Couchbase Cloud Evolution Report 2022

Couchbase

Is the cloud living up to sky-high expectations?

A Couchbase research report: investigating enterprises' movement towards the cloud, and the challenges they encounter on the way

Executive summary

Very few people deny the cloud's impact on organizations. Whether offering businesses access to applications and services that they couldn't implement in-house, or giving enterprises confidence they will always be able to scale their operations to suit their exact needs, momentum towards the cloud seems unstoppable.

This in turn puts pressure on both the cloud service providers and the IT decision makers arguing for greater cloud adoption. Expectations are sky-high – the question is, can the cloud continue to meet them?

As part of Couchbase's fifth survey of IT decision makers, we wanted to understand the cloud. Not only its continued momentum and the reasons enterprises adopt cloud services. But whether the cloud is making good on its promises to increase scalability and agility, and to offer more predictable costs.

In particular, we wanted to understand if there were challenges preventing enterprises from realizing the full value of their cloud investment. With cloud spend in the tens of millions, even small percentages added to individual costs can add up to significant sums.

We found undeniable momentum. The cloud is set to represent the majority of IT spend by 2025 at the latest, with 95% of respondents saying that increased movement of infrastructure to the cloud is "inevitable."

Yet while organizations know their priorities for the cloud, more than one third openly say it hasn't met their expectations. Digging deeper, the real number might be even higher – enterprises are facing challenges with their cloud services that could have a profound impact on their ambitions.

These range from having to scale back digital transformation ambitions, to over-spending in order to access the services they need, to finding that service providers don't offer the agility and scalability the cloud promised.

Taken separately these issues are annoying, but their collective impact is undeniable. These issues added more than one third to enterprises' cloud spend – by addressing them, enterprises could either reduce costs or greatly expand their ambitions.

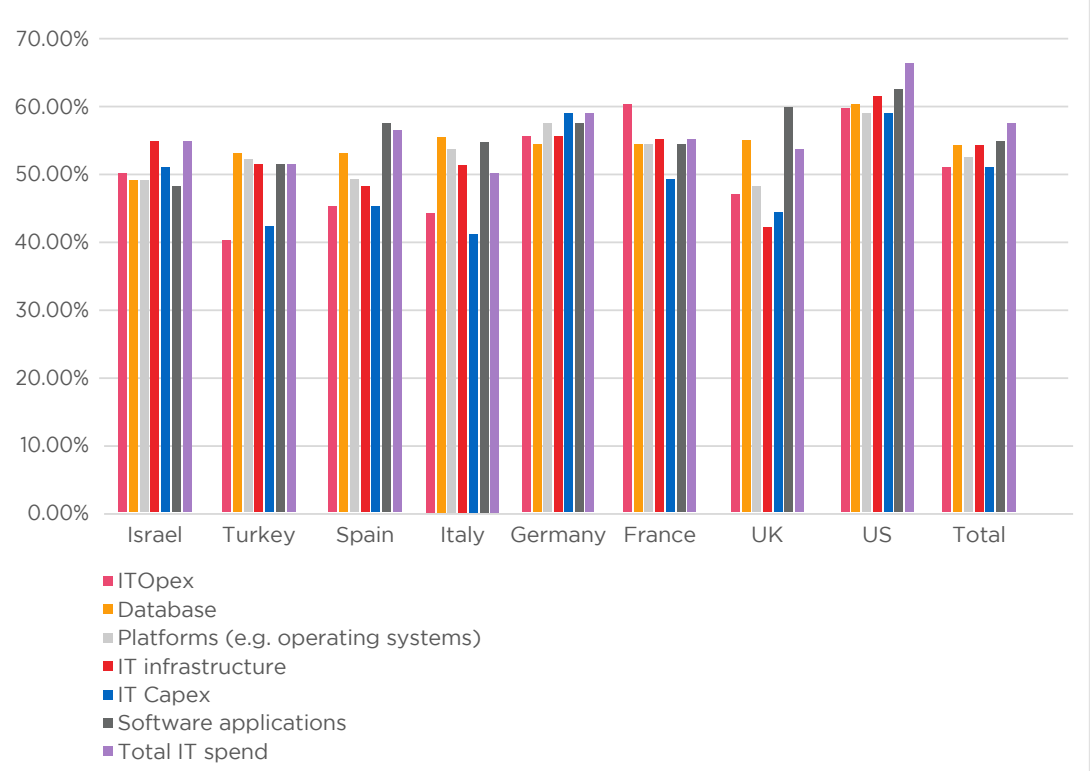
The bottom line is that the cloud is not going anywhere. And looking at specific examples of cloud services, such as Database as a Service (DBaaS), the need is undeniable. Businesses want everything that the cloud can offer: now we need to make sure that it delivers.

