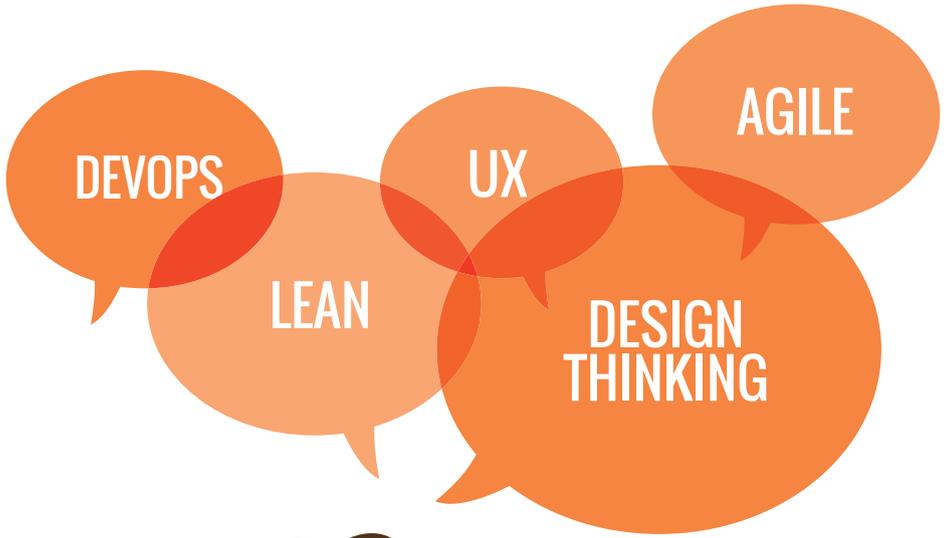


# Conversations with CEOs and CIOs about Digital Transformation and Agile Methodologies



Roberto Canales Mora



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Roberto **Canales Mora**



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[www.autentia.com](http://www.autentia.com)

Av de Castilla 1, local 21B.  
San Fernando de Henares.  
28830 Madrid

email: [info@autentia.com](mailto:info@autentia.com)  
Phone: 916753306

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To the agile development community in Spain, who are creating a space for knowledge and professionalism, where everybody can grow and learn.



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## WHY THIS BOOK?

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For more than twenty years working in different positions (software developer, trainer, analyst, architect, project manager, presales consultant, development manager in a bank, entrepreneur, associate professor at business schools and universities, small investor, speaker at and attendee to dozens of conferences), I have met many interesting people with whom I have had great conversations. This has led me to coin the phrase “if you think you are clever, you don’t know many people!”

For the last eight years, I have worked intensively and knowingly with agile methodologies, and for some years more unknowingly as I had already put into practice similar practices in an unstructured way, like many other professionals. It has been a passionate relation during which I have contributed to their implementation at different levels in several organizations and projects. I have trained in and discussed these methodologies with technical managers and directors, people responsible for the purchase, HR, digital transformation and change management areas, reasoning why they should give new models a chance. Or better to said, why should they not give themselves the chance to set off this new path and move forward as professionals?

It is a result of several interactions, questions and answers that I wanted to put together in this book through a common

thread: a conversation. Like all good dialogues, it does not always follow an order, so it is important to pay attention to the message rather than the structure.

It must be understood in a certain context, i.e. how to give a simple explanation about Digital Transformation, the definition of future products and the application of Agile Methodologies, to managers that are not familiar with these concepts, this even happens in large organizations, where part of their structure has already begun or even advanced in the Agile revolution, while other areas have never heard about it or offer resistance to change.

The first part of the book, a description of a case study, is intended to be a useful resource in classes following the case method, so that students can propose their own alternatives,

I hope you like the book, hopefully a tool for you to discover how the new models of product definition and implementation using agile methodologies, and a incentive to go deeper into the topic and share your knowledge. For the software development sector to take off based on quality and professionalism, everybody needs to know what “working well” means.

## APOLOGIES IN ADVANCE AND REQUEST OF FEEDBACK

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This book does not seek to be comprehensive or purist following a certain method or school, since discussing about topics yet in the discovery phase can be counter-productive. E.g.: In pilates or yoga classes, complexity increases according to the evolution of the participants. Sure it is important to make corrections from the beginning! However, would you introduce all the techniques and corrections in a demo session? It does not seem reasonable.

It is no coincidence that the book has about a hundred pages—it can be read in one go. Though many concepts are exposed, some of them, such as design thinking or UX are not discussed in detail. There will be time to read other authors' books... and for me to write other short guides on those topics!

In order to suggest a potential solution, I preferred to create a conversation with a fictional character called Juan... nobody should feel offended! As in the TV show *Cuéntame cómo pasó*, it is not common that a family experiences so many different and difficult situations, but it is certainly a good guiding thread for the reader. It is striking that many people who have read it as a simple draft version say it could be about their company.

I intentionally left some questions unanswered, which can lead to new conversations. There can also be different points of

view on many of the proposed topics, but that would imply a level of detail that goes beyond the chosen format; however we can discuss them using other channels. For any contribution and constructive criticism, you can easily reach me at: @rcanalesmora or [rcanales@autentia.com](mailto:rcanales@autentia.com). It would also be great to receive feedback on how the book helped you; that encourages me to do more and share.

# PART I

## CASE STUDY

Formulation based on which the reader  
can propose a solution to the problem.



## CHAPTER 1

# THE AUTUMN WHEN IT ALL STARTED

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On an ordinary day in the autumn of 2016, Juan, the CIO of a certain company, was really nervous.

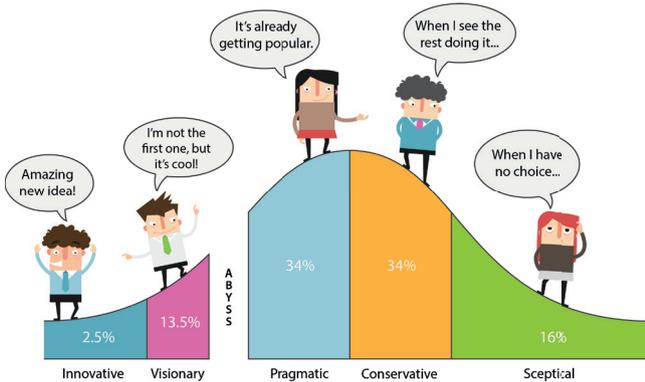
For the last ten years he had been working in this organization, the messages the CEO had been sending him had been in the line of:

- We are not a technology company.
- Technology is nothing but a necessary evil for our business.
- We need to cut down costs every year or do more with what we have.
- We are outsourcing development and keeping only the roles with an added value: business knowledge and coordination.
- We need to develop a validation process in order to work with fewer and larger suppliers, and to impose a unified purchasing policy.

He had a technical background, a systems profile and, after working for some consultancy firms and moving up the job ladder during his 20-year career, he took on managerial responsibilities. Now he has found stability in a client company and the departments of Communication and Development also rest upon his shoulders. He had become a manager who,

when in times of crisis, still didn't forget the 'if I had enough time I would prove I am still a good technician' feeling.

The investment policy of the company kept them closer and closer to upgrading systems out of obsolescence (when both hardware and products were left without support from the manufacturers) rather than aiming for the latest versions, with few odd exceptions.



*Diffusion of innovations by [Everett Rogers](#)*

The cloud still seemed something uncontrollable and a long way off—'servers should be where we can see them!'

