

The crisis of the ICT industry within the economic situation

PAU CONTRERAS
ANTONI TORMO

One of the most concerning points in the present economic situation is the belief that things can become even worse in the coming months. This pessimistic opinion is starting to become one of the few certainties within the context of general uncertainty we are in – a context in which many citizens raise questions such as:

«How comes that finance authorities were unable to identify such an apparently blatant pyramid fraud as the **Madoff** case?»

«How reliable can forecasts on economic growth be if the Spanish government has corrected down its own several times?»

Recovery expected in late 2009 seems now to be quite farther away. So one of the most relevant features at present is precisely general mistrust of forecasts, especially economic ones.



Some starting data

Within a context as the one described, it is a true challenge to discuss the impact the crisis will have on the ICT branch. We will therefore ask the reader for some benevolence when making our specific forecast.

In the current economic climate, it would be illusory to think that the ICT branch is an exception as there is no doubt that the economic situation will also affect significantly the way companies will focus their ICT investment in the next two years.

To start with, we will analyse what the growth forecast is at a global level. Although there are different estimates, there is a certain degree of unanimity among the most relevant analysts in considering that 2009 will be the first year after 2001 in which there will be a decline in the continuous growth the branch has been enjoying.

Forrester Research considers that global expenditure will be reduced to a 2.6% growth. The forecast by Gartner is a bit more pessimistic as it estimates global ICT growth at a mere 0.16%.

Furthermore, at a recent conference organised in Madrid in January this year, the **IDC** set growth expectations at 1.6%. So despite the uncertain economic setting, the main analysts still forecast a slight growth in the branch at global level, though it will be virtually flat and very far from those growth rates we had been used to in the previous six years.

However, the perspective is somehow bleaker in Spain. In a recent survey carried out on a sample of 42 companies, the consulting firm **PENTEO** stated that ICT budgets will decrease by 5.5% on average. It is worth pointing out that 75% of interviewed companies said they were expecting a budget reduction or stagnation, while only 25% were still forecasting some degree of growth.

Another conclusion from the PENTEO survey is that in the end of December 2008, many companies still had not set up their definite budget due to uncertainty about turnover forecasts and possible staff restructuring and resizing. Most companies are working with two kinds of budget: a worst case and a more favourable one, as they are waiting for the final decision by the company.

Many companies are working with two kinds of budget: a worst case and a more favourable one, as they are waiting for the final decision by the company.

However, the most important aspect right now in assessing the differential impact of the crisis from an ICT perspective is probably the role the information system area is playing at a company.

Those departments whose role resembles rather that of a cost centre will suffer most from the effects of the crisis, while those playing a role in innovation and improving the efficiency of organisations will suffer less from cuts or will even see their budget increased.

The use of ICT to implement a change in the priority of companies

In this respect, when the economy undergoes deceleration as is now the case, companies need to reduce their cost and expenditure to a minimum to minimise the impact of the crisis on their income statement while trying not to curb their revenue, i.e. they need to do the same or even more but with less.

This means reducing expenditure and costs in all areas, including an ICT budget cut. However, to be able to do more with less it is necessary to improve the productivity and efficiency of business processes, which usually means more ICT investment.

Hence in spite of expectations of strong distress in prices and costs related to maintaining and exploiting current systems, IT departments having a clear and identified role as an innovation driver will go on investing in new projects that shall allow the company to be back on its track to meet its goals. However, priority will be given to investment providing short-term return.

IT departments having a clear and identified role as an innovation driver will go on investing in new projects allowing the company to be back on its track to meet its goals. However, priority will be given to investment providing short-term return.

We can apply in IT departments the same principle that is valid for a company in general: if we want to reduce costs, we can do it by cutting the current cost of some hired services (through outsourcing, consolidation and contract renegotiation with suppliers) but especially also by implementing new technologies allowing us to improve productivity and efficiency of the IT service itself.

But given this situation, what is the strategy to follow?

First of all, time is a key factor right now, so many big projects with an unclear **return on investment (ROI)** will be scaled down or even struck off the priority list, while there will be a concentration on short-term projects providing a clear and immediate benefit, what Americans usually call «quick wins».