Part One: The inevitability of cloud momentum

In 2022, very few enterprises can or will ignore the cloud. Whether reducing the need for capital expenditure; gaining more predictable operational expenditure; taking advantage of more scalable and agile infrastructure; ensuring the enterprise only uses the applications it needs; or gaining access to platforms or databases that could be difficult to implement in-house, the direction of travel is evident.

Enterprises want a clear majority of their IT spend (58%) to be in the public cloud by 2025 – with software applications, databases and IT infrastructure seeing the greatest proportion (Fig. 1). This is excellent news for greater agility and scalability in IT, but will also put more pressure on organizations to ensure they are getting maximum value from their investment.

Fig. 1 – Enterprises expect most IT spend to be in the public cloud 2025



Enterprises are making steady progress – on average, respondents claim they are more than halfway towards meeting their goals in moving to the public cloud **(Fig. 2)**. Again, while progress is to be welcomed, enterprises need to ensure that as they reach 100%, the service they receive meets expectations.

Fig. 2 – Progress towards meeting public cloud goals

Total progress by region:

Total	US	UK	France	Germany	Italy	Spain	Turkey	Israel
56%	65%	46%	59%	58%	51%	46%	48%	53%

Ensuring the cloud meets expectations is especially important as it seems there is no turning back. The vast majority of enterprises worldwide say that increased movement of infrastructure to the cloud is "inevitable."

- 95% of enterprises say that increased movement of infrastructure to the cloud is "inevitable"
  - USA: **98%**
  - UK: **99%**
  - France: **92%**
  - Germany: **86%**
  - Italy: **96%**
  - Spain: **96%**
  - Turkey: **94%**
  - Israel: **98%**

Part Two: Setting cloud priorities

For organizations' move to the cloud to succeed, they need to know exactly what their goals are; to make sure services meet their expectations and address any concerns; and to be certain that cloud services are not adding complexity or cost, but delivering exactly what the enterprise needs. The question is whether this is currently happening.

When assessing new cloud infrastructure, the top concerns were security, managing data in the cloud and the ability to meet future digital needs **(Fig. 3)**. This is understandable given the threats organizations face, privacy and data protection regulations, desire for easier management, and to be future-proofed.

Fig. 3 – Enterprises' "Top Three" concerns for new cloud infrastructure – highest ranked responses

1) Security of data (**43%**)

2) Managing data in the cloud (**33%**)

3) Ability to meet future digital needs – i.e. future proofing (**31%**)

4) Keeping costs under control in the future (**30%**)

5) Alignment to existing hybrid strategy (**28%**)

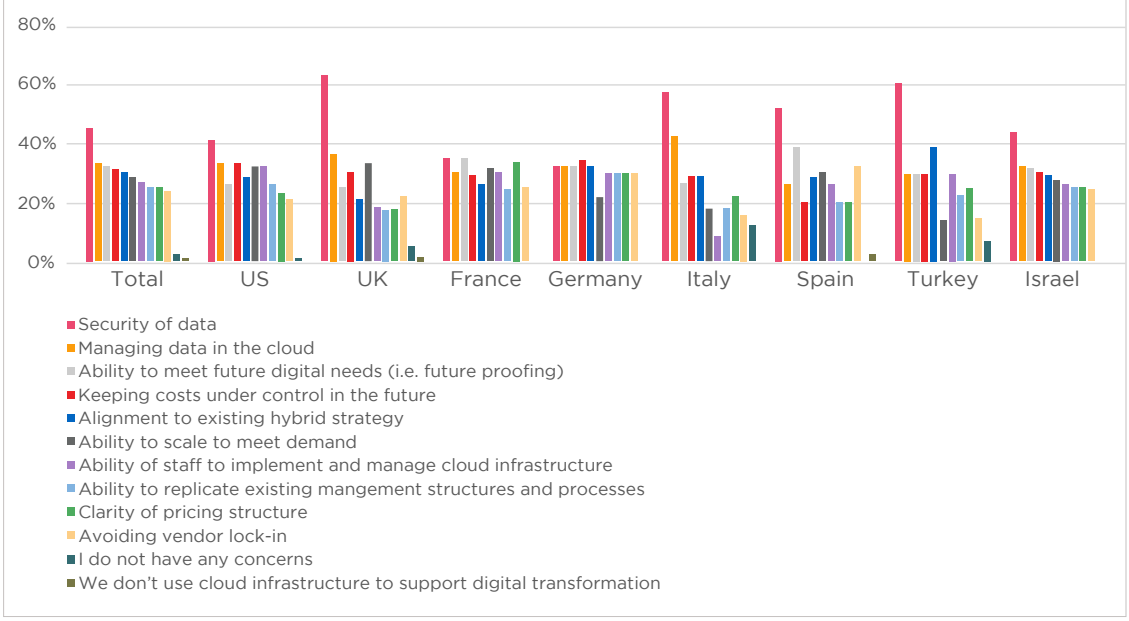
6) Ability to scale to meet demand (**27%**)