Almost all the software and hardware was bought from big players—'if there is any problem, I'd rather have a big company behind dealing with it... they have lots of specialized technicians!'

He was used to dealing with large budgets, receiving invitations to important events and being interviewed by the media. He was never completely sure about where the red line was, but the company would not cavil; just the opposite, surprisingly he was encouraged to keep that attitude.

Our CIO's company had a discrete presence on the Internet for a number of years, always being towed along by its competitors: little social media activity, one-way communication

and no conversation. The organization had a traditional on-line store, with a poor appearance and a symbolic presence in mobile channels, where the web app was even more limited and not user-friendly. Obviously, usability did not hold water, mainly because UX was not a widely used term for the company. They had not seen competitors moving in that direction either. So it seemed there's nothing to lose sleep over.

He had always tried to fight back the numerous requests of new initiatives coming from the Business (Marketing, Sales, Controlling, Legal, etc.) with rational arguments of 'what could and what couldn't be done' based on available resources. The Business outlined the ideal situation and they built what was feasible. This status quo became the rule, frustrating the Business.

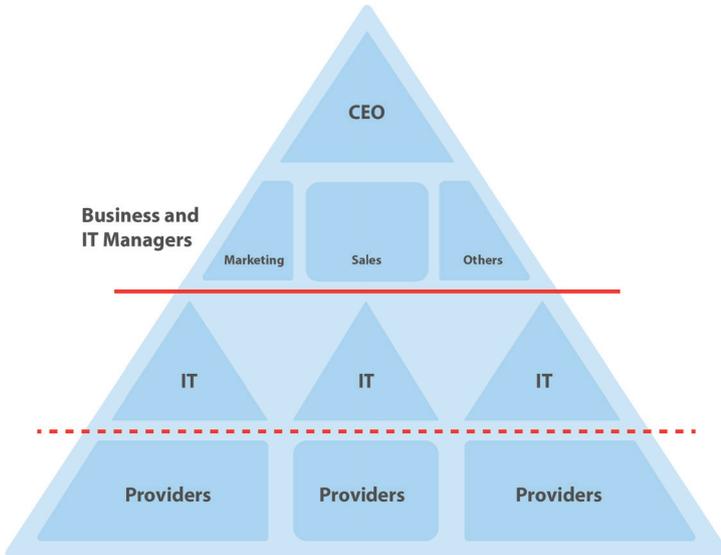
There was a wide gap between the teams designing projects and those in charge of implementing them or having them implemented. Daily contact was almost non-existent and limited to the people dealing with incidents and issues.

The organization had a Project Office merely responsible for keeping track of all the initiatives and reporting to the Steering Committees. The Project Office was very far from the day-to-day activities, neither provided feedback to the teams, nor acted as a coordination agent, as each member took only responsibility for their projects. It had basically become a tool to put pressure on the teams, using their fear to report delays or issues.

Our CIO had obviously felt more comfortable with infrastructure and servers than managing development teams. He himself thought that outsourcing software development was the best option for his lack of capacity to reach the desired productivity and control over his teams. He had delegated many of his management duties among his staff and closest contractors, who he considered family.

He felt very proud of the last project launched: a graphical

dashboard to make the Business happy with financial and daily operation data. This would provide the Business with data to create the reports themselves instead of making his team waste their time; however, the system would only use data from the day before. When he heard about Big Data, he would only think about scaling it.



With respect to the business strategy, so far it had been perceived as the organization competing with other similar companies present in the same sector or area. The corporate strategy was based in watching the enemy closely, its pricing policy, how they advertised their products, their marketing claims, etc.

The company grew by opening branches in other cities and expanding small, successful offices in new neighbourhoods. If expansion worked, it did not seem necessary to do much more.

However, in the last weeks sales would not increase and would even go down, specially the average price by customer. They suspected that the products with higher prices were

purchased either to the competence or on-line, which did not correspond with the traditional need of advice and reassurance provided by a friendly face on the other side of the counter, when disbursing a large amount of money.

The members of the management did not have to look far to contrast the new buying patterns, as they themselves kept on receiving products bought on-line by their children. Even in the company's reception this was already creating a conflict: it started to collapse under the packages for employees who had provided the company's address to receive their purchases.



Nobody missed the fact that the big players had moved to offer competitively-priced products on-line. Prime-Time delivery services had just landed in the country, changing the market's game with their never-ending portfolio of products delivered in just a couple of hours.

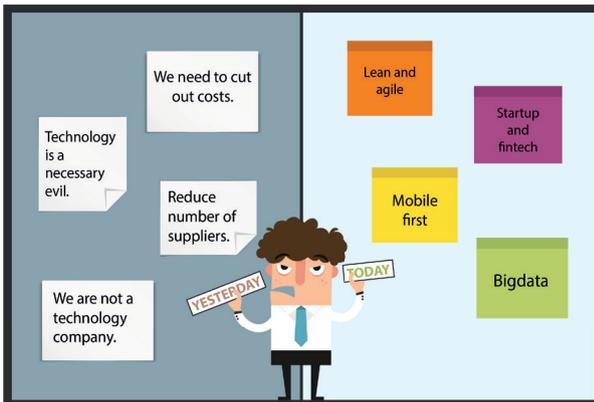
In addition, there was the threat that these big players would decide to eliminate the middlemen and to contact the manufacturers of the top products directly, or even to create their

own versions of the top-sellers. This would make part of the margin, or even part of the turnover, disappear in the medium term.

Newly hired executives envied innovative businesses, as they had grown up surrounded by technology and rapidly-changing strategies. They had paid close attention to data from the very beginning, thus attaining the buying habits of millions of users; furthermore, they knew how to take real-time advantage of that wealth of information.

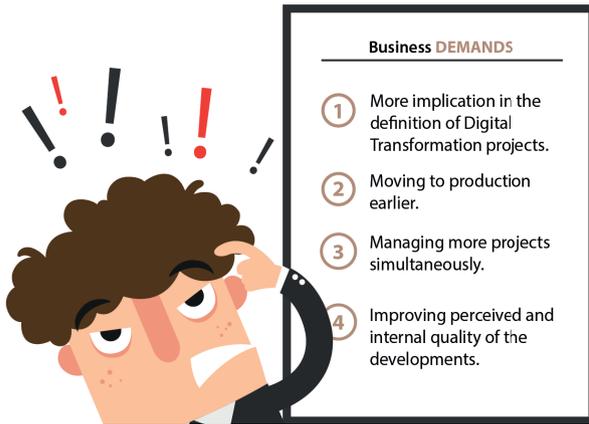
During the last Steering Committee, Juan was utterly confused. The board of directors, supposedly old-fashioned and focused on seeing results in the short term, had changed the discourse often bringing up terms such as lean model, user experience (UX), mobile first, agile, start-up, fintech, Big Data... It seemed they had started to consider they were lagging behind.

While IT had always ensured the platform not to go down in a cost-effective way, now the board questioned their last year's work and considered it conservative, not anticipative, and not flexible enough to adapt to the new needs of the customer, who was meant to be in the spotlight. He wondered where the client was before. In a certain way, our CIO felt upset for being measured with new parameters that had changed overnight, in a context with different and limiting rules.



Our CIO suspected the board of directors was considering whether the existing parties in the organization would be able to adapt to the new path, as they had not been a force for change so far.

