Practical theories for using everything-as-a-service IT

Paper by Adrian Hollister, Digital Transformation Specialist
August 2015

By now it should be clear that buying IT the old way has long gone:

tin + software + installation + maintenance + staff + training + management + support tools = expensive + slow + poor value

Cloud computing has been with us for some time, but it’s the everything as-a-service (XaaS) element of Cloud computing that is so compelling. Removing the need for expensive and all-consuming IT departments, thinning them down to an intelligent customer layer.

services + intelligent IT teams = agile + good value + business focused

So what does this mean in practice?

This paper has been divided into four parts that aim to create a easily digestible overview of an ‘everything-as-a-service (XaaS)’ model.

Part 1 – Impact on the IT organisation

As cloud based services are being adopted the approach and model of the IT department needs to change. Services move from local data centres to the cloud, storage moves to the cloud, telephone to the cloud, even network controllers and authentication are moving to the cloud: Office365, Skype, BYOD (bring your own device), Dropbox and more. That natural convergence of IT services doesn't leave a lot for IT does it?

There is plenty of value IT can still deliver, just in a different way. No longer about flashing lights, complex help desk systems, and the mysteries of poorly documented services; the IT team can now focus on delivering real business value.

But IT has seen a number of organisational models already in widespread use today, so let's do a brief comparison:

- Centralised IT. The most commonly used model. Line of business are beholden to a CIO who controls the pace and priority of change. Attempting to be a compromise and usually perceived to be driven by cost and technology not business value.

- Decentralised IT. Typically, each line of business has their own IT Director. Priorities are set at board meetings controlled by the line of business (LOB) and facilitated by the CEO. Multiple IT teams, development teams, help desks and support models.

- Federated IT. IT services are owned by a number of parties and the LOB may choose not to use the central IT service. It is quite common to see this after a merger or change and is usually short lived. Complex arrangements of interlinked services, support and development teams.

- Service led IT. A core set of IT services are provided from the centre but are provisioned by 3rd party. CIO focus is shifted to adding value to the business, away from commodity IT provision. Move from developing code to buying services. This is the core to everything-as-a-service (XaaS) led IT departments.

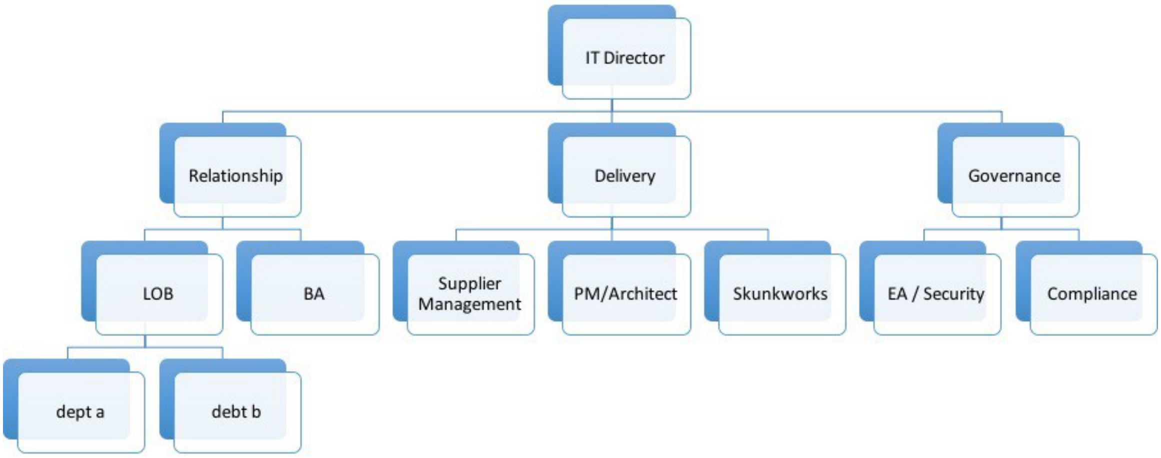
The service led model is a variation of the 'intelligent customer' approach taken when business move towards a heavily outsourced model. They key variation is that contracts in the service led IT model are numerous, short and with pinpoint focus. Creating the opportunity for numbers of smaller, specialised and high value businesses to apply.

