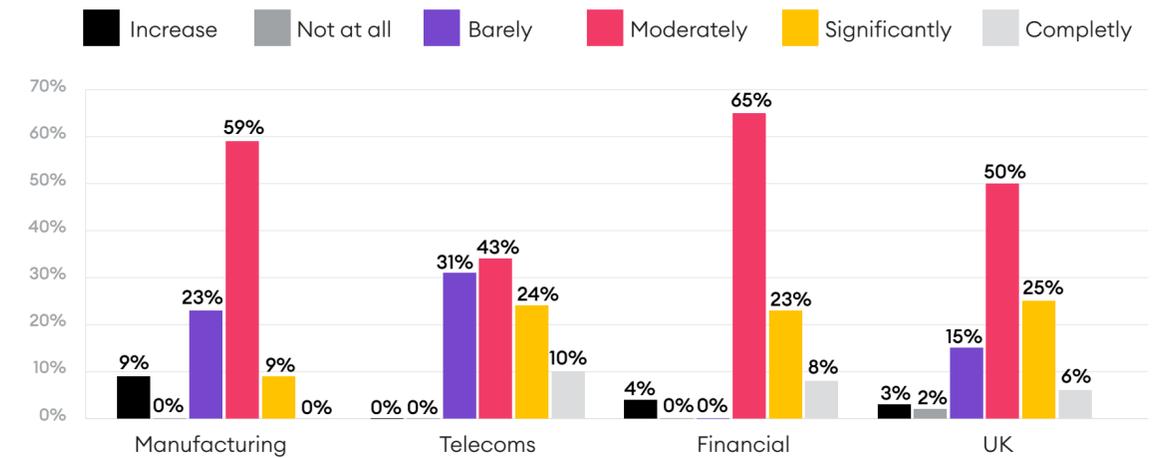


Figure 5: Reduction of anomalies in the UK after implementing real-time data



100% of UK Telecom businesses saw a reduction in costs after implementing real-time data

THE OPERATIONAL BENEFITS OF REAL-TIME DATA

Value Outcome Two: Improving efficiency in process roll-out

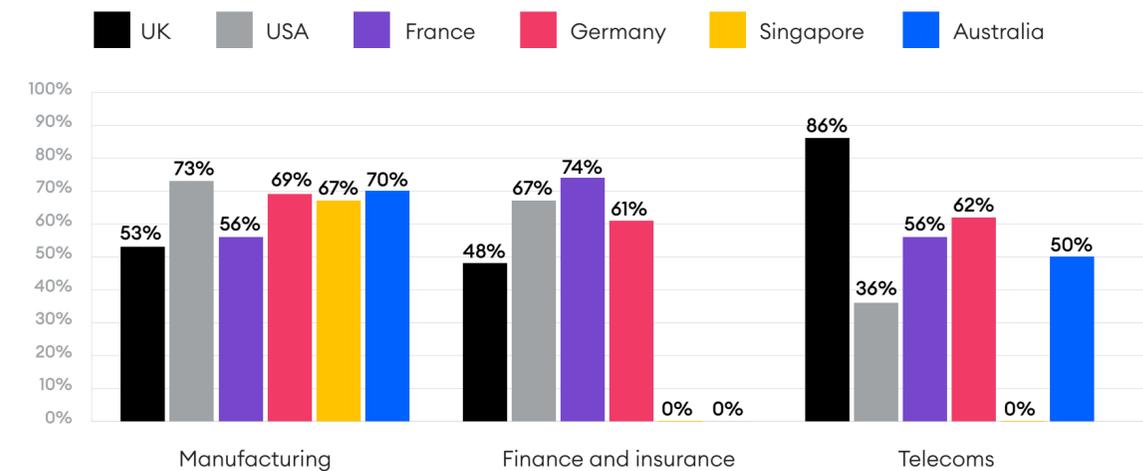
As well as preventing problems from lingering within the business, the adoption of real-time data can also improve process efficiency.

Across a range of geographies (Fig. 7), organizations in Manufacturing, Finance, and Telecoms all report improved efficiency in the rollout of new processes after implementing real-time data systems. There were a few notable success stories within this landscape. Telecoms businesses in the UK saw a significant improvement (86%), while Finance in France (74%), and Manufacturing in the USA (73%) also made substantial gains.