During the following months, they would need to prove their capacity to lead IT by achieving four main points (at least that is what he had understood):



1. Being proactive and proposing ideas for the Digital Transformation, not being a ‘problemologist or limiting agent of any initiative’.
2. Launching projects on the market faster. Until now, they have dealt with deadlines in months or years and with big tenders. The new delivery cycles were counted in weeks under the Lean Start-up and Agile concepts, with the customer in the spotlight.
3. Starting more parallel initiatives simultaneously. Money, which has always been so important, was not a problem any more. His budget was doubled in only one meeting; however, he thought he was not able to mobilise and spend it.
4. Improving both the existent solutions’ and the new initiatives’ quality, as perceived by the customer. Now,

criticism and feedback were reflected in social media, and every time a new version was released, the general tone of reviews in the application markets pointed out old and unstable apps.

Juan, our CIO, is facing now his biggest challenge and cannot understand why his regular suppliers, large consulting companies, sponsor events about new working models, but their partners and senior managers, who have worked with him for years, are not aligned with the business strategy of their own companies and have been selling them the products and services for years.

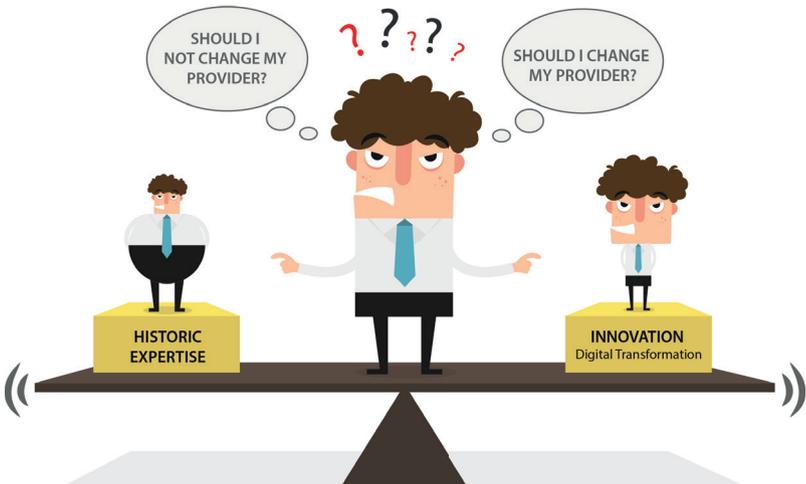
These suppliers recognized that, as large integrators, they are ‘many different companies’ and that the change within their organization would also happen slowly. Others just wanted to sell complete product suites and services, the full package to the same manufacturer, as if they thought he were an idiot and the tools on their own would be the solution to the problems encountered.

He is also aware that, if he chooses another supplier, he will lose the functional and historic expertise the contractors have developed during all those years with quite stable systems. The situation has been comfortable until now. His last organizational initiative with them had been establishing productivity standards based on ‘software pseudo-metrics similar to function-points’ and a quality measure based on the incidents occurring after delivery. This had apparently reduced costs, since the acceptance of projects was not left in the hands of middle management. There was a collateral effect: quality and maintainability of the code had plummeted, or at least that was what his former technicians said, they were now frustrated and pushed to supplier management, which according to the company, is a position providing greater value. In theory, intrinsic quality did not bother him much because it belonged to service delivery and would consequently be the supplier’s business.

He also knew that if he continues working with the same supplier, the contractors who have been working in their premises for years, will have to learn with them about new technologies and working methodological models; this will represent additional costs, or a temporary loss of productivity, which will affect the performance models they were so proud of.

Lately, the HR department has put much pressure on trying to mask their leasing of personnel and to pretend it is just a service, pushing the supplier to their premises and increasing the rotation of their consultants. Recent lawsuits filed by some old subcontractors, who have claimed an indefinite-duration position, accelerated the process of differentiating internal and external employees.

In addition, he wondered: will he be the one paying for the training of suppliers, who have not done their homework for years? If he had not pressed on the rates, would he have made it cost-effective for the supplier to invest in that evolution? For the first time, our CIO's bosses talk about product quality and, neither they, nor the suppliers seemed ready for it, because what does not interest them, will not be developed.



Has their negligence led to this situation? How could they take the first steps and in what direction?

What should they do?

What solution could be proposed for each of these four points: taking part in the definition of future projects, doing projects faster, finishing them faster and increasing quality? What plan can he offer?

End of the case study.





PART II  
SEEKING SOLUTIONS



## CHAPTER 2

# UNDERSTANDING DIGITAL TRANSFORMATION

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Juan, our CIO, decides to call Roberto, a partner at a little boutique specialized in software development and used to implementing agile methodologies. During a long and relaxed lunch he strives to put his ideas in order, or even to attain a new vision to complement the recommendations he has got from his current providers, with whom they have shared their path and the model they currently use.

Our CIO thoughts are: 'I will switch to a low profile mode and play the fool a bit, even though we have already started some initiatives.' I would rather be told the story from scratch! Deep inside he is thinking a simple facelift might suffice. A bit of make up to get them through the hype without having to go through a major change at least for now.

Once they have spent a while talking about family, politics, the good and the bad, as in any other friendly meeting, the tough part started.

**Juan:** Well, Roberto, thanks for coming to have a chat. We can go straight to the point.

**Roberto:** Of course. Tell me.

**Juan:** I called you because, for the first time in years, I see my position at risk.

**Roberto:** Do not exaggerate! It can't be that bad.

**Juan:** No, seriously. You can feel the tension in the office. There are new hires in Marketing and those bring new ideas and impulses. They are talking about creating a Digital Transformation area reporting directly to the CEO. They're basically asking my team and me to contribute ideas to the transformation, to be faster with the projects, to do more projects simultaneously and to improve perceived quality. Piece of cake, right? Not that we were idle!

**Roberto:** But that would be with more, less or the same budget?

**Juan:** The curious thing is that we've always been suffering budget cuts; but now, for this, money is not an issue. We'll see... we've known each other for a long time! It's already hard enough to deal with friends and foes... Doing what they're asking would require more resources and lead to further problems. To be honest, I don't know how to tackle it. What is more, I don't exactly know how managers understand some concepts. God knows how hot was the air the strategic consultants sold them! I've been asked for a work plan in a couple of weeks. This is where we stand.

**Roberto:** I am going to talk to you about agile models in a somewhat different way to that of most experts, initially without considering the values and principles behind it though you will soon find that they are of paramount importance. I am going to tell you how to approach it, starting from a classic thought pattern, and giving you the chance to discover other ways

**Juan:** Principles and values. We can definitely leave that to the end.

**Roberto:** The first request you are getting: To contribute more actively on the Digital Transformation. Let's see how we can understand this with an example to make it less conceptual:

Let us orientate the case assuming we are the executives of a supermarket chain with great national coverage.

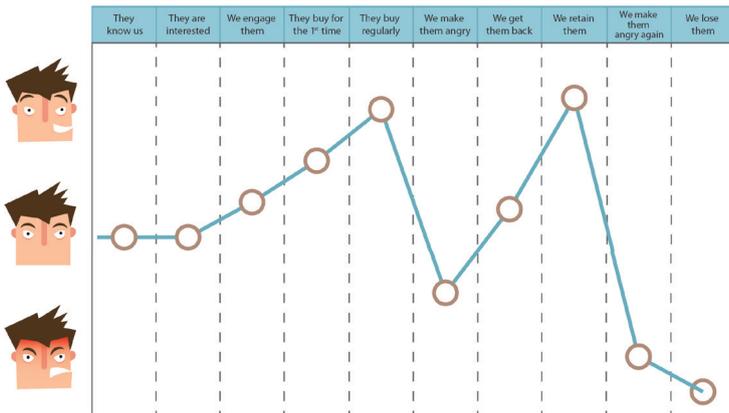
**Juan:** That's fine because it is quite similar to our case, even if not exactly the same.