This creates a level of competition and introduces flexibility to end failing contacts early and pursue new ideas when the business needs change. This also shifts the work that the IT department needs to do, from a hardware and bespoke solution focus, to one of managing their customer and their suppliers. In this approach, the organisational model loses 'IT support' but gains 'supplier management'.

Being commodity, the help desk also goes, replaced from a specialist supplier; and perhaps this commodity element is the big differentiator. Anything that is not a core function of the business and is readily available to procure from a 3rd party should be considered commodity IT and provisioned by expert 3rd parties.

The delivery function also losses out. Without the need for vast quantities of bespoke code the delivery teams can be paired down to a core set of PM, Architects and developers for legacy code and integration maintenance. It's important to note that all change in this model has to be self-funding.

Example everything-as-a-service XaaS org chart



Change is not quite so difficult with as-a-service

Any new model or approach is going to be difficult: there must be a clear strategy for IT. Not only a sense of what is needed today, but also tomorrow; and that strategy must be understood and agreed with the business. The change however, can be quicker than a re-organisation with staff being redeployed in new roles or moved (TUPE) over to suppliers. As such the impact on the organisation and staff will be low compared to traditional reorganisation methods.

The financial considerations will also be different to a traditional reorganisation. Moving head count into supplier contracts will reflect good on in-year savings and savings may be had by purchasing more efficient services, returning floor space and reducing risk. Costs are also likely to be moved towards a standardised monthly fee, giving the business good visibility of often hidden IT costs. Finance will thank you for being able to plan clearly and provide consistent and open costings.

The approach to contracts needs to change. By using short 2 year or 2+2 contracts the business can choose to change provider. This will help the agility of IT provision to meet the changing needs of the business. Some may be tempted by cheaper longer term contracts and for some core services this may be appropriate, but it will limited your ability to grow and shrink to business demands.

There is a significant change in culture, from employment of vast teams of developers, support, help desk and technical specialists; the IT function needs to move to professional supplier and contracts managers and experts within EA, Security, BA and relationship management; and more importantly, projects and business change must be self-funding. By moving to a self-funding business change programme, IT won't change things for IT's sake.

IT for IT's sake

It's the bane of any business – IT doing the best thing for IT. Techies wrapped up in their technology, their brand or the latest toys. There is a place for this, but not in the provision of core IT services.

A pragmatic as-a-service model will force IT to move away from looking at technologies and brands and force them to think about what services can be used to meet the business need. It will force a move away from bespoke development to commercial off-the-shelf software and services (COTS).

- COTS – remove the need for developers to create endless unsupportable bespoke code. There are specialist applications and services that are likely to meet the majority of the business need. Start here and be flexible with expectations.
- Software as-a-service (SaaS) – remove the need to worry about the platform and the supported software layer. Just get up and running with the service provided. Flex to need.
- Platform/Infrastructure as-a-service (PaaS/IaaS) – remove the need for people to touch or play with hardware, brands, upgrades. Why do this in house, when you could be using industry experts who do this day in and day out.

It will be a substantial shock to the IT traditionalists. By taking a step away from the coal face of technology provision IT can work closer to the business; for the business; delivering real business value.

The move towards Cloud and as-a-service is inevitable. Will IT be able to keep up with the pace of change?

