ICT project pathologies

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He brings some views about the life cycle of the projects and their industrialisation within the enterprises thanks to his experiences *as project manager and test manager.*

Gérard Balantzian: In " Chaos report 2013" (Standish Group) , is it possible that the orientation of questions or the type of project selected has an impact on the rate of successful projects results (less than 50%)? "

Alain Chacun: I do not think the questions raised in this document give an orientation to the results. They are the result of an observation.

However the type of project will affect the results. Projects of small or medium complexity are less risky due to their shorter life cycle.

If we take the example of web projects, they are relatively simple projects as they do not require an army of specialists; take the example of web- banking projects, the business requirements are fairly simple, view the account, make transfers, send messages to the bank, place orders and trading ... and a bank can easily have a look of the web banking applications done by its competitors.

However when it comes to complex projects as we can have with projects in finance, there is a real risk. First, they have longer life cycles, 1, 2 years or more. Second, the complexity of requirements increases the risk of failure. We are in front to back projects that require to take into account the requirements covering a wide scope , trading, delivery / settlement, the back office, accounting , legal reporting (Basel 3 , FATCA ...) , management assets (custody / asset management, corporate actions) , etc.

Also the complexity of the architecture for such projects increases the difficulty. In fact we are dealing with projects where you can have commonly 10-20 front to back applications that communicate through various protocols of communication (SWIFT , FTP , MQ Series, flat file , XLS / CSV , etc. ...) .

The lack of overview in this kind of project is a risk, hence the absolute necessity to have a good understanding of ' AS IS' (the existing) to understand what we want to implement the 'TO BE ' (what is desired). I have not seen many times banks having adequate approach to complex project management.

GB: Could it be that the charisma of a manager is enough to change this reality?

AC: I would say that in 27 years of experience, I have seen only one bank in this case, and then only thanks to the charisma of one manager who was the overall head of projects. But a project should not relied on one or few people because we are then typically in the worst case described in level 1 of CMMI (Capability Maturity Model Integration) which clearly states that all depends on the skills and goodwill of one or some people . Nothing is standardised, nothing is structured, no procedure is in place to ensure that all projects go through the same process of specifications with similar controls throughout the Software Development Life Cycle (SDLC - life cycle of projects). Remove these key people, and the project is 'at risk'.

GB: Has the economic sector an influence?

AC: Yes, the economic sector in which we are also influences. Unfortunately banks have too often a lack of understanding of the SDLC and neglect upstream portions of the project which are nevertheless crucial to the success of the project, define a business case, have good requirements , understanding of ' AS IS ' and ' TO BE ', to give to the test team a quality assurance dimension ....

Industries such as nuclear cannot afford such gaps. Having worked in this sector, it is clear that we cannot afford to lose the traceability of a vitrified container containing radioactive wastes for 1,000 years.
Finally, if we transpose these project management approaches out of a pure ICT context, knowing that the life cycle of projects and methodologies similar to ISTQB (International Software Testing Qualification Board) also apply to non- IT projects, I say that in general project management outside the financial world requires much more rigor on the one hand because industries do not have the financial resources of the banks and the industries cannot afford such risk on their projects.

To take just one example, when an automaker releases a new model, knowing the amount of money invested can be up to 2 billion euros, we can understand that he cannot afford any error in terms of marketing, customer target, quality and attractiveness of the model.

GB: The support of senior management is necessary?

AC: Absolutely, it is even crucial. If the top management does not support the project at least from a financial point of view, the project is dead ahead. Also reallocating budget of a project to another one has devastating effects on the project that has its budget reduced. This leads to a re-planning due to a lack of resources, so a go-live date postponed. We may even come to a demotivation of the project teams, so a loss of interest for it.

But the financial aspect is not all because the role of management is not only to hold the purse. The role of management, through the sponsor, is to explain the change. The reasons for the change are diverse and varied, maintenance costs, high licensing, obsolescence of the tool, face the competitors, offer new services to customers, etc. ...
But these reasons need to be explained to end users to obtain a consensus, which is the base to form a cohesive project team speaking with one voice and having the same objective.

GB: How to ensure greater involvement of users?

AC: As mentioned above, to explain them the reasons of the change. If the sponsor fails on this point, users will adhere hardly or never. This will be especially seen when you come to the stage of preparation and execution of the User Acceptance Test (UAT), because there will be rejection from them.

