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IT does matter
Enrique Dans

The argument that IT should now be completely outsourced like any other commodity ignores the way technology contributes to strategic competitive advantage.

The good and bad thing about Management is that it is no science at all. In order to come up with a new theory in a 'real' science, such as Biology or Mathematics, a scientist has to conduct thorough studies, test the ins and outs of his or her theory, submit the work for close inspection by peers and colleagues, who will try to find any small detail that could have escaped the scientist's attention and, finally, publish it and make it known. With exceptions, the rewards for the scientist are somehow scarce, and come mainly as prestige.

In Management, for good or bad, it just doesn't work that way. Any person, almost independently of his or her background, can put together their 'view of the world', write it down, spice it up with a couple of cases, and publish it, usually in the shape of a book or magazine article. When the article gets released, the rewards for such people can be huge: suddenly, they get a lot of attention, teach classes, give talks and conferences, travel all over the world first class, talk to CEOs and presidents and bill large amounts of money for advice to companies. But, has anybody thought about the inception of the process? Where is the validation? Where are the thorough studies? Where are the peers and colleagues trying hard to trash the person's work of many years, criticising and bitching about the research capabilities?

Periodically, we see the so-called 'influential', 'next big thing' articles appear in newspapers, books and magazines, and spread their effect on whoever reads them. Or even among those who haven't read them, but claim to have done so. How do these articles become influential? Sometimes it is the author, who might have a previous history of success or reputation. In other cases, it is the outlet, which provides them with a certain visibility. Or it can be just out of randomness: an article is released, is read by a prominent person who speaks about it, and achieves popularity by means of what Seth Godin, former VP of Marketing at Yahoo! First called 'viral marketing'. Can you imagine the effects of anything like that in a 'serious science' such as Medicine or Mathematics? Try to draw a mental picture here: suddenly, every single physician is over-excited about something that has been said somewhere, and has been deemed as the 'next big thing' – with no validation whatsoever? No, it just doesn't work that way. In Medicine, for instance, any 'next big thing' has to undergo a painful process of theory development, animal testing, clinical essays, statistical validation and publication until it finally gets attention. The whole process takes normally a minimum of three years, and only when the discoveries get published in outlets such as The Lancet or the Journal of the American Medical Associationdoes the author receive full attention and admiration from the professional community. There is no 'next big thing' culture in Medicine, and probably most of us prefer Medicine the way it is; for our health's sake.

Going back to the 'Productivity Paradox'
Some readers probably still remember, about a decade ago, how a Nobel Prize laureate, Robert Solow, suddenly decided that there was no way to prove that technology had an influence on productivity. He was looking at industry statistics, trying to compare IT-intensive industries to others that were not, and realised that those industries where investment in IT in previous years had been huge had not gained productivity in any measurable way over industries where IT investment had been comparatively low. The conclusion: IT does not contribute to productivity. Those words, put in the mouth of a Nobel Prize laureate in Economics, caused, as you might imagine, a huge commotion, particularly among firms who were, at the time, investing large sums in computers, IT personnel, etc. The average IT professional of the time is unlikely to have been a happy camper.

Witnessing one's life and career being questioned by a Nobel Prize laureate is probably not the most comforting experience. But what happened then? Was it the demise of IT as we know it? Did it signal the end of those expensive investments in technology? After all, who wants to keep throwing money into something that is not going to contribute to productivity in any measurable way? It would have been absolutely logical just to cut all those investments, fire all the IT professionals, avoid all their potential contributions to the gene pool, and be certain about it just because a Nobel prize laureate said so.

Well, it turned out that Solow, being a Nobel Prize laureate, was wrong. Yes, he was dead wrong. It just happens that great people get things wrong sometimes. It took a while to demonstrate it, but it has been demonstrated. It is interesting to note that Solow's original article was published in a newspaper, a place where anyone, particularly Nobel Prize laureates, can publish anything they want, anytime. I do, personally, write a lot of articles in newspapers, and I am not a Nobel Prize laureate (at least not yet!). But, interestingly enough, the proofs against Solow's arguments were published in journals such as Management Science, Communications of the ACM, MIS Quarterly or Information Systems Research. Those outlets where nobody, with or without a Nobel Prize, can publish unless he or she passes through the careful (and anonymous) review of at least three colleagues, who judge the work in a very thorough and hard way. Anyone can go to those journals and realise why Solow was wrong: he just missed the way the effects of technology should be measured. He thought technology was something with an immediate effect, a sort of magic spell you can cast over a company, and it works right away, fantastically improving productivity. Of course, now that we are a little bit more experienced with technology investments, we know technology is hard to implement, requires big changes in training, mentality and even complete redesigns of processes in order to squeeze out profits. Hard, but true.

What constitutes a commodity?