62%

of firms on average globally found that access to real-time data made processes more efficient

Figure 7: Ratio of respondents who reported more efficient rollout processes after implementing real-time data systems²



THE OPERATIONAL BENEFITS OF REAL-TIME DATA

Value Outcome Three: Improved customer experiences

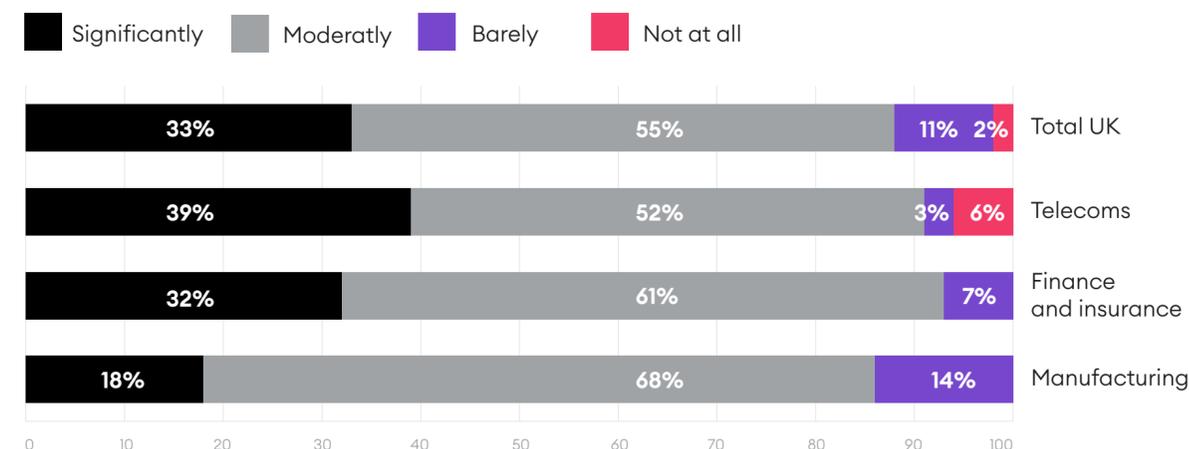
Implementing real-time data has a tangible positive impact on customer experiences.

In the UK's Finance and Manufacturing industries, for example, every single business recorded at least some increase in positive customer feedback after embracing real-time data. Across all industries in the UK, 98% reported a boost – with 33% describing this as significant (Fig. 8). Telecoms lead with 39% reporting a significant increase.

A similar story can be seen in the other countries surveyed, and sometimes to an even greater extent: in Singapore, every single industry saw at least a moderate positive feedback increase.

The types of positive customer feedback included faster services, increased sales, better product quality, and reduced prices – showing how far-reaching and varied the impact of real-time data can be. Looking specifically at the UK, 'faster services' was the most widely reported feedback increase (61%) in total. 'Increased sales' were reported by 64% of UK Telecoms businesses, while 50% saw reduced prices in Finance.

Figure 8: Positive customer feedback increase in the UK after implementing real-time data



“A Middle Eastern firm is using real-time data analytics software from KX to drive measurable operational and commercial benefits including significantly enhanced customer service and better-informed discussions with clients and business partners. Deploying the technology has been transformative, providing a richer, deeper understanding of the insights held within the data that sits across the entire organization.”

THE OPERATIONAL BENEFITS OF REAL-TIME DATA

Value Outcome Four: Reducing non-people operational costs

Real-time data has an important role to play in the reduction of non-people operational costs. In this research, we particularly focused on the reduction of non-people operational costs through the lens of migrating to a cloud-based real-time data platform.

The overall reduction in costs is a significant Value Outcome for every industry and every country with a large enough sample size to demonstrate. When considering overall impact (a figure which considers both the currently achieved and potential cost reduction), the value sums up to almost \$379 billion across all industries.³

Within this (Tab. 1), Manufacturing leads the way for savings, representing more than half of the overall value (\$194 billion). Even with Singapore excluded due to data limitations, the Automotive industry had the second highest impact, with more than \$93 billion potential or realized savings.

\$321bn

in non-people operational cost have already been saved thanks to real-time data. The overall savings could reach \$379 billion in the future.

Table 1: Overall impact of real-time data on the reduction of non-people operational costs, \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	\$5,659	\$98,774	\$29,461	\$50,795	\$4,902	\$4,343	\$193,935
AUTOMOTIVE	\$10,146	\$22,925	\$17,533	\$40,772	-	\$1,867	\$93,242
FINANCE AND INSURANCE	\$8,168	\$55,912	\$8,984	\$3,143	\$398	\$742	\$77,346
TELECOMS	\$915	\$9,895	\$805	\$2,144	\$186	\$367	\$14,311
TOTAL	\$24,888	\$187,507	\$56,782	\$96,854	\$5,486	\$7,318	\$378,834

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

SECTION 2

The positive commercial impact of real-time data analytics and systems

Whether an organization has already invested in real-time capabilities or is looking to build a business case for implementing new systems, it's positive to see that a broad range of general business benefits can be achieved.