This is why we will see that companies that do not want to lose this battle against time will implement a whole set of projects mainly addressed at the following action:

- ▶ Reduce ICT expenditure. In this respect, two areas are to be clearly differentiated:
 - Reducing operative cost (less expenditure) while keeping the same service level (or even improving it).
 - Reducing the cost for new investment, new projects, those allowing a continuous improvement of productivity, efficiency and efficacy at the company but at a lower cost, i.e. doing more with less.
- ▶ Go on improving productivity and efficiency of business processes, but now in specific points, in little actions aimed at eliminating tasks of little added value or improving control over the process, always in the short term.
- ▶ Better use of data to have better information and ability to take better decisions, at both strategic level (what is the business, the branch, the product, the geography, etc.) with a better margin, higher growth, etc. and especially at tactical, immediate level.
- ▶ More than ever before, increasing transparency and control are areas in which companies will need to invest in information systems allowing them to make sure that regulations are complied with, but especially to keep and improve customer and overall market confidence.

But let us analyse more in detail all these strategic action lines.

Reducing ICT expenditure

We will address this section from a perspective of how technology can help us in optimising resources and operative infrastructure,

although there will obviously be also other areas that will need to be analysed in depth when tackling a cost reduction initiative.

These areas include staff sizing or eligible services for outsourcing with subcontracting models. It is very likely that in an economic setting as the current, some companies decide to have a deep analysis of the role played by their IT department and to analyse its operative structure by including more financial and business strategy criteria.

Any ICT department faces the challenge of controlling growth of its operating expense while maintaining existing systems.

Generally speaking, a challenge any ICT department faces is to control growth of its operating expense while maintaining existing systems. It is estimated that on average, 75% of the IT department is related with this position. The remaining 25% is devoted to new infrastructure investment regarding hardware, communications or software. Hence an aspect that will be submitted to deeper analysis is the structure of operative expense.

Within this context, a renewed interest for improving efficiency of data processing centres is expected, where there is generally speaking much room for improvement, especially in applying infrastructure standardisation, virtualisation and consolidation strategies.

The main reason is the following:

- ▶ Most companies base their ICT infrastructure on a silo model, in which every application has a number of servers and even a whole data storage system of its own. This sort of architecture creates big inefficiencies, lack of flexibility and especially a very low usage

rate, usually at around 50-60% of acquired power.

- ▶ Roughly 25% of operative costs goes to power consumption. That is, 25% of 75%, so a total 18% is energy expense, the so-called «carbon footprint». Many companies start telling their employees the energy cost (in CO₂ grams) of sending an e-mail or doing an internet search, imposing aggressive medium-term reduction targets.

Virtualisation is part of a more global trend that started some years ago, followed massively by the industry. Analysts describe this as «real-time infrastructure» (in the case of Gartner Group) or «organic IT» (in the case of IDC).

Virtualisation makes it possible to implement infrastructure consolidation processes and adapt available resources to service needs, which saves both acquisition and later maintenance costs.

At a large number of companies of different size, there are experiences of great investment reductions achieved by adopting these strategies. In some case, we have seen reductions of up to 70% on initially expected hardware investment.

Going on improving productivity and efficiency of business processes

In recent years, the main goal of most companies was growth, regarding both their annual turnover and their market share as well as productivity and competitiveness needed to take on the challenge.

Improving productivity and attracting a higher number of customers were the basic targets and most of IT investment went along these lines.

However, priorities have changed since 2009, competitiveness has taken over a leading

role, products and services will suffer price pressure which will hit on profit margins, so if optimisation is to be achieved, the following will need to be addressed:

- a) Reducing operative costs, the most important item.
- b) Not reducing the turnover volume.
- c) Optimising the profit margin by eliminating risks.

a) Reducing operative costs

This item still has top priority, but there are some circumstantial features making it special right now.

▶ Little projects, «quick wins» that involve selective improvement of processes: now, more than ever, is the time of analysing in detail each step in the process and search for double or low added-value tasks, inconsistencies in processes or areas in which:

- automatic alerts and
- links to and integration with data from other systems facilitate and improve control and effectiveness of the process.

Working technologies and methodologies such as Business Process Management (BMP) and Service-Oriented Architecture (SOA) can help detect such action points and implement such change in a swift and effective way.