**Roberto:** First thing we need to do: Look at the big picture! There are many ways to start, but we can try by identifying our customer and their frustrations. The frustrations a customer goes through can always be turned into an opportunity for Digital Transformation.

**Juan:** But is it not the job of the business Strategy Team or the User Experience one? The famous UX?

**Roberto:** Your concept of the responsibility split is way too restricted. Keep in mind that you are being expected to be proactive because of your knowledge of the business and technology, or have you not learnt what you do for a living during all the years of being a member of the steering committee? Are you not a customer of your chain yourself? One of the most important changes a company must face is to avoid splitting teams of thinkers and builders.

**Juan:** *Touché.* I buy this idea. We look for customers and their frustrations, and do not exclude ourselves from the idea generation process.



**Roberto:** Let's start identifying business needs by getting closer to our customers and their relationship cycle with us: the user journey. Let's imagine when they meet us, get interested in what we offer, get captured and do the first purchase. Then they become frequent buyers and eventually get angry with us, we recover them and make them loyal, disappoint them again and finally lose them.

**Juan:** That is pretty much the cycle we manage in our organization. I reckon it must be alike in nearly every other one.

**Roberto:** We can even focus on a single point of that process and an specific user group. What I like calling a 'tribe'. Think of the first time a person interacts with a supermarket, setting aside the marketing and brand discovery parts, where do they get to know us or become interested?

**Juan:** The first time someone interacts with a supermarket can be as random as wanting a bottle of water while going for a walk.

**Roberto:** That could work. Can you think of any other situations?

**Juan:** As many as you want. A child goes on a buggy and wants a lolly pop from over the counter, a kid between twelve and fourteen is sent to buy some bread after school, a teenager wants to buy snacks and drinks to have with some friends, these same fellows or some a bit older go for a BBQ in some one's country house, a couple has just bought a flat and has to start cooking or has friends over, etc.

**Roberto:** Good. It is not a generic customer but several groups of them or tribes as I like to call them, then. Right. Choose the tribe and the problem you like.

**Juan:** I think I see where you're going with this. We are going to stick to the thirteen years old kid who goes to get some bread.

**Roberto:** So look, I have a child of that age. What do you think my kid does right after getting home? Let's try to empathise with him thinking about what he does and feels.

**Juan:** My kids are already grown up, but I suppose... watching telly?

**Roberto:** That could work, but millennials multitask far more than we do. I can certainly picture it! He throws himself on the cell phone to review all the Snapchat and WhatsApp chats he missed, those about high school gossip; he watches silly videos he's got and, at the same time, plays an online game match and watches sports on TV.

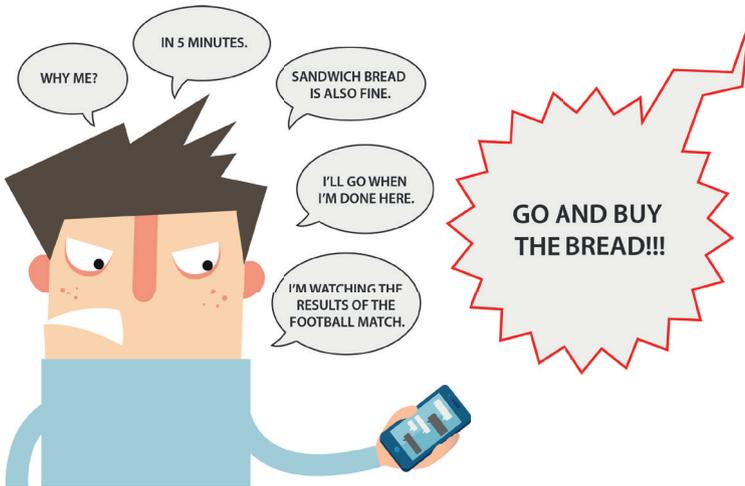
**Juan:** Indeed... WhatsApp keep on jingling at all time in my house.



**Roberto:** What do you think the kid is going to say when his parents ask him to go to the supermarket?

**Juan:** I am sure he will use a soft and sweet voice to say he's going and leave the cell immediately. He will surely not like it.

**Roberto:** Ha, ha. We expect him to shoot a regretful rant: Why me? I will do it in five minutes! Can't we just have sliced bread? When the match is over! Just after the football results! Etc.



**Juan:** It definitely looks like he is not going to go to the supermarket in a cheerful mood, neither to recall that brand particularly fondly.

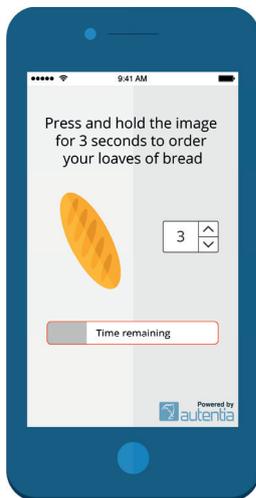
**Roberto:** Don't know if it will be that bad. He may as well not remember the supermarket brand at all! He is most likely to stop at any Chinese shop around the corner, if it is merely ten meters closer, regardless of the quality of the bread.

**Juan:** Those 'not so small any more' corner shops, where families work together and are able to offer such apparently long opening hours, seem to be a highly successful and extended model. What I am not fully certain about, is whether everyone is competing under the same regulation.

**Roberto:** I don't know, but let us trust the authorities to do their job. For you or for your business they are another real competitor. What we should focus on now, is the fact that here there is frustration and discord. Going to get the bread bothers the kid, so we have an opportunity to start a Digital Transformation process and get more opportunities to compete. Imagine we offer our customer an application for their smartphone where he basically has a big button to order bread. They should register using their affinity program ID, and enter

their credit card number to be used. Look. I can even draft it to you on a napkin.

**Juan:** That could be a solution. At a business level, a supermarket affinity credit card could be introduced or enhanced, like some others have already done.



**Roberto:** We certainly can. You will see that when we speak about Digital Transformation we are not just referring to writing an app, but rather to affecting the whole business from many perspectives. If you think about the process we are following, you'll notice that, working from a few assumptions, we have posed hypotheses about some specific characters and I have drafted a poor model, so that we have something tangible to discuss and get your feedback on. And it is only been a few minutes.

**Juan:** It is definitely a very visual thought model. I am starting to feel like grabbing your pen to draw how I see it.

**Roberto:** Let's continue with the application. The whole idea is that by pressing the button for three seconds we will order as many bread loaves as we want and they will be delivered in

less than fifteen minutes. During a minute after the order, a set of controls to add or remove bread loaves will be displayed to give us the chance to adjust it. After that lapse the order will be closed.

**Juan:** And that could be a great moment to offer them some other general products like milk, biscuits, juices, soft drinks and such. They could be general offers or, as we would know the specific customer and their buying history, tailored recommendations for them. That sounds like the bomb! We could even add a chat room to talk to their partner or children and see if they need some of the products we offer. It might eventually be integrated with the shop, so that the whole catalogue can be accessed.