Impact on the IT organization - key take away points

This is a big subject area that I've condensed into a couple of pages, but even if you do not have time to go through the text, here are my key take away points:

The value of everything-as-a-service (XaaS) led IT

- Vastly reduced in-house IT team – keep just the experts
- Vastly reduced in-house IT footprint – services in the cloud only small on-site d/c
- Focus on relationships with the business – IT only exists to support the business
- Clearly accountable IT costs – no hiding project, development and support costs

5 core rules of everything-as-a-service (XaaS) led IT

- Focus on being the intelligent customer
- Drive innovation and business value
- Commodity services should be provisioned by a 3rd party in the Cloud
- Restructure the organisation to focus on business value
- Document, plan ahead and agree your strategy

Part 2 – How to manage change in XaaS

General change and projects need to be self-funded. I'm going to say that again – they need to be self-funded. The cost of IT should be the cost of the provision of the known service. The unknown cost of change is given to the business to empower them to choose the priorities and provide the flexibility to select services not provided by IT.

IT should not be scaled to provide endless change and project support, but should be scaled to be the technical conscience of the business: facilitating change, translating business need to technical deliverables, engaging 3rd parties and providing an oversight into the IT elements of change.

Think SME not 3rd Party

Engaging with a 3rd party for delivery does not force you down the consultancy route. Think of the SME approach – dynamic, agile, best of breed skills to best of breed solutions.

Suppliers will thrive in this environment if they are allowed to part of the team and part of the journey. The relationship with suppliers must be sustainable and based on trust between both parties. Suppliers must be able to make a viable and sustainable profit and should run open book integrated into the IT accounts.

Remember: there is little point engaging with a supplier based on the lowest possible cost. Underbidding suppliers run the risk of attempting to make up the money with change control, delivering a valueless service, or withdrawing from the contract.

It may even be viable to export any existing delivery team via special purpose vehicle (SPV) to allow them to work more dynamically, realistically with efficiency and energy. Moving to an SPV could also be a quick enterprise that moves money around the balance sheet and reduces the headcount numbers. An outsource may also achieve the same result, but costs will need to be carefully controlled and understood – change is often used as a source of profit in such enterprises.

Move away from bespoke code

Poorly executed Agile and similar methodologies often create swathes of poorly documented bespoke code. With projects being self-funding the sustainability of the solution must include on-going run costs. Bespoke may be cheap to write, but it's not cheap to maintain or support.

In the SPV model, the SPV is incentivised to pursue efficient, sustainable delivery models by owning the maintenance of the code and solutions. Inefficient, undocumented, or poorly designed solutions will be financially and materially expensive to support and maintain. The

SPV will quickly have to become more efficient or loose contracts to 3rd parties.

The back catalogue of legacy and bespoke code created using agile or similar methodologies is likely to follow this SPV. A contract for maintenance and support must be provided and at a fixed, but sustainable cost. The risk owned by the SPV with clear incentive to reduce and remove the costly bespoke code elements.

Compensation drives behaviour

The move to SPV or outsource must have effective incentives for the staff and SPV. The business may need consistency for a number of years after the structural change or the business may require immediate cost savings, either way, the team moved into the SPV must be motivated to achieve these goals. The SPV route is a great way to move constrained exec's out of the core and give them the flexibility to excel as a commercially driven arm's length body.

What about general day-to-day change?

It would be fair to assume that in the everything-as-a-service model there is strong reliance upon the need for the contracts with 3rd parties to include the cost of maintenance and support change. These elements are needed to ensure that services are compliant with regulatory and security standards and to ensure that services can continue to interoperate.

The contractual obligations of 3rd parties should also be extended to allow the IT team to plan and organise change between the various solutions and 3rd parties. This is standard IT practice, but here the intelligent customer becomes more relevant. It requires a strong understanding of enterprise architecture, governance, the contractual commitments and a timetable of key business events and priorities.

Remember that purchasing on cost alone will fail in this model. Whilst this is not unique to this model, purchases do need to be made on value to the business and support the everything-as-a-service model. Excellence is required in supplier and contract life cycle.

Allow the business to change direction

Once in a while the business will need to change direction. To scale up or down. To create a new branch or brand; or to remove a few. IT should not constrain the business from doing what it needs to do. The contracts put in place with 3rd parties should be designed to allow the business high flexibility.