Across a range of countries and industries, the financial case for real-time data is a compelling one.

Once again, drawn from the quantitative research, the second section of this report now explores these benefits through the lens of four further Value Outcomes.



THE POSITIVE COMMERCIAL IMPACT OF REAL-TIME DATA AND SYSTEMS

Value Outcome Five: Processing and managing data

By implementing a real-time data system, firms can significantly improve the productivity of data scientists and other professionals who work with data at their organizations.

Certain industries – such as Automotive – stand to make significant gains in every region, with a potential total uplift of \$350 million across the industry globally (Tab. 2). Manufacturing stands to gain \$724 million in uplift, and in Finance, this is even higher, with total impact calculated at \$1,562 million.

How real-time data systems create productivity gains

Real-time data systems bring productivity gains by reducing the people time spent in processing and managing data through their automation and analytics capabilities, enabling users to automate complex workflows that would otherwise be time consuming, and leverage tested machine learning models that provide actionable insight thereby generating more value for the business.

\$2.8bn

in global, cross industry GVA uplift highlights the significant value of processing and managing data using real-time data and systems

Table 2: Overall impact of using a real-time data system to process and manage data on GVA, \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	-\$18	\$549	\$148	\$99	-\$36	-\$18	\$724
AUTOMOTIVE	\$20	\$179	\$17	\$130	-	\$4	\$350
FINANCE AND INSURANCE	\$48	\$1,615	-\$31	-\$82	\$3	\$9	\$1,562
TELECOMS	\$18	\$145	-\$6	\$1	\$1	-\$2	\$156
TOTAL	\$69	\$2,487	\$128	\$147	-\$32	-\$7	\$2,792

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

THE POSITIVE COMMERCIAL IMPACT OF REAL-TIME DATA AND SYSTEMS

Value Outcome Six: Optimizing data architecture

Businesses can also expect to see a productivity related financial uplift as a result of implementing real-time data systems, as users of these platforms spend less time manually managing data platforms.

As Tab. 3 shows, every industry surveyed stands to benefit significantly. The overall GVA uplift through this Value Outcome would amount to \$8.26 billion, with the USA and Germany contributing 54% and 29% of that amount respectively. The most significant GVA uplift is in the Manufacturing sector: as per Fig. 9, this industry reports significant savings in time spent managing data platforms.

How real-time data platform save time for users

Real-time data platforms combine real-time analytics, time-series databases, complex event processing, machine learning, and data visualization tools into one single point of access to all data regardless of system, format, and location. This avoids the need for users to manually piece together data from disparate platforms to deliver analytics and provide solutions. This reduces data capture and reporting times while increasing analytical performance.

Figure 9: % of time saved by companies after the introduction of real-time data platforms⁴

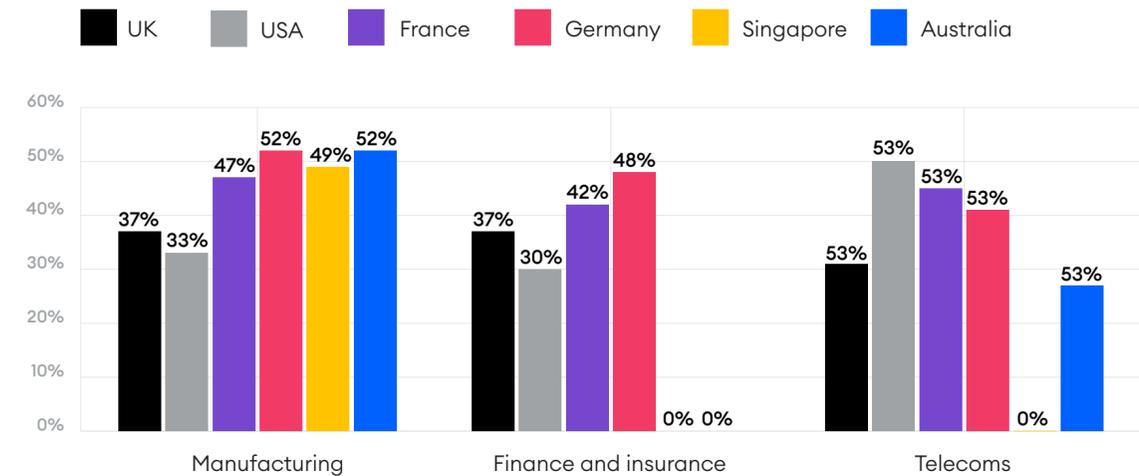


Table 3: Overall GVA uplift from using a real-time data system to manage data platforms, \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	\$212	\$2,263	\$290	\$2,025	\$30	\$320	\$5,139
AUTOMOTIVE	\$74	\$937	\$56	\$236	-	\$35	\$1,338
FINANCE AND INSURANCE	\$119	\$999	\$82	\$128	\$20	\$100	\$1,448
TELECOMS	\$32	\$258	\$19	\$18	\$1	\$7	\$334
TOTAL	\$438	\$4,456	\$446	\$2,407	\$52	\$461	\$8,260