7) Ability of staff to implement and manage cloud infrastructure (**26%**)

8) Ability to replicate existing management structures and processes (**25%**)

9) Clarity of pricing structure (**25%**)

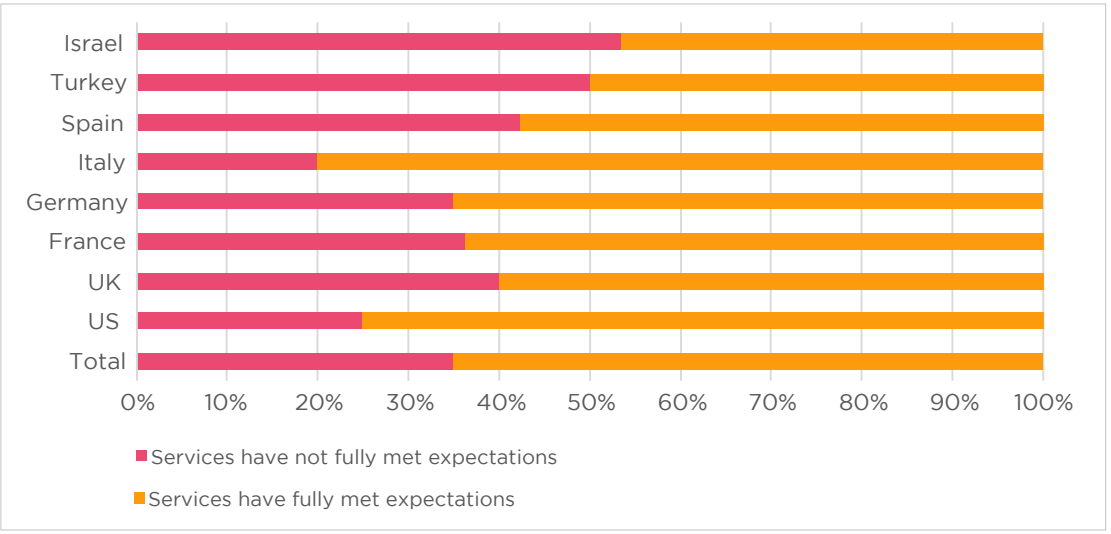
10) Avoiding vendor lock-in (**24%**)



When reviewing these assessments, enterprises need to ask themselves two questions. Does the service pass assessment in every important category? And are their most important categories the right ones to guarantee the best service?

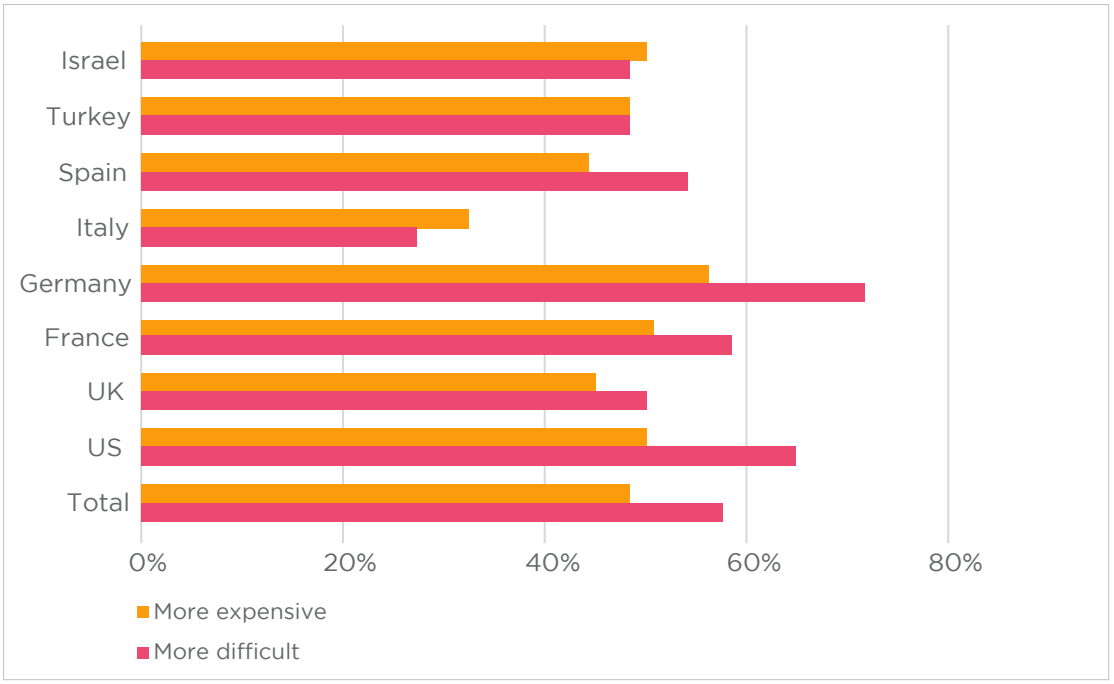
We will see that seemingly minor issues can cause significant costs for enterprises. Even looking at the big picture, a large proportion of organizations believe that cloud services haven't met expectations **(Fig. 4)**.