**Roberto:** Look how easy it has been to make you draft some ideas. I would even say imagination will soon get out of control. Like my friend Paco usually says, ‘everything can be done but some things are tremendously expensive.’ The moment you start seeing the possibilities, an initially little concept can become a monster, a multi-year project etc. One must always keep a certain closed scope in mind. We can work with fashionable concepts, like the ‘minimum viable product’ for example.

**Juan:** It is going to be hard not to try and add all that potential in a single bid specifications document.

**Roberto:** That is the real issue, which easily emanates from the classic model of thought. Let us see if I managed to convince you otherwise. That, by using a hypothesis and a possible solution, we would approach it by simplifying the problem and the contracting, and that you could have a first prototype working after a short cycle. Design and construction together rather than separate phases.

**Juan:** Is that ‘minimum viable product’ the smallest thing we can deliver?

**Roberto:** Not quite. It is the minimum set of functionality we would have to include in our product before we can launch it in order to validate our business ideas. Depending on the defined goal, more or less processes and characteristics would fall into that minimum viable product. In any case, a design cycle is the time when mind and scope can indeed be opened. Then you need to prioritize and bring it down to earth, defining it more accurately and managing the communication to set the right expectations.

**Juan:** I am nearly starting to see the application development as the easiest task involved in this project. It would be more difficult to manage those expectations in the organization and coordinate many areas. It seems unavoidable to present big projects for approval and contracting with our current model.

**Roberto:** All in good time. There are indeed many things unconnected to an application development that need to be done. What do you think it would take to put that new bread selling system in place?

**Juan:** For something like that to be possible, it would be necessary to hire delivery personnel, to buy electric bikes or small motorcycles, to provide the delivery men with some instantaneous communication system, to purchase ovens to bake frozen bread, possibly to change the electrical power and even to build an additional door in each centre in order to facilitate rush jobs (involving permits and construction works), to calculate the supplies needed, to make agreements with bakeries, to decide the catalogue of complementary products or even to customize the CRM for each client, to study potential frauds, to provision the cost to compensate the clients in case of a late delivery, to address claims, to manage change in coins, to provide our dashboard with feedback and KPI, to train the staff in our stores, to modify our brochures, to undertake marketing campaigns, to partner with other bakeries in areas we cannot reach, etc.

## PROJECT VS. APP



**Roberto:** It is a whole company transformation! We will have to take action in many business areas at the same time.

**Juan:** What is more, I would say that, in our organization, this would be a strategic initiative or change programme, and that the whole project and subprojects should be led and coordinated by a manager/sponsor in Business and by another in IT.

**Roberto:** But don't be carried away by your engineering mentality and try to solve the puzzle; at the moment we intend to discover initiatives and ideas, right? This is just a possibility, or have you already bought the project? May there not be other tribes more numerous and interesting? In fact, we will have to propose many other ideas, evaluate them, study the market to listen to the clients and launch just the most relevant ones.

**Juan:** We may then have to explore more tribes and the frustrations that may give rise to alternative projects, even if I like this one.

**Roberto:** In addition, in our process of defining scenarios, we will somehow need to find a model of project selection, and to use a system for qualification and quantification.

**Juan:** Of course, but let's continue with the example of the bread business. We are starting to draw conclusions.

**Roberto:** We have to consider possible collateral effects in this project. You are already taking a big leap inducing your customers to impulsively buy on-line. You have spent years positioning your basic products strategically in opposite corners in a supermarket in order to increase the aisle visits and the order price, and now you are going to deliver barely a loaf of bread. It can have a severe impact!

**Juan:** In addition to the risk involved in buying on-line... not with our application but with another one! We educate them digitally and run the risk of losing them as clients. Internet users may be less loyal to the brand! I think the mere possibility that happened would make it difficult for the board to approve projects under these conditions. Furthermore, I don't think this project is profitable, at least in the short term. Driving around to deliver some bread loafs without charging a minimum rate doesn't seem reasonable.

**Roberto:** Well, it is only a hypothesis, but I'm happy you're talking about profitability and business risks. We need to stop before that point. You and me thinking it's a good idea doesn't mean clients would have the same opinion. Perhaps we should ask a potential group of users what they think. That detail about... having the client in the spotlight! Maybe we would realize that this solution provides a differential value to a certain group, let's say people with reduced mobility, and can be used to create an image, and as corporate responsibility policy. Or even to partner with companies offering 'neighbourhood shopping' applications so that there is no need to drive.

**Juan:** I can see an idea can have many derivatives. But we always do the same! We forget to ask questions and see the possibilities in other dimensions. It would definitely seem reasonable to ask or even to hire someone from the outside, more

familiarized with this kind of projects, who could suggest the ideas you mention. Anyway, I still think the risk is high.

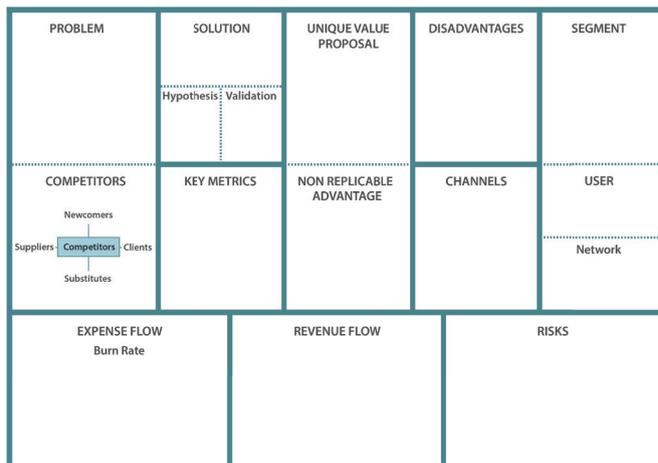
**Roberto:** If you see it from a different angle, clients are already exploring how to buy on-line and will do it more and more, without you having any control over it, but... now you are not even a part of this game! You are not gaining experience or collecting data. In general, people are less and less afraid of buying using their devices. Digital natives are teaching their parents and grandparents, or purchasing on their behalf. Smartphones are already in reach of almost everybody, in our context, I mean.

**Juan:** You don't need to explain... Some days ago my mother started whatsapping and asking me for photos; now she rarely phones me. And she created a Facebook account! Well, my daughter did it for her. My son is thinking about cleaning the house and selling his second hand stuff through an app.

**Roberto:** We are already beginning to think about business and the user or specific user groups, we are doing quite well. It is then possible that this discovery process we undertook "any which way" can be done in a more structured and systematic manner. Some techniques such as design thinking and inception, panels such as business canvas and lean canvas, empathy maps, etc., can help us guide the thought process and analyse potential risks. These methodologies also invite us to something very important: to prototype quickly (a mock up model, of course) and to show it to potential clients, so that we have the possibility to receive early feedback. We consider it a good idea, though it may not be so good... We will probably find other competitor companies we did not know about, which one of our clients with more on-line and international experience can tell us about. There may even be legal aspects or patents we passed over.

**Juan:** I have heard about this, but always thought we step in later, for the execution. I think it's great to test mock up models

with the client to check if it's a good idea before sending to IT unformed initiatives and make us waste our time.



*Example of a customised lean canvas*

**Roberto:** I don't think it would be wasting time. It's like a woodcutter saying he has no time to sharpen the axe because he has to cut trees. The more you participate in initiatives from the start, the more global the vision and anticipation you get. This would even condition how to organize your area and build your systems, so that there can be many parallel initiatives. Just to mention the micro services, so trendy nowadays.