Services procured could be based on metrics key to the business: the number of products, staff or turnover. This variation of the standard usage model often applied by suppliers may require significant negotiation and contractual skills. Not all 3rd parties will be keen to work differently, so careful and pragmatic selection is required.

How to manage change in XaaS - key take away points

Change is embraced as part of the everything-as-a-service IT model through the use of 3rd parties that are incentivised to be more performant, flexible and cost efficient.
How to manage change in XaaS IT:

- Cost of change is given to the business to empower them to set priorities
- IT must not constrain the business from doing what it needs to do
- Use dynamic and agile 3rd parties for delivery
- Remove bespoke code by accounting for whole life cost of services

There is an opportunity to move existing delivery teams into a special purpose vehicle (SPV):

- Allow radical reduction in delivery headcount
- Allow constrained exec's to flex their wings
- Facilitate cost reduction through the removal of bespoke code
- Facilitate competition with 3rd parties

Part 3 – Moving from legacy support to supplier management

Hardware and software become largely irrelevant as the key question becomes, "does this service meet the business need?" The burden of complex supporting systems is moved to 3rd parties as part of the service they provide. Help desk/technical support for the product also moves to the 3rd party.

With XaaS IT, 'service management' becomes a much less complex place to be. IT must move to act as the intermediary between the customer and the suppliers.

- Manage multiple small suppliers and contracts
- Maintain compliance and regulatory integrity of the IT service
- Be trusted by the business, the IT team and the supplier community

Traditional IT teams must change. They must transition from 'service management' to become 'supplier management', they must move away from their focus on technology to contract compliance and supplier relationships.

Example of the differences

Traditionalist IT people struggle to understand this concept, so let's kick off with an example from a traditional service management function:

- Help desk, call handling and 1st line support
    - Purchased for millions and supported by legions of staff. Vast hidden quantities of money and effort are poured into bespoke and unique help desk systems. All this for those 'important' help desk stats.
    - IT seems unable to work without its help desk and the unfathomable way people are expected to interact with it.
- System monitoring
    - Another area tainted by the bespoke.
    - Multiple monitoring systems, plugged into master monitoring systems reporting to other monitoring systems.
    - Usually visually impressive, the stats and thresholds used are tweaked by IT who spend endless hours perfecting the meaning of red, green and amber.
- Configuration management
    - Caught in a legacy trap, where IT consider people as a liability and risk.
    - People often go out of their way to remove monitoring, auditing software from their devices due to privacy concerns or because the tools stop people working effectively.

Now, compare that to the XaaS world:

- Contracts include support and maintenance
    - Point services and solutions will include the whole life cost including the cost of support and maintenance
- Pay by results
    - 3rd parties paid on results. The business should not select based on the background technology. The supplier should be chosen on merit and ability to meet the business need – technology is their problem.
    - Results = what your business values
    - Little point defining metrics that are irrelevant, unachievable or introduce undesirable behaviours.
- Contracts designed to be flexible
    - Scale up and down; match peak times of demand, reduce at lower times of demand.
    - Agile. Stick to 2 + 2 years.
    - Clear costs, known risk

XaaS Org Chart

The often traditionally bloated service management function does not even appear in the everything-as-a-service XaaS IT org chart – it has been replaced by supplier management.

Clearly this is an idealistic interpretation, as the need for help desk type services still exists, but they are provisioned by 3rd party experts and work for this supplier management function.

Is XaaS Outsourcing?

Outsourcing has sat in this territory for quite some time. But the aims and goals of outsourcing are different to those of XaaS. Suffice to say, XaaS is surgical in nature, outsourcing is, by comparison, a shotgun approach.

It is likely that outsourcing is chosen by default as it resolves, in one hit, many of the problems experienced by poorly performing IT teams.

This same poor performance is often created by misalignment from the IT management team.