Fig. 4 – More than one third of enterprises say cloud services adopted in the last three years haven't fully met expectations



And the wrong cloud decision can have a lasting impact — making future digital transformation projects more difficult, more expensive, or both **(Fig. 5)**.

Fig. 5 – Past cloud decisions made digital transformation projects more difficult and more expensive in 2021



With this evidence, we might expect enterprises to lose confidence in the cloud. Instead, the vast majority say they're confident their organization's current cloud services are providing the levels of security, availability, performance, cost-effectiveness, control, scalability, and compliance they need **(Fig. 6)**. The data may tell a different story, but this suggests there is time for enterprises to address cloud challenges and maintain their momentum.

Fig. 6 – Enterprises are confident the cloud is giving them what they need

"I am confident our cloud services are giving the..

- Level of security (**96%**)
- Level of availability (**97%**)
- Performance to operate effectively (**96%**)
- Cost-effectiveness (**96%**)
- Level of control (**96%**)
- Scalability (**97%**)
- Level of compliance (**96%**)

...we need."

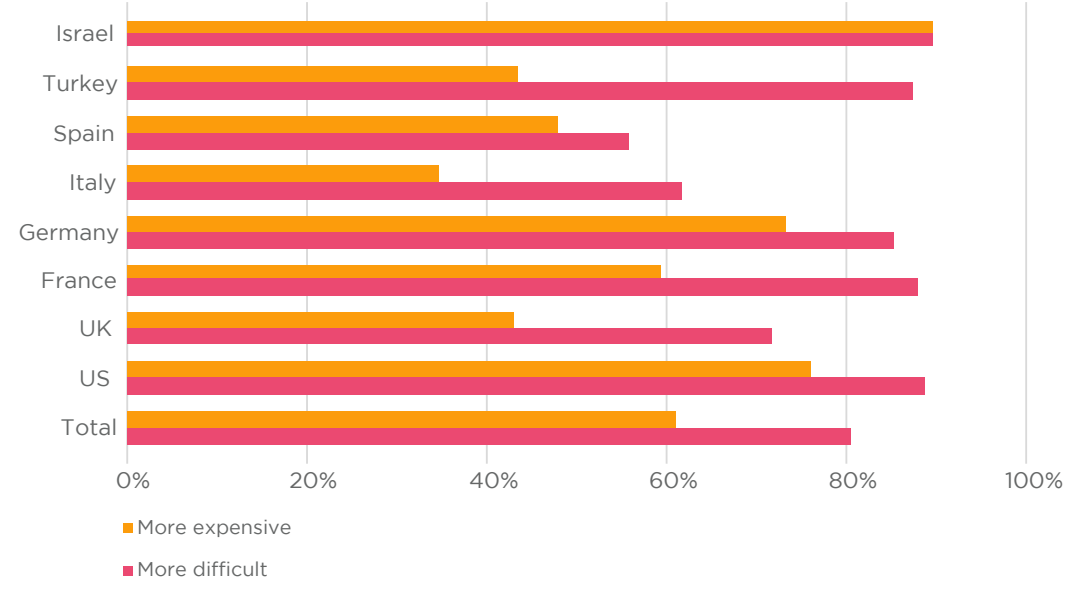
Part Three: Digging into cloud challenges

While enterprises still have every confidence in their cloud services, the move to the cloud still presents several challenges – and with them, costs. And digging deeper, it appears some of that confidence is misplaced.

Enterprises may face strategic challenges with the cloud. At one end of the scale, challenges with cloud services may cause enterprises to delay or restrict their digital ambitions, and so affect their strategic goals. At the other, developers and other teams may embrace new technologies faster than the business can keep pace, increasing risk if those technologies aren't being managed correctly **(Fig. 7)**.

Fig. 7 – Strategic impacts of cloud challenges

- 61% of enterprises have had to restrict their digital transformation ambitions because of challenges with cloud services.
- 81% say their development teams are embracing the cloud and other technologies faster than the rest of the organization can adopt and manage them.



