Inside Track
Executive Brief

FREEFORM DYNAMICS

The Application Complexity Monster

Do you really want to keep feeding it?

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In a nutshell

Conventional wisdom says that smaller organisations can enjoy the benefits of simple and elegant technology, but the needs of larger companies can only be met by more complex and expensive 'enterprise-level' solutions. This sounds like a reasonable principle, but it's one that has its roots in the software industry of the 1990s. The world has since moved on and cloud-based, ecosystem-enhanced solutions are challenging traditional thinking. Nowadays users in mid-size and even larger organisations can in many cases enjoy systems that simplify rather than complicate their lives. Enterprise IT teams can similarly benefit if complexity is kept to a minimum.

Taming the complexity monster

As your business grows and evolves, particularly in today's digital world, you've almost certainly seen an escalation in the demand for new and more modern IT solutions. Having the right technology to compete and operate effectively and efficiently is arguably more important now than ever before.

But you need to beware as you invest and modernise. As you add more technology and services into the mix, it's all too easy not to notice the complexity monster creeping up on you. As a quick test, ask yourself how many devices, infrastructure components, pieces of software or cloud services you have introduced into the business over the last couple of years. Now compare this to the number you have decommissioned.

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The chances are that you are accumulating more 'stuff' in a systems-sense, and that keeping it all running and working together harmoniously is consuming a significant amount of someone's time somewhere in the organisation – possibly even entire teams. And this also applies to cloud services, which aren't always easy to integrate with each other, let alone with the systems you run on site.

Against this background, simplification is currently high on many IT agendas, leading to various kinds of modernisation, consolidation and automation initiatives. Related to this, more IT and business leaders now prioritise simplicity when it comes to making new investment decisions.

But what does that mean in practice?

Let's address this question in the context of mainstream business applications and suites designed to support the organisation in areas such as Finance, HCM, ERP, Project Management, CRM, and so on. These kinds of applications often form the backbone of the organisation from an operational business systems perspective.

It doesn't always make sense to 'go large'

There are clearly situations in which complex, high-end systems are necessary in relation to the application areas mentioned above. You are going to need a big-iron ERP system, for example, if you are running a complex, distributed, multi-national manufacturing environment and tapping into global supply chains.

But in other areas your requirements may be simpler, e.g. if you are a B2B organisation and your sales model is pretty straightforward, then you may not need a full enterprise-level CRM system with lots of automated digital marketing functionality baked into it. If you are a high-value, talent-centric professional services business, you might require high-end project/case management and/or HCM capabilities, but have more modest Finance system needs. There are then situations in which subsidiaries of larger groups have much simpler needs in a given area than the parent company. The enterprise-level system adopted at a group level might then be total overkill.

A services business might require high-end Project/Case Management and HCM, but have more modest Finance system needs

When it comes to your organisation, only you can judge your requirements in each area. The point, however, is that it's worth pausing to think before adopting an enterprise-level solution in a given part of the business just because it is positioned as suitable for an organisation of your size and scale.

But shouldn't you err on the side of 'bigger' solutions when addressing application requirements? It's better to have an excess of functionality, configuration options, performance, capacity and scalability, right? Well no, actually, unless you're pretty sure that you'll be using it in the not-too-distant future.

The cost of unnecessary-complexity

If the system you put in is overkill in a given context, it's not only likely to be more expensive, it will also complicate the lives of both business and IT people. Furthermore, it will generally increase the level of implementation and operational costs and risks as there's simply more to set-up, manage and potentially go wrong.

Another consideration is that larger 'enterprise-class' systems necessarily come with sophisticated administration, configuration and possibly even development tools. While this is good if you are fully exploiting the system's functionality and tailoring options, if you aren't it just adds even more to the cost and risk burden.

As an example, you will probably have to work through complex sets of options to disable or mask irrelevant functionality that could confuse or distract users. While doing this you will need to tiptoe carefully through all of the system dependencies – e.g. it's easy to switch something off then later discover that it's mandatory to enable some other

functionality that's important to you. Meanwhile, at the other extreme, you can bet that someone on the implementation team will be tempted to make unnecessary customisations, creating a maintenance burden and potentially undermining the value of any best practices built into the system as standard.

The important principle to bear in mind is that complexity always comes at a cost, so if you don't need it, don't implement it.

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So, is this where we talk about cloud as the answer, as many pundits are inclined to do? Well partly, but before we do, let's make sure we remove those rose-tinted glasses.

Cloud solutions can be complex too

Many people position cloud services as a magic bullet to slay the complexity monster, and it's true that life becomes easier for IT teams when you don't have to worry about provisioning, integrating and operating sets of inter-dependent physical components and software. But this doesn't deal with the kind of complexity at the business application-level as discussed above.