IT tend to work under the illusion that their IT service is unique and requires unique systems for support, maintenance and development. They talk about, document and create bespoke systems that maintain the mystery, their job and role. This naivety helps to perpetuate the deception that IT is complex, impenetrable and poor value.

However, the more difficult the problem is perceived outside of IT, the more likely outsourcing is used to solve it.

Cultural change

One core aim of this approach is to fix the overly bureaucratic systems installed by management to create statistics, measurements, and controls. The culture created by these systems often pushes the business to question why 'help' is included in 'help desk' and pushes IT staff to close calls as quickly as possible.

There is no need to create an IT team that everyone hates or a team guided by fear. It is possible to design a service that meets the needs of the business in an affordable and sustainable way.

The goals of supplier management in XaaS

So you've decided the everything-as-a-service is the way to go, how do you convince your existing service management staff that supplier management is the way to go?
That's not an easy one. Those that embrace change are likely to be evangelised by the opportunities presented; others will struggle and may need to stay in their comfort zone through TUPE to 3rd parties. TUPE may sound cold, but in the surgical world of XaaS IT, people can be moved into organisations that best fit their skills or ambitions. This is no outsource shotgun.

Something you should do for every part of your organisation is to set key goals. These should complement and reinforce your vision for your IT organisation and should help people understand your intent and strategy.

Top 5 goals for XaaS supplier management:

- Enable the digital workplace
- Engage with customers, listen and take ownership
- Form a sustainable relationship with the suppliers
- Provide feedback to suppliers and customers
- Create a sustainable and open financial model for IT services

Take note of the keywords here:

- <u>Ownership</u>: alone taking ownership will increase the positive perception of IT. It will create a shared sense of purpose, a shared need and a shared driver to help the business.
- <u>Sustainable</u>: emphasises the need for practical and maintainable relationships, finances and business services. This reduces the knee jerk IT management style prevalent in some areas.

Key take away points

Whilst brief, the paper aims to discuss the theory of everything-as-a-service IT and its impact on a traditional service management function. The proposed move away from service management will scare most IT traditionalists and excite the visionaries, so please take these few points with you:

- Service management in its current format is not sustainable and requires significant revision
- Move to engage, listen and take ownership
- Form a sustainable working relationship between business, customers and 3rd parties
- Create a culture of change, innovation and partnership

Part 4 – Being an intelligent customer

It's a long time since IT underwent any real structural change. Like many other administrative parts of the business, they are formed into a self-contained unit based on one of a number of very similar organisational building blocks. It's like looking through a book of 1980's housing plans – all very similar, all designed without the context of what's around them and all without concern for a sustainable future.

These copybook IT structures work for the old powerhouses of IT demand but are distant from the dreams of dynamic and flexible digital businesses.

Poor quality, low value

The jokes about poor quality, low value, cheap IT provided by in-house teams are a result of a culture of pushing down price at the expense of quality and value; and the business often reduces budgets in line with their perception of the service. It is a self-fulfilling prophecy that IT seems to be determined to perpetuate.

Moving the culture

The difficulty now is that people spend more of their lives in the digital world. They know how to use the digital world, they know how it works for them and they know what would help them. Long gone are the days where IT knows best.

Imagine just the simple things – you want to get hold of someone. Depending on how close you fit into the 'digital native' stereotype, the chances are you would send a message – text, Facebook, Skype, iMessage. Your conversation would be disconnected and you would pop-in and out of interacting with it.

In business through we still seem to assume that the telephone, face to face meetings and email is the only answer. We do this partly because we like to divide work and personal life and clear separation helps, but also because there is a control culture coming from IT inspired by the cost/value/quality argument and the need for a quantitive evidential trail.

The legend goes that to control cost you must actively manage the value and quality; and if you own all the knowledge no one can question you through fear of being shot down by an evidential trail of 'I told you so'.

This culture of fear, accountability and control appear in the digital world, but they are self and peer managed. Knowledge loosing it's power. Freedom of expression, innovation and sharing become the seat of power. Look at the power of WikiLeaks: highly valuable and classified information became worthless overnight.