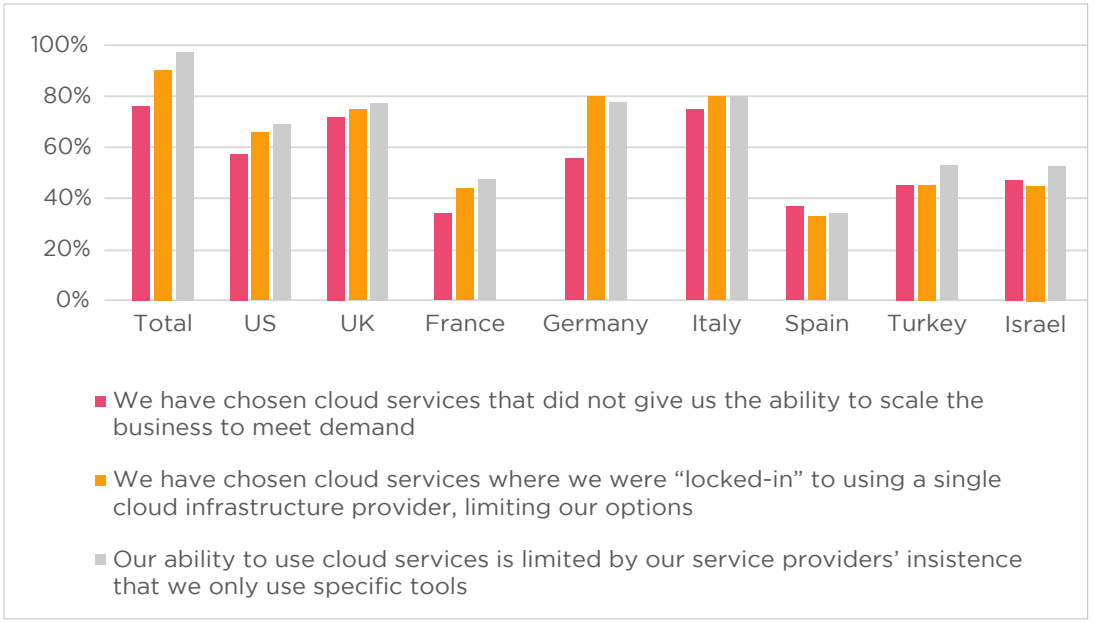
Enterprises will also find themselves having to over-spend on cloud services. For instance, pricing options might not meet the enterprise's exact demands, meaning they have spent more to get the level of service they need – even if much of that spend is effectively unused. Similarly, if a service or infrastructure provider cannot meet all an enterprises' needs – such as making sure data is stored exactly where the business needs it – then the enterprise may need to purchase additional services or perform other workarounds to obtain the desired result **(Fig.8)**.

Fig. 8 – Additional cloud costs

- 80% of enterprises have had to work around their cloud providers' service offerings to make sure data is stored where they need it.
- 67% have had to over-spend on cloud services because the pricing options did not suit their exact needs.

Despite agility and scalability being two of the most important reasons to move to the cloud, many enterprises find that services do not live up to their promise. Either they find services cannot scale enough to meet demand; are "locked in" to using specific infrastructure providers; or find their options limited by only being able to use tools specified by their service provider **(Fig.9)**.

Fig. 9 – Cloud scalability and agility does not meet expectations



The individual costs of these challenges can seem small. But together they are adding significantly to the cost of cloud. From compensating for a lack of enterprise-grade security and compliance functionality, to a lack of insight into spend and costs, overcoming these challenges added almost $9 million to enterprises' cloud bills in 2021 **(Fig. 10)**.

Fig. 10 – Enterprise over-spend on cloud services

	Total	US	UK	France	Germany	Italy	Spain	Turkey	Israel
Average cloud spend ($ millions USD)	33.25	37.33	37.91	28.58	32.46	27.27	25.20	31.38	39.10
Amount spent overcoming challenges	8.76705	10.7807	6.91219	7.76214	10.2162	5.08485	5.05874	9.92806	10.8267