Apart from such specific action in any area having room for improvement, it will make sense to have projects of a given extent (perhaps not as big and far-reaching as they used to be) in two areas with a special impact on productivity of a company:

▶ Supply Chain Management (SCM): Globalisation, with all its opportunities regarding flexibility and economies of scale, but very

especially the current degree of uncertainty about the future evolution of costs requires much stricter control of different procurement opportunities. Considerable price pressure is expected, but this is also seemingly transmitted all along the supply chain. Variability of raw material markets can cause a change in procurement strategies, and strict, automatic controls will be needed to facilitate decision-taking.

▶ Human Capital Management (HCM): The current crisis forces us to better know and improve capacities of our human capital in the most efficient way.

Right now, we need to be more capable than ever before to know in detail what the potentialities of our employees are, what their knowledge, capacities and talent; this is especially what we need to preserve to address the company's future.

Also e-learning systems may be a big saving at the company, while being of great importance to successfully implement reorganisation processes within a reduced timeframe at a minimum training investment cost.

▶ Inclusion of collaboration tools improving productivity of indirect employees and reducing unnecessary costs.

- Videoconference
- IP voice
- Web collaboration tools

These allow to reduce (and even eliminate) an enormous amount of travel costs (one of the most immediate cost reduction lines), while enabling exponential productivity growth in this expanding group of employees.

b) Keeping/increasing the turnover volume

Reducing cost is important in the present situation, but it is more so to keep or even

increase the turnover and optimise the margin of all operations.

Above all, customers must not be lost. Customers need to be cared for and pampered, their experience while being in contact with us has to be unbeatable, so nothing is better than analysing the opportunities to screw up (OTSU) at our organisation. The OTSU are all points of contact with our customers, and if we do not act in an effective manner, we might simply lose the customer for ever. And this means in most cases to provide precise and detailed as well as global and general information.

When interacting with a customer, it is necessary to know automatically if there is any problem pending that affects the relationship. The whole company needs to know if we do not comply with a customer according to agreed terms.

All the information on our customers is today in repositories and applications that are not always integrated and/or interconnected. Together with other technologies, this shall allow us to anticipate problems through alerts by which it becomes automatically known upon interacting with a customer if there is any problem pending that affects the relationship. The whole company needs to know if we do not comply with a customer according to agreed terms, i.e. service quality has to be the main target of all employees.

c) Optimising the profit margin

It is as important to look after the service given to a customer as to be able to know if the price they are paying for is appropriate; that is, we need to know at any point if the discount level given to a customer actually makes sense or not.

Knowing the real margin of each operation, having an income statement for each customer will help in better defending negotiation and in many cases preventing unnecessary loss of margin or even a negative margin out of mere lack of detailed information in the right moment.

Minimising risk, a higher control of payment and less error margin for risk is doubtless an area in which to address swift improvements that may have an immediate impact on the income statement.

As we can see, many things mentioned do not require big projects but:

- ▶ Data integration from different applications or sources.
- ▶ Systems to control and approve the workflow, i.e. process management.
- ▶ A much more effective and elaborate alert system.

The crisis will mean more centralisation in decision-taking. Companies will have more control over those deciding on discounts or a customer's risk level and will have immediate knowledge of any incident in an order of a major customer.

Indeed, one effect of the crisis will be doubtless more centralisation in decision-taking. Companies will have more control over those deciding on discounts or a customer's risk level and will have immediate knowledge of any incident in an order of a major customer. They will also detect if employees with talent decide to leave the company.

Furthermore, more mobility and accessibility to information is required, because if anything

of the above mentioned occurs, it needs to be known as quickly as possible in order to act or interact immediately.

Business intelligence

Another area ranging at the top of the investment list of ICT managers in 2009 is **business intelligence**. The reasons are quite straightforward: in a complex economic situation, it is crucial to take the right decisions, so fast and safe access to all available information is required.

To survive in a difficult economic setting, it is necessary to have the best available information, which requires data warehousing platforms (where all current and historical information on our business is stored) as well as BI tools and applications (those used by users to accede data and do queries).

The finance area and the general business vision – with indicators allowing to align decision-taking with the hard facts of operations – will play a leading role in new ICT investment.

BI applications and tools will be further extended to a vast number of areas, though finance and the general business vision – with indicators allowing to quickly align decision-taking with the hard facts of operations (**Enterprise Performance Management**) – will play a leading role in new ICT investment.