**Juan:** Anyway, I don't think so much paraphernalia is needed. Often what we need seems obvious. In most projects, you simply need to complete the missing characteristics. Considering our on-line shop or website, with much room for improvement, there are dozens of functionalities we could add.

**Roberto:** One of the major issues for the organizations is that they try to undertake conservative, non-disruptive progressions. They think about what they are missing, but not where the market will be in three years. If you start developing

a product based on what you need today, when it is finished it'll be a product from the past. You'll always lag behind the market. What do you think it is the percentage of companies feeling the threat of start-ups potentially rendering them obsolete in five years?

**Juan:** 'Starting projects that, when launched, will be projects of the past.' I'll remember this. Based on what you've told me, we should consider invest in what we need or may need, with no assurance that the market would later move in that direction.

**Roberto:** There you go! The thing is that disruptive innovation is not the road to success, but for experimentation. In your business, possibly one out of five projects is really successful, increasing profits dramatically, while the others add exceptional value to brand development, customer retention, or simply knowledge.

**Juan:** The organization should change drastically to agree to investing in a single project without any guarantee of success, or without having the head of that who fails. So many disasters disguised as semi-success!



**Roberto:** You've said it: there are failures, but they are hidden and, thus, there's no chance to learn through an objective forensic analysis. You have to risk! Or at least to spread the risk out, same as with personal finances: some money in the account, some in deposits, some in actions... Easy routes are old news and generate small revenue; difficult routes are riskier, but come with better rewards. New models require new spaces. Do you know what a design camp is?

**Juan:** More or less, I have seen photos of those design camps, big rooms full of whiteboards and post-it notes where people go to 'get the walls dirty, discuss and play table football while others work'.

**Roberto:** The day you take part in one, you'll see their real value. Obviously, if there's an experienced member leading the processes, you'll take more advantage. Look, when I started my company, I bought a book summarising all the business strategy diagrams and thought: 'What a piece of crap: too abstract and without a sole example connecting them.' After a few years, I enrolled in a master's degree and got to know the concept of Business Strategy; I read the book again and found it comprehensive, with a lot of different examples. What had changed?



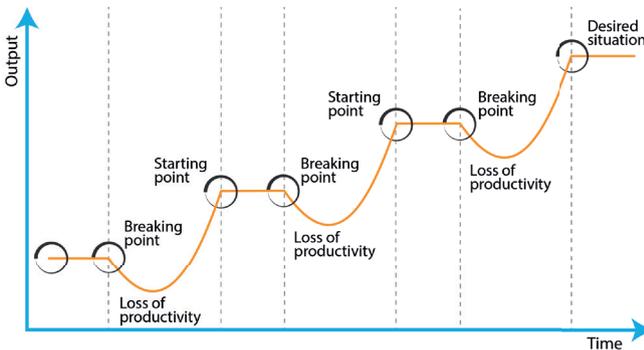
**Juan:** You? You were not looking at the problem from the same perspective.

**Roberto:** That's right. My favourite quote is: when the student is ready, the teacher will appear. It's heard in the film 'El Zorro'.

**Juan:** We are talking about changes and more changes all the time. But now it all is meant to precipitate in a short period of time.

**Roberto:** Right, but remember: slowly but surely. Hence the importance of having someone who help us not to stop and not to take too many steps at the same time. When having this kind of conversation, about more agile and sensible working models, sometimes the 'big boss' says: we'll implement that in all our projects from Monday on. I answer: not with my help! Start with a single project and we'll see how it goes.

**Juan:** What? Are you already selling me your services?



**Roberto:** Well, not only my services, because we'll talk about changes at many levels within the organization and, possibly, you'll need several specialists from different companies.

**Juan:** Or just a big provider offering all those services.

**Roberto:** Or by yourself, if you find this to be the easiest formula. We can leave it for another moment, if you prefer; but do you think that dynamic and creative people end up piled up in big structures?

**Juan:** May be, right?

**Roberto:** That's why we're leaving it, though it doesn't seem a bad idea that small and expert companies control the big and strong ones, with the power of dialogue. You know that, the bigger the company working for you, the sooner it'll try to skip you and talk directly with the board to sell the largest batch they can.

**Juan:** For the time being I have that under control. The clumsiest ones try it and get their fingers burnt.

**Roberto:** Usually, big organizations long for the easiest formula and expect to contract everything to the same company. That's not a major point, since it is often a matter of staff and the ability of the person assigned, regardless of the brand size they happen to work for. Almost everybody in my company worked somewhere else before. There's good people in many places. All I'm saying is that it would be very difficult for you to succeed on your own.

**Juan:** As you said, we also have good people. Why can't we succeed on our own?

**Roberto:** Imagine you want to get fit. What would you do?

**Juan:** I'd enrol to a gym. However, I've paid before and never went, so I ended up unsubscribing. Good will at first, but it disappears soon...

**Roberto:** On the positive side, that's how gyms make their living: people who pay and don't use it sponsor those who do.

**Juan:** We should go back to that idea later: sponsor. Continue, please.

**Roberto:** Imagine that, instead of paying €40, you tell the gym owner you want to pay 400, that is, about 12 sessions for €30 each, so three sessions per week. In addition, you explain that every time you go to the gym, you want a personal trainer

just for you, who will push you to train with quality workouts. What do you think it's the best way to spend your money?

**Juan:** It depends. If you are disciplined, €40 could be enough. But it's true that, if I'm paying for a personal trainer, I want results. And if the gym want me to pay and renew my subscription, I need to be pushed to get those results. In addition, if I have an appointment with the trainer, I find myself obliged to go.

**Roberto:** And if you were weighed at the gym, I bet you'd also eat less! Many paid diets lead to success because you don't want to disappoint the doctor or nutritionist when stepping on the scale. Think about it... Paying a third party to be forced to do something you could do on your own doesn't seem unreasonable. If you try on your own, what's the probability of you getting injured if you don't exercise correctly as there's no one correcting your position or adapting the workout to you? Could you get bored? Could you feel emboldened and over-trained?

**Juan:** Unfortunately, all those situations are likely to happen. I think I see where you're going with this. Doing something by yourself requires focus, discipline, knowledge that takes time to gain... and you may fail because of not having good technique, someone to correct you and help you be constant, or even to rest. In a company, keeping focus can be very difficult considering everything is going on.

**Roberto:** It seems desirable to have help from the outside to realise that you have been failing to carry out important and strategic activities at work, possibly for a long time.

**Juan:** It is not as good as you picture. We have never been involved from the seed phase, so we end up as mere executors, raising objections and not being a part of the global strategy. If you don't do things, you never learn!

**Roberto:** By not being involved or not getting involved? I'm

tired of technicians invited to creativity trainings or sessions defining projects, who just work with their laptops, in their own world, or with long faces thinking that's all nonsense.

**Juan:** Maybe they need to be disengaged from their daily responsibilities, so that they can pay more attention.

**Roberto:** And what about when it's the managers who attend those sessions? Remember that CIOs can't be second-class members in the Steering Committee and that can happen only we focus on tactics or daily operations.