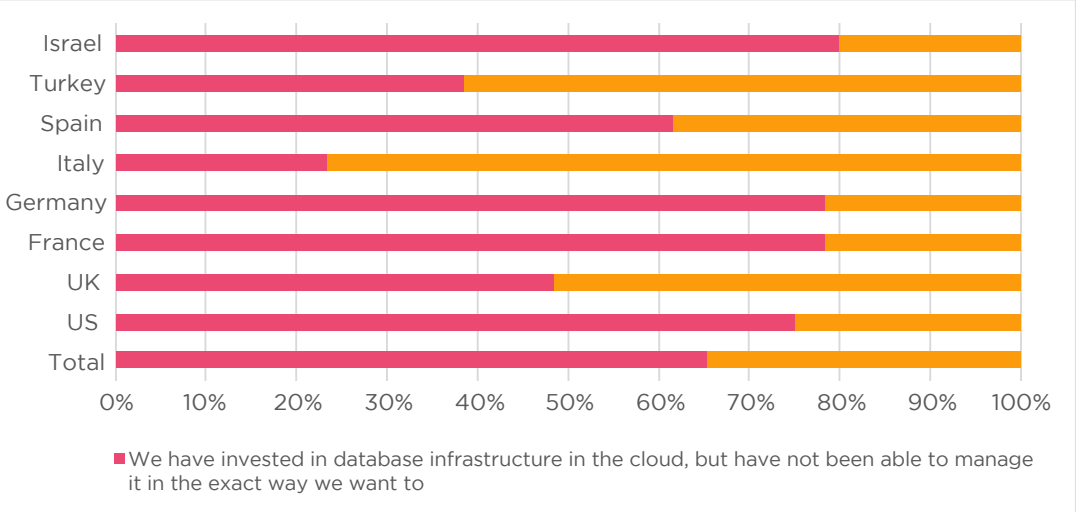
Part Four: The database challenge

Addressing these challenges needs to be a priority for cloud users and service providers alike. This is illustrated perfectly by enterprise's experiences with Database as a Service (DBaaS).

Enterprises are facing challenges with databases in the cloud – many have invested in cloud-based database infrastructure, but haven't been able to manage it in the exact way they want to, while others worry about data security **(Fig.11)**.

Fig. 11 – Database challenges in the cloud

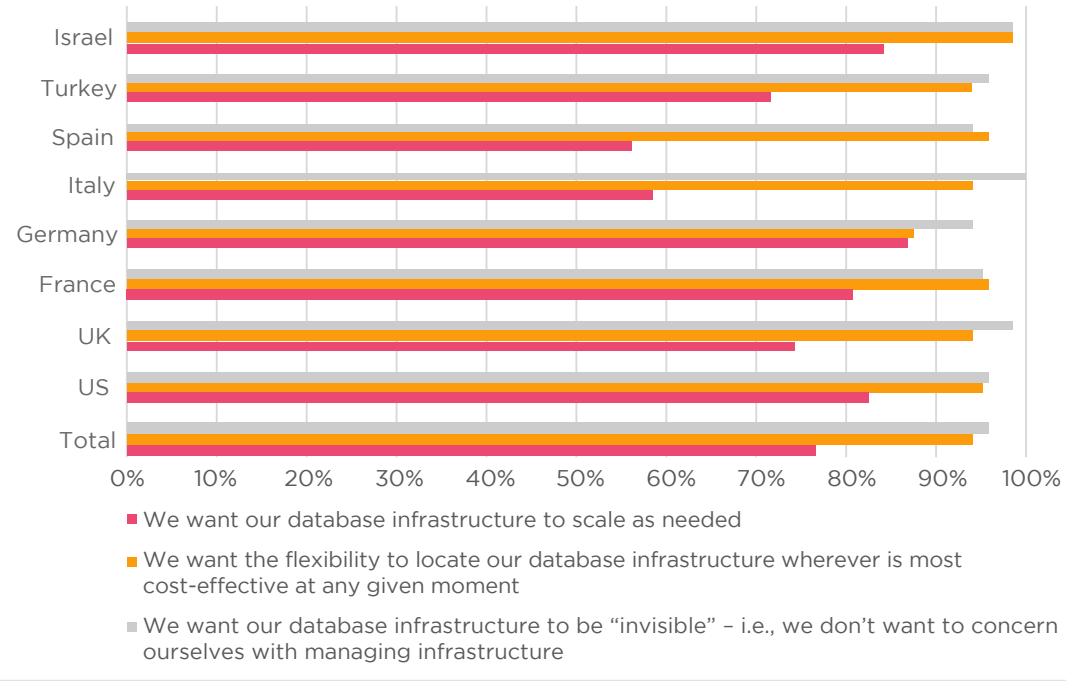
- 56% of enterprises have invested in database infrastructure in the cloud, but haven't been able to manage it in the exact way they want to.



However, enterprises are still looking to the cloud. Enterprises are concerned about on-premises database infrastructure costs. And most enterprises want database infrastructure that is invisible, that can be located wherever is most cost-effective at any given time, and can scale as needed – needs which only the cloud can meet **(Fig. 12)**.