A quick peek at the management consoles of leading CRM and collaboration cloud services from the likes of Salesforce.com and Microsoft will illustrate this. The sheer number of things you need to think about and work through makes implementing, managing and supporting such environments a serious undertaking, even if you don't take full advantage of the breadth and depth of the functionality on offer. Huge monolithic applications and complex/convoluted application suites exist in the cloud as much as they do in the traditional software world.

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Again, your needs may justify, indeed mandate such solutions if you have complex or diverse requirements in the area concerned. But what's the alternative if your needs are more straightforward, even if you are working in a larger business environment?

In practical terms, you might still have lots of users, significant amounts of data and relatively high throughput requirements. You will also take things like security, access and compliance controls seriously, so there's no room to compromise there. Surely this precludes the use of solutions designed for smaller businesses?

Not necessarily.

Simpler, ecosystem-enhanced SaaS options

Over recent years, smaller, more elegant business solutions have emerged in many application areas that focus primarily on the functionality that really matters to the majority of organisations. Typically aimed at smaller businesses, they are often scoped and designed in the spirit of the Pareto principle. The philosophy is to do a really good job of implementing the 20% of features that will meet the needs of 80% of customers in a given area, rather than burning R&D resource and complicating the system with things that are only relevant to a minority of businesses.

Smaller, more elegant solutions have emerged in many areas that focus primarily on the functionality that really matters

Applications of this kind are often delivered via the SaaS model, and they generally feel a lot simpler and more intuitive from both the user and administrator perspective. We would always recommend systems designed in this way to smaller organisations, unless they are very sure that they absolutely need something bigger.

Turning to enterprise-level requirements, as a characteristic of the cloud model, such solutions can frequently also meet the performance, scalability and risk-related needs of larger organisations. Services are generally hosted in high-scale datacentres with state-of-the-art security, access and resilience measures in place, to a level that most mid-size and even some larger businesses can only dream of in relation to their on-premise environment. No matter how many users you have, and how much processing or storage capacity you need, in theory you should be able to get it. We say 'in theory' because some providers may implement arbitrary limits as part of their commercial model, which is something you always need to check.

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But what about the functional side of things? Smaller and simpler is good for the reasons discussed, but what if you need a more advanced or sophisticated feature-set in one particular part of the system, or want to extend it in some way?

This is where the ecosystem comes in. If you are going to go down the smaller, simpler solution route, it's important to select a provider with critical mass in the market, and an active partner program. It's then more likely that you'll be able to tap into a catalogue through which pre-integrated enhancements and extensions can be accessed via a few clicks. In effect, you get a significant way towards realising some of the advantages of a

larger application or suite, i.e. there's room to grow and develop, but you add capabilities at your own pace in line with your own agenda and priorities.

This whole ecosystem model is a lot more effective in the cloud context than in the old days of traditional software. Members of the ecosystem are integrating with a single, consistent environment rather than having to cater for the inevitable diversity and unpredictability of customer on-premise set-ups. This makes it easier to develop and test complementary solutions, which in turn enables more robust, higher-quality integrations, as well as faster and more effective support. With no physical distribution involved, it also means rapid, automated and no-fuss updates are possible, speeding time-to-value when new features are released. The impact of cloud as an ecosystem-enabler should not be underestimated.

Final thoughts

Despite the advances in IT architectures and delivery models, the truth is that many of the enterprise application solutions on offer today are underpinned by thinking that has its roots in the 1990s. Early SaaS services simply emulated the big-iron on-premise systems of the day, and the associated inherent complexity has often been carried forward. Even more recently-introduced cloud service suites often incarcerate legacy designs, and even legacy stacks and components. These come about as traditional players rush to market in an attempt to deliver cloud services that are as rich and diverse as their existing on-premise offerings. On the surface it might look like everything works seamlessly together, but a peek through the admin console (or consoles) often gives the game away in terms of the true nature of the solution.

Of course, some providers have developed enterprise-level, cloud-native applications that really do have a modern and future-proof architecture. These might be more elegant and easier to work with, but they can still be overkill and prohibitively expensive if your functional needs are fairly modest.

Sometimes you have no choice but to 'go large' if you need the depth and breadth of functionality and control. But with developments in open API-enabled cloud architectures, and the ecosystems that have grown around more popular services, it's now a lot more viable for even larger organisations to start small, simple and elegant, and extend out from there.

So, as you consider your next business application decision, pause, think and assess your needs objectively before continuing to feed that complexity monster.

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