The requirement to share as part of the digital business world is a great threat to the old power bases within IT (and other parts of the organisation). Traditionally these power bases have relied upon their knowledge being locked away into a 'dark art'.

However, there is no place for this in digital business. Everything-As-A-Service is the enabler to change the culture of old traditional locked-in IT. Those services with dark art documentation (or lack of) and even more dark art maintenance (with overtime) are moved into the cloud. Provided by professionals, documented by professionals, managed by professionals.

The opportunity of change

Changing the profile of the in-house team is also an opportunity to reinforce this cultural change. A move is required from hands-on to a shared knowledge model. The move is often called the 'intelligent customer'.

Despite moving into a world that embraces revolutionary change, everything-as-a-service also requires a level of interpretation. Not only to allow the business to choose wisely, but also to manage the supplier base and support business change. The focus shifts to the relationships, to better understanding the business and to ensuring that sustainable business can be created in the digital world.

The example organisation chart for everything-as-a-service appears to remove ops, help desk and many of the traditional part of IT; but they do still exist. They are provided by 3rd parties under the guidance and support of the in house team.

The in-house team guides and steers the direction of the suppliers to best meet the needs of the business. They introduce targets for suppliers that are mutually beneficial, achievable and allow the business to flex and change. They create an atmosphere of IT being guided by the business and not the technology.

This is stepping back from the coal face and focusing on what actually matters: making business work in the digital world.

Know what to keep and what to move

Be caution though, poor quality managers often move the difficult things to 3rd parties. They do this because it's easier than attempting to solve the problem themselves (often the motivation behind outsourcing).

The foundation of everything-as-a-service is based on moving out the commodity IT elements but keeping the highest institutional value items. This is where IT add their real value to the business.

By moving the commodity elements of the IT service to 3rd parties, the shackles of old IT are gone and IT is released to work with the business for the business.

Simple rule of thumb: if it's a commodity IT element, then get a 3rd party to do it; if it is requiring high levels of organisational or customer knowledge then it's going to be better done with in-house teams.

Key targets when moving to create an intelligent customer function:

Culture

- Move from fear, blame and power led cultures
- Knowledge is something to be shared not hidden
- The business knows how to do business, so let IT facilitate business needs
- No fear of failure, innovation or sharing

Working practice

- Customer first
- Taking ownership, listening and spending time understanding
- Embrace change and innovation

Cost vs Value

- Understand the impact of low cost on quality and value
- Let the business choose and let them be honestly informed
- Create a clear and open cost model with no hidden costs and no fake savings

In Conclusion

The way IT is consumed is changing. The way IT is provisioned is changing. The way IT is managed is changing. More importantly though, the way business consume IT is changing.

Consumerism has initiated these changes. A generation of digital natives have increased expectations. Both have driven innovation and competition.

An inter-connected planet has provided a platform for consolidation, cost efficiency and consistency. It has provided a platform for this competition and the resulting innovation.

IT departments have not kept pace.

Everything as a service allows a business to buy into the innovative, creative and highly competitive digital world without the encumbrance of big IT.

It will not solve your IT problems, but will facilitate change which, if managed carefully, will result in a radical leap into a more dynamic digital world.

About the Author

Adrian Hollister has seen the cycle of changes that organisations and people go through when adapting to new technology states: from mainframes to Raspberry Pi, assembler to java, big data centres to cloud, owner to facilitator and buy to subscribe.

His passion is innovation, strategy, and creating ambitious and inventive teams.

Adrian has worked for a number of blue chip and government customers, designing and building innovation and creativity in everything he delivers. He has taken this approach with him to Plymouth University where he is working as the Head of Strategy and Architecture, Chair of Digital Plymouth and an advisor to Plymouth Science Park and numerous start up organisations.

Find out more on http://adrianhollister.com or visit LinkedIn.