**Juan:** In my case, I know I must delegate and focus on these issues, or appoint someone I trust to take care of them.

**Roberto:** An executive spending more time on strategy seems reasonable.

**Juan:** Yes, but we are too many and daily meetings take up all my time. We may also need some not-so-technical profiles in IT. People that can spend more time thinking about technology strategy without getting into details. Perhaps I am drilling far too low!

**Roberto:** Then, technicians should give value to our non-technical colleagues, who have other skills, or be prepared to acquire further necessary knowledge. Or even hire consultants to bridge the gaps temporarily, help those who want to develop and define new working methods. More and more companies hire agile coaches to help them discover the answers themselves. There are always plenty of alternatives. Maybe neither the ideas nor the executions must be our responsibility. Making something bigger our own, these ideas can grow internally or can be inspired by the ecosystems of the start-ups, which we should always keep an eye on.

**Juan:** I have a friend who works for one of the biggest organizations in the country, and he's told me they're opening their systems as services, so that small start-ups can use them

as an activity centre. I thought it was risky but, considering what you're saying, it may not be such a bad idea...

**Roberto:** If you open up your organization to the outside, you are also getting prepared to open it to the inside. How monolithic is what you do?

**Juan:** Wow! I guess we're like many traditional companies in the country.

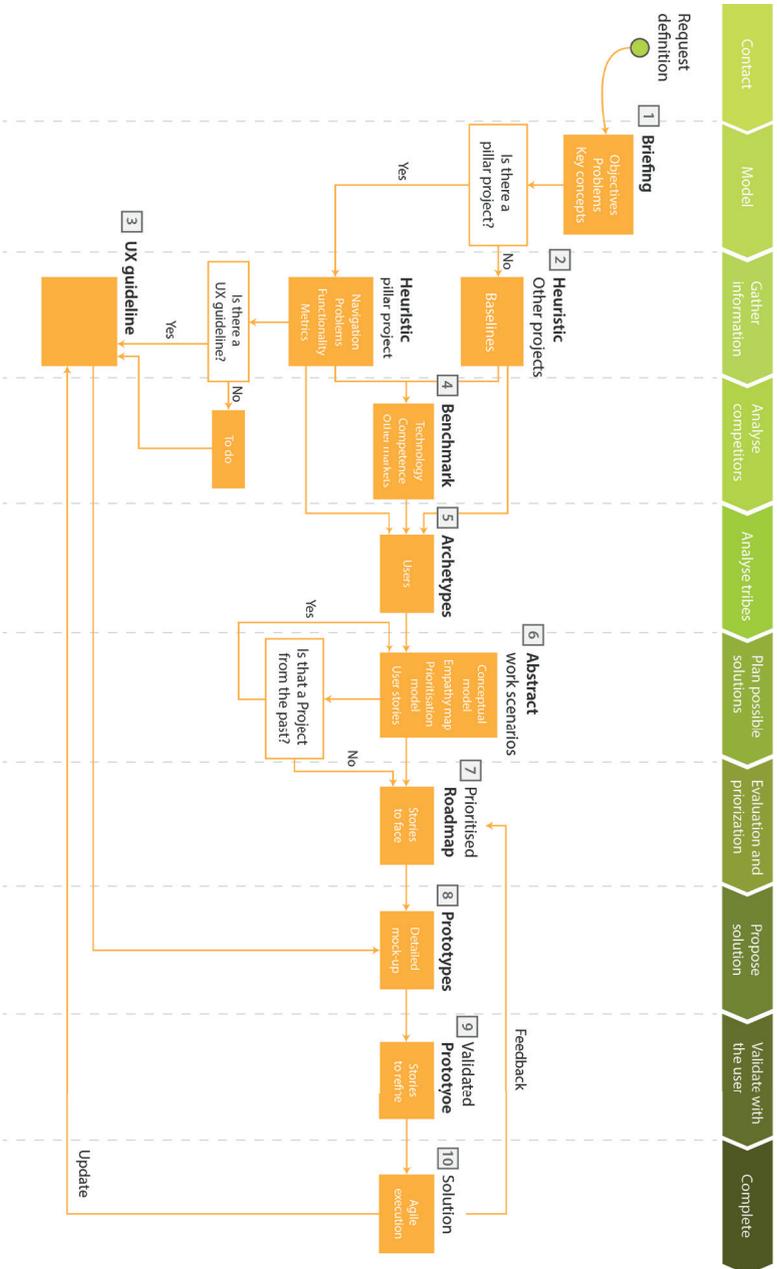
**Roberto:** Back to the start-ups, when companies are created around you, it's possible to buy shares in an early stage. What is more, if they fail, you can offer a position to their founding partners, who would bring fresh blood.

**Juan:** It can often be easier to make ideas mature outside the organization, since the corporate culture could stifle their creators by bureaucracy, the pace of business or fear of failure.

**Roberto:** There are more alternatives. Search on-line for the concept of hackathon, you'll find it interesting! Different APIs or services are exposed and some prizes or awards are established for those who combine your business with other available data or services. Dozens of developers come to share ideas you would have never thought of.

**Juan:** And it seems cheap! Many people participate for the challenge or for recognition, and prizes would not be expensive for a company of our size. I'll keep the idea, but, again, someone to coordinate it all is necessary. Even if we organise it ourselves, we'll probably have little convening power for our limited access to these groups.

**Roberto:** You may find that having someone in your team spending time with the entrepreneur and developer community, getting close and making a name, may be a good investment, either in terms of expertise or resources (offering your premises or providing the food). In a way, your organization can sponsor a group to drive innovation to businesses interesting for you and close to you.



**Juan:** I see you like the word ‘sponsor’. We’ve always been more familiar with subsidies from the government, than with B2B sponsorship. A few companies contribute to the business network development without forgetting about the community.

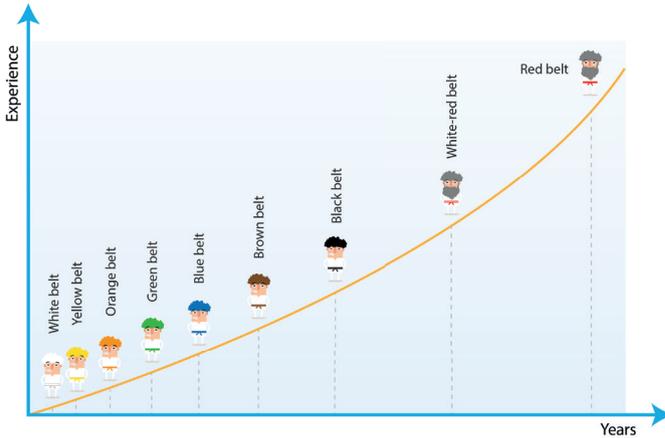
**Roberto:** Well, now you have food for thought. Let’s leave the first question on the right track. The IT manager can be an active and proactive agent providing strategic ideas for the Digital Transformation, as they know both about Business and IT, and is able to align the interests of the clients and the new market trends. They must participate during the early stages through structured processes, find the best investment ideas and simplify the initiatives. They think about experimenting first hand with the technology trends and opening their systems to the world. They might even need to be humble in order to accommodate third parties, such as the developer community, start-ups or external consultants and to avoid endogamy, being pushed to move forward and having someone else putting everything on the right track.

**Juan:** Giving value to the creative processes; taking part in the early stages of the strategic definition of projects; learning about structured processes of project definition such as design thinking, with tools like business canvas and empathy maps; having someone forcing us to move forward or reconsider whether we are doing everything correctly; delegating and getting more involved; looking around the world, finding start-ups, organising hackathons, opening our systems to the rest of the ecosystem as services (we’re a long way from this), etc. Wow, we’ll need a lot of time! I think I’ll need more staff...