Control and transparency

In 2002, after the Enron, Tyco and WorldCom scandals among others, the US Senate passed the **Sarbanes Oxley reform (also known as SOX)**, mandatory for all listed companies. It set up a series of accounting

and financial rules aimed at ensuring more transparency for investors.

Priorities have changed, but technology will be paramount to endure the crisis and even grow stronger out of it.

These rules include specific chapters on auditing, accountability, conflict of interests, accounting rules and especially accounting and financial control rules that allow to ensure full reliability of submitted balance reports.

Many of these control rules are being implemented not only in listed companies but also in many others recognising an important argument to strengthen their image of solvency in the market. After recent events, it is obvious that when a problem appears, the worst that can happen is that the public knows of it from the press or third parties instead of the company itself.

The information control and safety layer is one of the three areas of expansion and an increase of investment is planned during this year.

Creating controls does not ensure compliance; for this to be possible, automatic monitoring systems will need to be set up in order to know and make sure that control is really strict and effective.

Right now, the information control and safety layer is one of the three areas of expansion and an increase of investment is planned during this year.

As a final summary with illustrative character, the change in expected targets related to IT investment can be observed on Chart 1. All in all, priorities have changed but technology will be paramount to endure the crisis and even grow stronger out of it.

Chart 1. Summary chart

IT investment targets	2009	2008
Improvement of business processes (productivity / efficiency)	1	1
Operative cost reduction	2	5
Employee productivity improvement	3	6
Attracting and retaining new customers	4	2
Better information by improving data analysis	5	8
Creation of new products and services (innovation)	6	3

Source: Own

▲ Priorities have changed but technology will be paramount.

Conclusion: ICT investment as a means of innovation and increased competitiveness

Since the last recession in the ICT market, this branch has not stopped evolving and expanding in all areas: from trade to leisure, from public administration to health. Today, everything, absolutely everything is relying in one way or another on Information and Communication Technologies. Some use that just a few years ago was «nice to have» is today the core of many businesses.

Let us think for a moment of progress made within only a decade in so different areas like

public administration, e-banking, e-commerce and online travel agents. Their way of doing business has evolved on an ongoing basis, and their dependence is total today.

Companies going on innovating and improving their service and added value will be the first in the starting blocks when the crisis ebbs and markets recover.

In a way or another, they all have been able to evolve by incorporating ICT into their old or new business models. In three words: THEY HAVE INNOVATED. As long as the crisis lasts, companies going on innovating will have new competitive advantages allowing them to still gain more market share, but once the crisis is over, they will have a higher start-off speed and thus lead the future.

Innovation is not invention. We understand innovation as the process of continuous research of improvement. It is thus not a process of creation but rather an attitude of people and companies – an attitude that needs to be adequately channelled to yield its results. Companies going on innovating and

improving their service and added value will be the first in the starting blocks when the crisis ebbs and markets recover. ICT will be very important in this innovation process, so cutting heavily on this position would mean a loss of competitiveness that could even render the company unprofitable.

PAU CONTRERAS

Industrial engineer.

Head of Technological Solutions and Product Strategy at Oracle Ibérica. A member of the Managing Committee of Oracle Ibérica as well as of its Sales Consulting Committee for Western Europe. Professor at ESADE Business School.

He has held several top positions in business development, product management and sales consulting in Spain, Europe and the United States.

A member of the Official College of Computer Engineers of Catalonia.



ANTONI TORMO

Industrial engineer and MBA from ESADE.

European director of Specialised Application Consulting at Oracle.

A former head of the Consulting Service division of Oracle Ibérica for Spain and Portugal and consultant in different areas specialising in strategic system consulting.

A member of the College of Industrial Engineers of Catalonia and the Cercle per al Coneixement.



Reference

Blog of George F. Cloney, founder of Forrester Research.

WORTHEN, B. (2008). «Tech Spending». *Wall Street Journal*, 9 December 2008.

EYINK, Cheri N.; MARN, Michael V.; MOSS, Stephen C. (2008). «Pricing in an Inflationary Downturn». *The Mackinsey Quarterly*, September.

KAPLAN, James M.; ROBERTS, Roger P.; SIKES, Johnson (2008). «Managing IT in a Downturn: Beyond Cost Cutting». *The Mackinsey Quarterly*, September.

PANTEO (2008). *Informe TIC Radar*.