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

Value Outcome Seven: Revenue increase

One of the greatest motivations for any businesses looking to invest in real-time capabilities is the potential for revenue growth. While bearing in mind the limitations of this survey, the fact remains that every industry across every country stands to increase revenue after implementing real-time data.⁵

As Tab. 4 shows, the Automotive industry is poised to make the highest % gain (39.9%), followed closely by Telecoms (37.1%). In specific regions, these figures are even higher: the American Automotive industry is a particular standout, with potential revenue increase of 49%.

In dollar terms, the figures are significant. As Tab. 5 highlights, the potential revenue gains reach almost \$4.2 trillion in total across all industries globally, with almost \$2.1 trillion of this coming from Manufacturing alone.

80%

of firms surveyed globally report an overall impact increase in revenue to some degree after implementing real-time data

Table 4: Overall relative increase on revenue after implementing real-time data, percentage

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	18.7%	22.3%	39.1%	36.8%	16.5%	20.6%	26.6%
AUTOMOTIVE	34.9%	49.0%	42.0%	34.3%	-	16.8%	39.9%
FINANCE AND INSURANCE	31.9%	23.4%	19.0%	14.7%	13.8%	2.4%	22.2%
TELECOMS	14.9%	43.0%	30.0%	34.0%	13.4%	14.0%	37.1%
TOTAL	26.3%	26.6%	36.1%	33.8%	15.6%	13.8%	28.1%

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

Table 5: Overall impact of real-time data on revenue increase, \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	\$100,085	\$991,522	\$324,053	\$590,433	\$34,624	\$52,382	\$2,093,101
AUTOMOTIVE	\$111,452	\$410,721	\$130,862	\$265,838	-	\$17,211	\$936,084
FINANCE AND INSURANCE	\$118,845	\$636,765	\$45,049	\$40,093	\$11,543	\$4,250	\$856,546
TELECOMS	\$10,490	\$240,860	\$15,471	\$24,741	\$1,325	\$5,385	\$298,272
TOTAL	\$340,872	\$2,279,869	\$515,435	\$921,105	\$47,493	\$79,228	\$4,184,003

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

THE POSITIVE COMMERCIAL IMPACT OF REAL-TIME DATA AND SYSTEMS

Value Outcome Eight: Industry economic impact

The final lens through which we can view the financial impact of implementing real-time data and systems is wider economic impact.

Overall, as Tab. 6 demonstrates, we estimate that the adoption of real-time data by all firms has the potential to add \$11.1 billion in wider economic impact across all the industries surveyed. Of this \$11.1 billion, 67% is estimated to have been already realized by companies who currently use real-time data.

The estimated profits created by this increase are expected to exceed \$5 billion. In line with the earlier figures, the Manufacturing industry is expected to realize the greatest additional profits (Tab. 7).

How is wider industry impact calculated?

These figures model the additional potential impacts of the firm-level gains on the wider economy. This additional impact layer is the impact of increased profits associated with more firms using real-time data analytics, leading to increased productive investment, and a resultant medium-term boost to GDP. We draw on firm-level GVA gains estimated in Value Outcome: Processing and Managing Data and Value Outcome 2: Optimizing Data Architecture for this part of the analysis.

\$2.5bn

could be added in additional profits to the global manufacturing industry after implementing real-time data

Table 6 – Overall GVA uplift from the adoption of real-time data systems by firms, \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	\$195	\$2,811	\$437	\$2,123	-\$6	\$302	\$5,863
AUTOMOTIVE	\$94	\$1,116	\$73	\$366	\$0	\$39	\$1,689
FINANCE AND INSURANCE	\$168	\$2,614	\$51	\$46	\$23	\$109	\$3,010
TELECOMS	\$50	\$402	\$13	\$19	\$2	\$4	\$490
TOTAL	\$507	\$6,943	\$574	\$2,554	\$20	\$454	\$11,051

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

Table 7 – Additional profits generated from overall GVA uplifts in Value Outcomes 1 and 2 \$ million

