

Summary

If changes in the technology landscape do not – or no longer - guarantee value creation, what strategy should companies follow today to remain or become successful in the next 10 years?

To be successful in the long term, companies need to focus on market demand trends rather than on the flavour of the month or the “next big thing”.

Whatever be the “killer” application of the moment, the main drivers of demand will remain unchanged, hence the value of designing enterprise architectures using a **demand-oriented model**.

This article explores the benefits of modelling an enterprise architecture using market demand as the main driver.

Demand Oriented Enterprise

I can still recall the hype when, in the late 70’s, INSA¹ was granted access to a brand new supercomputer called “Cray”. At that time, there were only 10 supercomputers in the world, though that was already double IBM President Thomas Watson’s forecast of 1943.

Having access to this new power posed a conundrum to the research community: “Now that they we have got that capacity, what are we going to do with it?”

Since the beginning of the so-called information revolution, companies have looked at innovations as a way to increase their business value. Not surprisingly, most of the major industry changes have been technology driven. Mainframes, then personal computers in the 80’s, led the change from centralised organisations to client-server architectures. Networks and telecommunication development in the late 90’s laid the foundations of the internet and gave birth to the “World Wide Web” revolution. Today, the hype is around mobility. This is the 21st century but executive management’s conundrum is still very much the same as that of the INSA researchers back in the late 70’s:

“Now that we have mobility, what are we going to do with it?”

With every technology revolution, companies have changed the way they operate. They have reorganised, re-engineered and redeployed, trying to increase their business value through technology although not always successfully. The dot.com crisis, the growing complexity of the supply and the commoditisation of the technology market, have highlighted the dangers of blindly following technology hypes.

If changes in the technology landscape do not – or no longer - guarantee value creation, what strategy should companies follow today to remain or become successful in the next 10 years?

I believe that to be successful in the long term, companies need to focus on market demand trends rather than on the flavour of the month or the “next big thing”.

¹ National Institute of Applied Sciences of Lyon is the second largest research institute in France

Whatever be the “killer” application of the moment, the main drivers of demand will remain unchanged and their forces will strengthen over time. What is more, the market forces driving current demand will strengthen, exacerbating even further the need for a demand-oriented model.

Based on our research, expertise and empirical evidence, I have identified four drivers of demand that in my opinion will shape the future architecture of companies:

1. Skills Management
2. Customer Centric Organisation
3. Mobility
4. Security

Some of the results of our research are outlined below along with my recommendations to today’s executive management.

Skills Management

This driver of demand is not surprising since “Skills Management” has always been a top priority in most organisations. However, what companies need to be aware of is that market dynamics are adding fuel to the war for talent fostered by five market forces:

- The first market force is **the ageing of the pyramid**. According to Forrester, during the next two decades, the number of people in the 50 to 64 age group will increase by 25%, but those in the 20 to 29 age group will increase only by 20%. This will put a squeeze on the number of people entering the labour market to replace retiring workers. In 15 European Union (EU) nations (data taken before the expansion), the number of people aged 20 to 59 years will decrease from 208.7 million in 2000 to 151.2 million.
- The second market force is **the shortening of the technology life-cycle**. The time elapse from design to maturation up to the 19th century was measured in centuries. From the day when Alexander Bain patented the facsimile machine in 1846, it took 146 years to deploy one million units worldwide. Counting from the birth of ARPANET in 1957, Internet reached one million hosts in just 35 years. Nowadays, new technologies are adopted in weeks not to say days, although unfortunately not always for the well being of mankind: “The virus Slammer infected 100,000 computers in the first 10 minutes”. This fast pace changing environment is catching up and sometimes overtaking human capacity to adapt and develop the skills required to embrace the innovation.
- The third market force is **the increase in specialisation**. Workers tend and want to specialise to remain competitive in their domain. The narrower the specialisation, the higher the risk of skills shortage in future competitive environments. In the long run, we will not suffer so much from a shortage of educated people; instead we will suffer from a shortage of people with the right skills.
- The fourth market force is **globalisation**. Globalisation puts skills shortage in perspective. On one hand, globalisation opens up a door on new sources of supply but on the other, it

stops companies from training and developing their own staff, which in the long term will result in the loss of know-how. Globalisation can be seen either as the cause or the effect of the skills shortage and, unfortunately for many, the cause of the social crisis that many European countries are currently experiencing. However, whatever is your perspective, the war for talent has now become global and needs to be added to the equation.

- The fifth market force is **complexity**. First, comprehensive solutions require inputs from a growing number of different specialised technical sources – e.g. infrastructure managers, application vendors, service managers, security administrators, business managers and technology suppliers – and second, requirements include more and more non-technical capabilities such as graphical design skills, understanding of customer psychology, business acumen and managerial skills.

Three long lasting priorities should therefore be on each CxO's agenda: "Staff Retention", "Knowledge Management" and "Right Sourcing".

Approaches such as e-learning, outsourcing and off-shoring are likely to remodel the way companies currently manage their human resources.

Customer Centric Organisation

From Henry Ford's statement: "Every client can chose the colour of his Model T as long as it is black", to "buzz marketing", the attitude of companies towards customers has come a long way.