But that's not all. They should also be involved the decision-making process of the solution to be implemented in fine. If a solution is imposed, it will be difficult to have their buy in and again, we encounter problems during the preparation and execution of the UAT, and finally difficulty to obtain the sign-off.

This is an example I give quite often; it's like if you will be obliged to take a Smart while you have 2 kids you take every day at school; the Smart does not meet your needs. Nobody ask you which car you want. We are in the same case.

Again it is necessary to have a good understanding of the ' AS IS', to be able to say: ' I want to keep it', 'this does not or no longer meet my needs ', 'I want to improve this'. So it gives you a good idea of the solution you want, then a clear view of the 'TO BE '.
So you can benchmark different solutions, from the market or internally. But again not only the financial aspect must be considered. It must be taken into account the user needs but also the reputation of the editor if we turn to a software solution.

GB: Do the "collaborative" and the digital revolution can improve the dynamic in the relationship with the team and the capitalisation of knowledge?

AC: Yes collaborative and the digital revolution can improve these two points. We can centralize information to share and capitalize on past experiences and ongoing projects as well on the work that has been done, the specifications, the test cases, etc. ... Several tools exist, Sharepoint, Wikipedia, etc. ...

For collaborative, RAD , Agile , Scrum can be applied to projects or part of projects to boost this collaborative aspect between users, developers and testers. But it requires a certain rigor in the frequency of meetings and a state of mind; you must be ready to play the game because it's actually somewhere a game of questions and answers.

But again, this is not because we have the best tools that we will share the information. We must still want to share it; we are in the case of holding the information; but also we need to know how to share and structure the information. How many times I saw a structure in Sharepoint not adapted; therefore we know that the information is there somewhere, but we do not know exactly where. It's like finding a needle in a haystack.
Also too much information kills information; we may miss critical information of a project because we do not read the right document.

Therefore, it is essential to have a certain number of procedures and rules that govern the life cycle of projects (SDLC). These rules and procedures are there to define documents, deliverables, which must be provided throughout the SDLC at certain stages. Thus it provides the documents needed for the project, and only these documents.

Also you need to have templates of these documents to know what type of information is required in each of these documents. And you need to be synthetic. How many times I've read analyses or test strategies extremely wordy where at the end, you do not understand the 'what', 'how', 'who' and 'when'.
Finally, we must compare these documents. Let me explain: a business analysis (user needs) should be compared to the functional analysis otherwise we run the risk of saying white in a document and black in another one. In the end we will not respond to user needs. This is where the role of quality assurance takes its full dimension, ensuring coherence. It takes a lot of "collaborative" between the teams.

AC: Absolutely but it all depends on the meaning we give to testing. If we think about testing the code, it is called 'dynamic testing' in ISTQB. It is dynamic because the code is tested against test cases.
But the 'dynamic testing' is executed once the code is released. It is too late for the review of documents written during the specification phase, so all the bugs inherent to the specification phase have not been seen.

To overcome these errors in the specification phase, we must review these specification documents to ensure consistency and coherence between them. This is what is called the 'static testing' in ISTQB.

This phase of 'static testing' to review the documents is essential because the latest we will discover a bug , the higher will be the cost to fix the bug ; As an example , the bug was introduced in the functional specification because the analyst has interpreted the initial user request . No review of the functional specifications has been done to ensure that they were consistent with the business requirements, not 'static testing'. Thus the specifications of the functional architecture, technical architecture and code have introduced this interpretation. The bug will be discovered during user testing (UAT), which is one of the final test levels prior to go live. What is the cost? We must review the functional analysis, the functional design and the code. A bug found late can cost up to 100 times the initial cost of the need. It is exponential!

It has to be understood that a quality assurance dimension must be given to the projects thanks to the involvement of the test teams upfront of the project to run the 'static testing' to ensure consistency throughout the specification phase and to ensure that the code will respond to the initial user needs.

The testing is too often seen as a cost. This is a serious error. It must be seen as a return on investment (ROI) because it will significantly reduce the risk of bug throughout the project, knowing that a bug can cost 100 times more than the initial requirement.
Thus, the 'dynamic testing' (test code) is inseparable from 'static testing' (review of specification documents) because you can have the best test cases of the world for your project, these test cases are nothing if the review of the specifications has not been done.

GB: In the field of the management of collective priorities, how to concentrate people on the Essentials?

AC: I think it totally depends of the organization of the entities.
In the case of an entity where each user department defined their separate needs in terms of ICT, there is no synergy on the needs of users. So we will end up with two projects for two separate departments while these two projects have significant similar features. There is a double expenditure for the same needs.
In the case of an entity where there is a committee to validate the projects, it is then supposed to avoid such double expense.