Now, in 2003, another guru comes and tells us that IT doesn't matter. Pretty much like Solow, but some fifteen years later and without a Nobel Prize. In a highly commented article in *Harvard Business Review* (May 2003), Nicholas G. Carr, Senior Editor of HBR, claims that IT is now a commodity. It is widely available, and therefore it is not necessary to treat it any differently from any other commodity. Plug something into a socket and there is power: you barely think about where that power is coming from, from which power plant or even from which company. You don't plan any strategic way of supplying power to your premises, nor try to squeeze a competitive advantage out of it. If power doesn't work, you just pick up the phone, and someone from outside the company will take care of it. And that's the essence of the article in a single paragraph, which means either that my summarising ability is fantastic, or the article itself does not have a lot of substance. Let's give it the benefit of the doubt and say that great ideas are sometimes extremely simple.

Of course, if told in that way, I couldn't agree more with the conclusions. Let's not worry about things that have been commoditised, let's simply try to get them from an inexpensive source, outside the company, like any utility. We outsource whatever appears to be related to technology, kick out those expensive (and weird) computer geeks, and we can go back to concentrate on our core business.

Unfortunately, it is not that simple. One of the tasks one has to perform carefully in order to publish in most journals is the so-called literature review. The literature review consists of going back to whatever has been written in the field or related disciplines about a certain topic, summarise it, judge to what extent it fits with our theories, and make sure we make enough of a new contribution to justify being published. Of course, the author of 'IT doesn't matter' did not bother to go back to the literature. If he had done so, he would have found that investment and innovation in IT is a much more complex phenomenon, and there are several ways to understand it. One of them is the so-called 'tri-core model', proposed by E. Burton Swanson, from UCLA, in the 1990s. The tricore model establishes three levels of innovation in IT. The first one, the most internal one, is the so-called technical core. Innovations at that level affect only the way technical tasks are performed by the IT department, things such as an operating system migration, a new database or a revamped computer architecture. Nobody in the company necessarily has to realise that although it can sometimes bring interesting consequences. The second layer, is what Swanson called the administrative core. Innovations in such a layer affect, obviously, the way administrative tasks are performed in the company. Typical examples here could be ERP (Enterprise Resources Planning) packages like SAP or PeopleSoft. Finally, there is a third layer, the so-called business core. This layer recovers the other two, and allows innovations that change the nature of the business. Examples of this could be, for instance, Amazon's decision to collect opinions from readers, making them available to other potential readers and thereby creating an information 'product' that improves Amazon's value proposition. Of course, firms can interpret IT investment as belonging to different layers. One can implement electronic commerce as a way to reduce administrative tasks with strategic customers, and will probably place it in layer two, whilst others could consider it a means of opening up new markets and types of customers, in which case as a 'strategic' issue it would probably be placed in the business core.

Now that we have Swanson's tri-core model in a nutshell, what do you think? From my perspective, it flows from common sense: one can (and probably should) outsource all technology investments that fall in the inner, technical core and (probably) the administrative core. Why? Simply, because it looks efficient. It would be hard to compete with Microsoft, IBM or the Linux community when it comes to putting together an operating system. Or with Oracle if you want to come up with a database. It also appears hard to try to do better than the likes of SAP or PeopleSoft when it comes to optimising administrative chores according to the so-called 'best practices'. But what happens to the third layer, the business core? If we try to buy that, to outsource it or to copy it from an external source, we would be denying the true essence of competitive advantage. We would all be trying to do all things the same way. Does that make any sense? Therefore, the true value of an IT professional would be to be able to discern which investments fall into which category, thus treating some of them as 'pure efficiency' and others as 'the name of the game'. It is not easy, and it requires a deep knowledge of IT and a solid knowledge of the business which is no doubt why good CIOs are getting places on Boards of Directors and making their voices heard.

There is no absolute truth here. There is always value to be extracted, even from commodities. Everyone has access to executive talent, for instance. It is just a matter of selecting a good business school, and hiring its best graduates. It is basically a commodity, you open the faucet (tap) and good, talented, welltrained executives flow from it (providing, of course, you open the right faucet). But to say that executive talent doesn't matter is a totally different issue.

Some firms successfully squeeze value from the internal layers of the tri-core model. When Tesco, the leading UK supermarket, decides to focus on customers, it does so by first investing in technologies that were almost unavailable the moment they embarked on the project. This means hiring true technologists, even doing basic research, a field usually relegated to technology firms and university labs. Under some circumstances, investments in the technical or the administrative core can be perfectly justifiable. But, as an executive making such decisions you need to know what you are doing, and from where you are trying to squeeze your competitive advantage.

You can, of course, read 'IT doesn't matter' and choose to be one of those companies where, in fact, IT doesn't matter. It's your choice. It will mean that you will concentrate on your business, and deny any possibility of extracting a true competitive advantage from technology. Most probably, it will mean that, all of a sudden, a competitor or a newcomer will come up with one of these technology innovations that truly hit the bull's eye, and you won't be able to follow, because it normally takes a while to get adapted to those innovations. It may mean that, at some point, you will get 'amazoned' by someone else, as happened to Barnes & Noble. But you can do it anyway – it's your call. It's important to have good examples to tell to all these MBA students in business schools all over the world. After all, some firms succeed, and some firms fail. It is part of the beauty of capitalism.

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