The underlying rationale for the rising interest in one's customer base is driven by two main patterns: on one hand, social behaviour and on the other hand, a better understanding of the value of the customer to the organisation.

Looking at social behaviour, we can see that our society is now driven by information. An individual today has probably access to as much information / data in one day as he would have had one century ago during his whole life. New communication channels have dramatically increased the sophistication of customers who are nowadays not only more demanding but also increasingly disloyal. With the emergence of new CRM² techniques enabling customer interactions tracking and data processing, companies have finally realised that their customer base is their highest equity.

To differentiate themselves in more and more a commoditised global market and stay ahead of competitors, companies are redesigning themselves to focus on their **customer equity**.

Customer retention, customer servicing and new channels communication management must be on every CxO's priority list.

Some tools and techniques such as service oriented enterprise (SOE), service oriented architecture (SOA) and service oriented infrastructure (SOI) are already emerging and may become "de facto" standards. Applying them will provide organisations with the flexibility

² CRM=Customer Relationship Management

and the resilience required to adapt to an ever changing, unpredictable and unfaithful customer.

Mobility

The drivers for mobility recall the chicken and egg dilemma: on one hand mobility seems to be demand driven but on the other hand, it could also be seen as technology driven.

Take for example underlying trends such as initiatives to reduce road traffic, better work-life balance, collaborative working or decentralisation. They call for an increase in the demand for mobility solutions but by enabling working from home and easier process decentralisation, emerging mobility technologies on their own are driving new social behaviours and accelerating industrial changes.

In my opinion, this virtuous circle – the drivers are self-reinforcing one another - is still in its infancy and the need for mobility solutions and business models built around mobility will grow exponentially in the next decade.

Executive management should embrace a mobility strategy. On every CxO's agenda, we should have three headlines: "New Market Development", "Supply Chain Optimisation" and "Mobile Forces Deployment".

New market development refers not only to entering new markets but also to identifying new competitors (threats). With mobility, the scope of the addressable market expands exponentially. One can operate his business from Spain, sell drugs supplied by US pharmacies to the world, host his services in Andorra and setup his company and bank account in Switzerland.

Used as a redesign-to-cost toolset, mobility helps **optimise the supply chain**. Technologies such as radio frequency identification (RFID) and general packet radio service (GPRS) enable the tracking of goods and people and can be used to optimise routing, storing, handling of goods and even to forecast demand through sophisticated in-store marketing techniques.

Used as a service enabler toolset, mobility enables **mobile forces service improvements**. Mobile forces can be either sales forces, delivery forces or even police forces depending on the business model.

Executive management needs to understand that demand can be served more effectively through a world class mobility strategy. Lets remember that world class mobility strategies are 5U compliant: user oriented, ubiquitous, untethered, universal, and unbreakable.

Security

Government and companies spend on security is expected to grow exponentially over the next decade as we are facing a new paradigm of threats. I have grouped them into five categories.

1. **Globalisation:** Internet world wide, the explosion of B2B, B2C, P2P, B2E, A2A³ solutions and the sheer number of mergers and acquisitions make criminality difficult to trace and highlight flaws in non-homogeneously secured network. A network is only as secure as its weakest link.
2. **Knowledge worker:** Companies, your enemy is inside! Either voluntarily because he lacks ethics, steals, abuses and frauds or involuntarily because he is gullible, light headed or just incompetent; companies' knowledge workers will become the most common cause of digital loss in then next decade.
3. **New weaknesses:** Process automation and complexity make systems more vulnerable to more and more sophisticated external attacks. Viruses use multiple ways of propagation and multiple methods of infection. They learn from their experience and exploit weaknesses. They mute and spread widely, wisely, seamlessly and swiftly across platforms and networks.
4. **New technologies:** Internet and Mobility are here to stay as no one can deny the vitality of the digital economy. The variety of the offer is skyrocketing but so are technical flaws. The threat from new technologies is magnified by the high dependency of business on their information system.
5. **Traditional threats:** Terrorism is now on top of everyone's mind but so should be unethical competitors, intrusive direct marketers and organised hackers.

On top of each CxO's agenda I therefore expect to find items such as "Secured Transactions", "Data Protection", "Compliance" and "Risk Management".

Some technologies are already emerging to meet the growing demand for security. I mention here biometric solutions, intelligent cards, anti-piracy software and digital right management (DRM).

Conclusion

Market forces will shape the future demand. Four streams, "Skills Management", "Customer Centric Organisation", "Mobility" and "Security" are the main drivers of the market demand and that will remain unchanged over the next 10 years.

However, technology solutions that companies will adopt to leverage their business are likely to change in the future. Therefore, to design a business strategy, executive managers should FIRST build their agenda around the four main streams of demand and THEN worry about the technology to adopt.

This way of modelling business architectures is what I call the "Demand Oriented Enterprise Model ».

³ B2B=Business-to-Business, B2C=Business-to-Consumer, P2P=Peer-to-Peer, B2E=Business-To-Employee, A2A=Application-to-Application

As a corollary, when looking for business partners and alliances, executive management should make sure that both, the market demand and the technology side, are fully understood by all the parties; needing throughout that process, a combination of skills that, as I have already mentioned, will be a scarce resource in the coming years.

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