If we return to the ICT world in finance, it has to be considered the priorities to be managed throughout the year.
For example you have SWIFT releases that require you to be ready for a given date if you want to continue to trade on the financial markets.

You also have priorities such as Basel III, FATCA, MiFID, etc. ... that are regulations for banks for which they must be ready on time else banks have penalties.
All this can be planned in advance because at any time a regulator or SWIFT imposes overnight changes. There is always a calendar.

Then you have internal needs to respond to the competitors, provide new services to the customer, software change because too expensive and / or obsolete, etc. ...

This is where the committee takes its rationale because each department will preach for itself and will miss considered the other departments. The Committee must arbitrate, ensure that the need is really new and not already available in another department, verify the return on investment (ROI), what is the business case? And the plan according to the schedule of the new regulatory rules and SWIFT and finally according to the available budget.

But sometimes, despite the fact that there is a committee that approves projects, you realize that the so-called collective priorities continually change inducing a continual shift thereby impacting all ongoing projects.
One wonders if there is a pilot in the plane!

GB: What is the reason?

AC: I would say that the main cause is a lack of vision in the medium and long term. We tend today to manage business in the short term thereby inducing a lack of governance and directional stability. Other factors may also come to influence, cronyism with a manager of a department that will influence a members of the Committee and will succeed in convincing him to allocate the budget originally granted to another department, or, a manager of a department that will shout louder than others, simply.

But I think also that there is a collaborative dimension to be taken into consideration. It is the relationship between users and ICT services. I think the decision to do a project or not is a joint decision between these two players in particular. We see quite often there are two scenarios: the first scenario is the ICT department is in his Babel tower and is the only one to make the decision whether to make a project or not. It cannot work because users need the ICT department to develop tools. The second scenario is when ICT department must obey to the end users department and only the end users takes the decision to make a project or not. It cannot work too because the ICT department has also its constraints.
The collaborative dimension is extremely important between these two entities and they must have their say fairly regarding the feasibility and project planning.

Too often ICT departments are funded by user departments which lead to this hierarchical relationship and it's not a good approach.

GB: About dashboard: everything is it measurable?

AC: Yes and no.
Yes, because we can measure the different phases of a project (specification, QA, code development, testing and production start) measuring progress and controlling budget expenditures. We have the KPI (Key Progress / Performance Indicator) to measure this.
Not because the human factor is not measurable immediately. Whether it's a lack of motivation, difficulty completing the required work, the demonstrated willingness to sabotage a project, any reason ... it will be seen later on the KPI.

That said, the figures shown on the dashboard reflect the reality of the project. We can therefore measure the success, the delay or failure of a project. In the first case we held the budget and schedule to + / - 10 % and the customer is satisfied, we have the sign-off.

In the second case there is for sure the user sign-off, but the budget and schedule were multiplied by 2, 3, 4....

In the third case, we do not have the user sign-off; the project is over budget and over schedule and you can almost throw away every think because it does not answer user needs. This is a deadweight loss.

But once that findings are done, you should know the history to remake the project that has just ended and draw the lessons learnt, the project went well or not. The aim is to identify the reasons why the project is a success or not in order to understand and benefit for future projects. You should also be critical of yourself.

GB: What conclusion can we draw?

AC: We can say that there are still too many projects that are either cancelled or late with a budget overrun. There are methods and tools to overcome this, still need to know how to use them. There are competent people to help on this point. But the wish to change things to gain in maturity in the industrialization of ICT projects is the first starting point.

There is an awareness that is currently taking place within companies in general. I would say that outside finance companies, industries are a bit more upfront about it. Banks have initiated or talk about the subject, but it is still too shy.

Banks can move forward on this issue. They have financial possibilities that other companies in other sectors do not have. Banks have in general qualified people in the ICT departments. They have all the ingredients to make successful projects and I remain convinced that they can achieve with more streamlined budgets.

Finally, entities in general must understand that project methodologies are not a straitjacket in which they must fit. Instead methodologies are here to be adapted to their specificities and maturity. These methodologies are here to grow with the company to help them to become mature. We are typically in a CMMI configuration. Nothing can be made in one shot. A child does not walk suddenly. He needs time. We are in the same case. CMMI answers to this progressive (r)evolution. There are coaches that CIOs (Chief Information Officer) can ask to help them to gain in maturity.

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