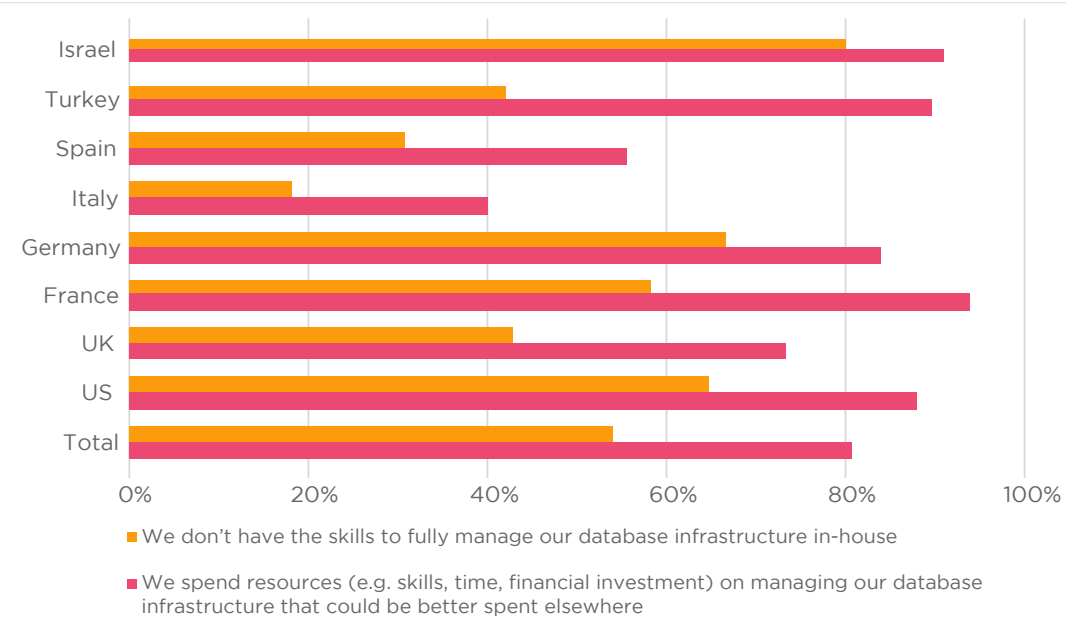
Fig. 12 – Digital leaders do not want to struggle with database infrastructure

- Enterprises' greatest concern with on-premises database infrastructure is managing infrastructure costs (Q15).
- 77% of respondents want database infrastructure to be "invisible" (Q16).
- 94% want the flexibility to locate database infrastructure wherever is most cost-effective at any given time (Q16).
- 96% want database infrastructure to scale as needed (Q16).



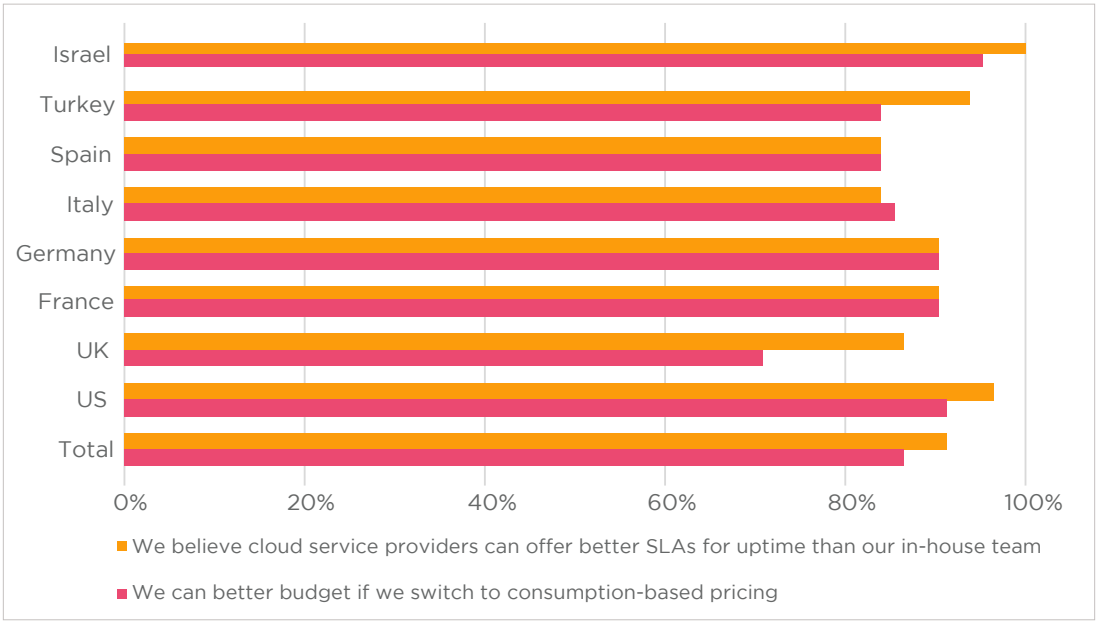
Enterprises also recognize a clear resources issue. Either they do not have the skills they need to manage their database infrastructure in-house, or they are using resources that could create greater value if used elsewhere in the business **(Fig. 13)**.

Fig. 13 – Enterprises' resources issue



Enterprises see that the cloud is the answer – both for better infrastructure management and use of resources, and because the pay-for-what-you-use nature of the cloud allows for more accurate budgeting, while specialist service providers should be able to offer best-in-class SLAs **(Fig. 14)**.

Fig. 14 – Enterprises recognize cloud benefits



The cloud in general, and DBaaS in particular, should be the answer these enterprises need. But it cannot put obstacles in organizations' way or increase costs. Enterprises need an approach that eliminates these challenges, so that enterprises' confidence in their cloud services isn't ill-founded.