	UK	USA	FRANCE	GERMANY	SINGAPORE	AUSTRALIA	TOTAL
MANUFACTURING	\$73	\$1,462	\$182	\$699	-\$4	\$122	\$2,533
AUTOMOTIVE	\$30	\$420	\$30	\$183	\$0	\$11	\$674
FINANCE AND INSURANCE	\$87	\$1,265	\$18	\$17	\$13	\$76	\$1,475
TELECOMS	\$24	\$296	\$8	\$13	\$1	\$3	\$345
TOTAL	\$213	\$3,443	\$238	\$911	\$11	\$212	\$5,028

Source: Sapio Research, ONS, Census Bureau, Insee, Destatis, DOS, ABS, Cebr analysis

CONCLUSION

Real-time, real value

Despite the complexity of this analysis, one thing is clear: the value of implementing real-time data is significant across every industry, and is only set to increase as more businesses come to truly understand what real-time data is and how it can be used effectively.

From process improvements to cost reductions and tangible impact on business revenues, the benefits are wide-reaching. The task now is for firms to get the right capabilities in place and ensure they're not only implementing real-time but utilizing it to its full and rich potential.

The key to doing this? Having the right partner. KX has already helped businesses around the world act on time-sensitive opportunities where speed, scale, and reliability matter. Having built our technology and reputation in the most demanding data environments in the world, we're uniquely positioned to help organizations succeed.



“We burst a lot of data – billions of datapoints. We have hundreds of sensors in the cars and two cars active at the same time. That’s a real challenge to manage all that data. To capture it, to store it, and give access, immediate access to the engineers. KX enables us to capture the data in a very fast way and show it to the users in the way they want including web dashboards and through their favorite data analysis tools.”

Sergio Rodriguez
BWT Alpine F1 Team Data Science & Engineering Manager

About KX

- KX has enabled some of the world's largest companies to achieve a competitive edge by uniquely combining real-time streaming data with historic context to power faster and better in-the-moment decision-making.

We honed our platform where sub-second decisions can swing \$billions towards success or failure. We engineered KX to seamlessly integrate into today's evolving data landscape to ingest, store, manage, analyze and visualize enormous amounts of dynamic data, whether on-premise, in the cloud, or at the edge.

www.kx.com

Want to learn more about the potential of real-time data analytics for your business?
Speak to KX today.

CONTACT ➤

Footnotes

1. GVA, or gross value added, is a measure of the value of production in the national accounts. Conceptually it can be considered the value of what is produced, less the value of intermediate goods and services used to produce it. This measure is important because it tracks the contribution of a corporate subsidiary, company, or municipality to an economy, producer, sector, or region
2. Responses were omitted for the industries and countries where the sample size was limited
3. Overall impact: for the purposes of brevity, this report uses 'overall impact' figures throughout, which combine both the realized and potential \$ impact of implementing real-time data.
4. Responses were omitted for the industries and countries where the sample size was limited
5. It's important to acknowledge that the impact of real-time data on revenue increases at this industry-level can be difficult to establish for several reasons.

Firstly, within the survey, questions were asked broadly on the impact of real-time data on firm revenues. Given this broad framing, it's possible there's more of an error margin than

some of the more specific Value Outcomes. Secondly and more importantly, there's a strong chance that a large share of the 'potential' benefits would come at the expense of the 'existing' benefits; depending on how competitive the environment is, firms might be playing a zero-sum game, where one's revenue increase might cause another one's decline.

As an example: if there are only two firms on the market: Firm A and B, and they produce sugar, which is assumed to be a zero-sum market. Consumers don't have a preference on which firm's product to buy and a constant quantity of sugar is demanded in the economy. Therefore, firms can only increase their revenues if they attract customers from the competitor. If we see an increased sales for Firm A, this must be at Firm B's expense. As many of our analyzed markets are relatively established, without recent histories of explosive growth, it is likely that for each firm, some of the expected potential growth reported in the survey, may be at the expense of competitors.

CEBR partnered with Sapio Research to conduct a survey to understand the usage of real-time data by firms, with a focus on seven main channels through which the use of real-time data analytics may benefit firms' productivity and performance. The survey was conducted among 1,262 business data and IT decision makers in organizations with more than 50 employees in the six different focus markets as follows: 251 from the UK, 250 from the US, 256 from Germany, 251 from France, 100 from Singapore and 154 from Australia. We also asked about the sector they worked in, as we were interested in four specifically: Manufacturing (excluding motor vehicles), Automotive (manufacturing and trade of motor vehicles), Finance and Telecoms.