Conclusion

There is no putting the cloud genie back in the bottle, and understandably there is no desire to. The benefits to organizations are clear.

However, to provide all its promised benefits, and avoid either repeating issues that have plagued on-premises infrastructure or creating new issues of its own, cloud needs the right approach. Services need to embrace the agility and scalability that the cloud offers, instead of forcing users down a rigid path.

This means giving users maximum control over setup and infrastructure, while delivering on compliance and security. And it means giving customers the freedom to choose their own management strategies and tools that will allow them to provide the best service for themselves and their customers, without incurring additional costs.

Meeting these demands will help accelerate the cloud's evolution even further. Failure will mean that service providers and customers alike will always be left with unmet expectations, and the nagging feeling that things should be better.

Methodology:

The report is based on an online survey conducted in February – April 2022 by Vanson Bourne, an independent market research organization, of 650 heads of digital transformation, such as CIOs, CDOs and CTOs, in organizations with 1,000 employees or more in the US, UK, France, Germany, Spain, Italy, Turkey and Israel.

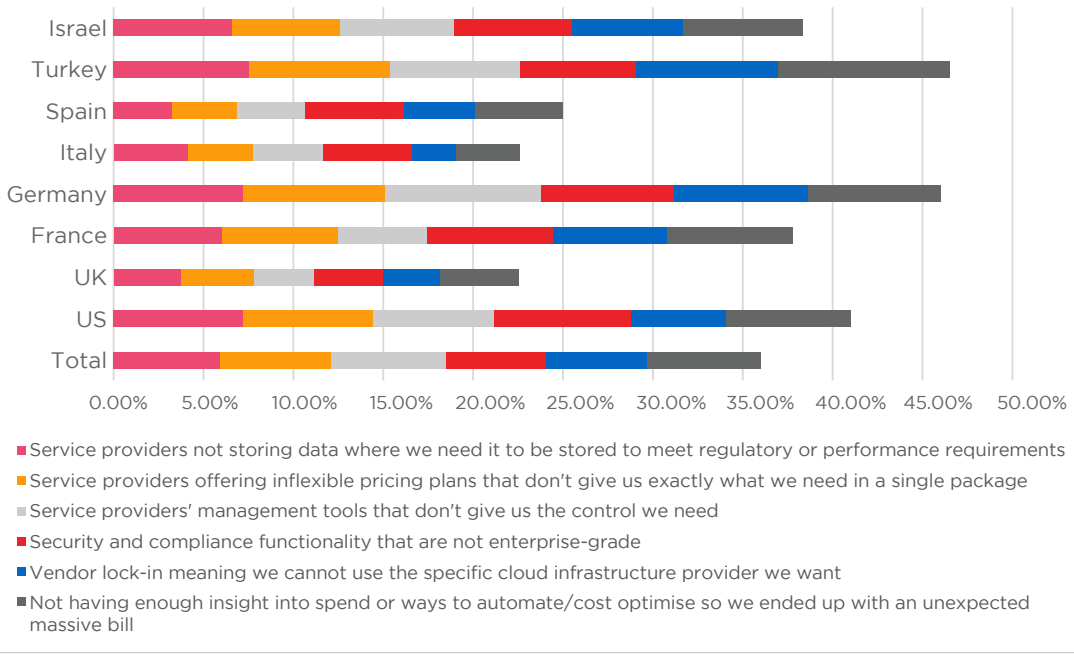
Methodology for specific data points:

Methodology for Fig. 10 – Enterprise over-spend on cloud services (Q20, Q21)

Costs were calculated by obtaining enterprises' total spend on cloud services – including SaaS, IaaS, PaaS and DBaaS – in 2021. Respondents were then asked how much specific challenges had changed their organizations' spend on cloud services. These percentages were added to give the total added to cloud spend, then combined with overall cloud spend to give a final figure **(see table)**.

	Total	US	UK	France	Germany	Italy	Spain	Turkey	Israel
SaaS spend	8.68	9.45	11.53	7.22	8.0t8	6.86	8.36	7.94	8.25
IaaS spend	8.77	9.55	11.27	7.42	7.13	6.89	6.58	7.55	13.11
PaaS spend	8.00	8.60	8.31	7.08	9.64	7.45	5.08	7.17	8.44
DBaaS spend	7.80	9.73	6.80	6.87	7.62	6.07	5.18	8.72	9.31
Average Cloud Spend ($ millions USD)	33.25	37.33	37.91	28.58	32.46	27.27	25.20	31.38	39.10
Total percentage added to costs	35.80%	40.61%	22.30%	37.28%	45.92%	22.92%	25.12%	46.28%	38.30%
Amount spent overcoming challenges	8.76705	10.7807	6.91219	7.76214	10.2162	5.08485	5.05874	9.92806	10.8267

Breakdown of factors adding to cloud costs



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For more information, visit www.couchbase.com.