**Roberto:** Let’s talk a bit more, you’ll see it’s not that difficult if it doesn’t need to be done immediately and you go step by step. Don’t wish to get directly to the end of the journey!

**Juan:** I’m sure it’s not difficult for someone experienced and who knows about all this. What I mean is that there seem to be too many concepts.

**Roberto:** I practised judo for some years and one day I got injured, like many people who attend group classes without the necessary control. I like comparing organizations with judo belts: some have white belt workers, others are yellow, green, blue, brown or black. This would be on an individual level, but it would be different considering the group.



**Juan:** Like many children, I practised karate for some years and then stopped. It's similar.

**Roberto:** Then you can understand perfectly. You need to repeat mechanical movements until you assimilate them. Later you improve your technique and, as time goes by, you develop your own style. I'll be bringing the belt simile back, I think it's easy to understand.



## CHAPTER 3

# EXECUTING PROJECTS FASTER

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**Juan:** We have already seen how creative and/or proactive we can be when it comes to defining new initiatives, and I am still blocked by that thing about ‘projects of the future and not of the past’. Now, how do we execute projects faster?

**Roberto:** It is as simple as understanding that, in order to execute projects faster, we have to make them smaller. Moreover, we must only execute those parts of a project which are most important. The sentence ‘fail fast, fail cheap’ has to echo on each task you intend to do. How are your project cycles defined? How long does it take you from the time you have an idea until the project is finished?



**Juan:** Our cycle from the idea to the product release to the market usually has a duration around one and a half years that normally ends up being two years. The idea, definition and contracting are nearly six months.

**Roberto:** We have to use those six months as the base dimension of a project's first minimum phase. It does not matter if it's a month more or less, which is what you say it currently takes you to think, approve and contract. If we are not able to release something in six month's time, we are already going down the wrong path.

**Juan:** I don't know if what you propose is feasible. The projects here are always very big, and we are asked to inform about the costs before starting. Asking for more money is very difficult.

**Roberto:** No worries. Every customer says the same at the beginning until they mature. There are clearly a few of things to change, and one of them is how a project is defined and... needless to say, how it is contracted! But don't you worry. One has to eat the elephant one bite at a time rather than all at once. We do not want to make everything agile from the very beginning, because there will be processes worth leaving as they are for the time being. So, how do you usually define projects?

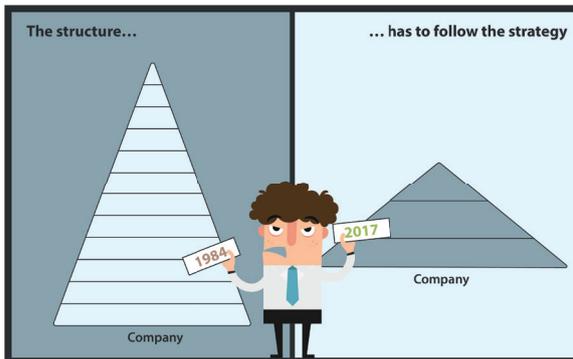
**Juan:** Simple: we have an interview with the Business. They tell us their problems. One of my project managers writes the bid specifications document with our share of the work. We send it to the Business for review. It is full of etc. and ambiguities, and whenever it's more than ten pages long, they tell you it is way too technical and approve it without having read it properly. Then we send it to our providers, and when we get a price completely out of scale, we give it a second thought aiming at making the scope shorter, or simply press the providers for the solution to match the budget. After that comes execution, when we fight for every change to see if they fit in the

agreed scope. Delays, higher costs... What could I say that you don't already know!

**Roberto:** Well... not quite surprising in this sector but, do you think the shops you want to compete with in the future work like that? Do you think Google, Amazon, Spotify, Tuenti and the rest do it so? From what I see, I tend to think they don't. What I am sure about is that they buy companies thinking only about talent, which they try to hoard: qualified staff and running teams that provide them with capacity.

**Juan:** But... this is how we have always worked! And I don't think that the Purchasing Department is going to accept any change to that. Purchasing rules process.

**Roberto:** Anyhow, let's not put all the blame on Purchasing... It is sometimes easier not to fight for what we should. Purchasing surely has a mandate to buy what's less expensive and more convenient for the company. The strategy is defined first, and then the other departments will have to get in line with it... I suppose. There will have to be some alternative hiring process during the change.



**Juan:** But the structure has to follow the strategy! The mandate and the vision obviously have to come from very high up. Here the structure is unchangeable. And so... Do we have to let new initiatives follow a different process? Processes are very

well defined here.

**Roberto:** If you take a look at any change management model, you will find that any initiative is bound to fail without a strong sponsor. Convincing them to the new model with a quick success seems reasonable. Besides, is it not the organization asking for it? They will have to help somehow!

**Juan:** Sure... the evidence is the best argument.

**Roberto:** Let's assume we are allowed to work as we intend to. We will then approach the project differently. We will try to specify a project not with traditional requirements, but with a language that's satisfactory for all parties involved (Business and IT) so that we can co-create. Imagine the software we want to build is already available, and let us focus only on how the different actors are going to use it. We will be using a concept named 'user stories'.

**Juan:** So it is already made and all we care about is how will we use it. Give me an example.

**Roberto:** The formula will always be: I, as some 'actual actor', want 'an action' to obtain 'a benefit'.

I, as a mother, want do download the app on my phone so that I can order bread.

I, as a mother, want to make my order so that I can have the bread in fifteen minutes.

I, as a mother, want to change the number of loaves or cancel it so that I can optimize my resources.

I, as a mother, want...

Juan, you continue.

**Juan:** It seems easy. I, as a mother, want to see other buying proposals to take advantage of the moment.

**Roberto:** Such a system can be defined quite easily, and so help the Business users fill gaps, as we try to make concrete

what was conceptual. The point is that having them look at how would they be using the system from time zero helps a lot. Moreover, if starting from day 1, we can have a designer trying to shape it under usability criteria (that thing of the UX), it will be even better. Then we would be able to discuss with the Business areas something tangible, or ask the customers for their opinion.

**Juan:** But we are still defining a project and you want screens and UX already in! I normally don't have 'resources' assigned to a project until the charter is approved. Those profiles are perhaps available to Marketing to do their stuff.

**Roberto:** We should start using the word resources with a bit of affection, because I understand it is people you are referring to. The sooner you have something tangible, the easier it will be to align expectations. We even cheat a bit, and every time we sell agile coaching services to our clients, we offer to switch hours for UX services, so that we solve the issues with no additional hiring, thus avoiding bureaucracy or power struggles.

**Juan:** It looks like a convenient solution for a temporary workaround, but I don't think it is sustainable.

**Roberto:** Let's focus on the first project for now. Once its value is proven, I am sure the organization will authorize you to use the means. But you have already seen there can not be so many knowledge silos, and also that Marketing and IT share more needs than it seems.

**Juan:** Well... we would see later who and how solves this, because I could easily mask it with the current outsourcing. Have you said we should look for the actors using the system?

**Roberto:** Consider that there are always many people or roles using a system. The mother or father who wants to check their orders, the clerk who has to sell the bread and reflects what they have done on the system, the person who registers the products to be recommended, the guy who answers the

phone in case it takes more than expected, it is not delivered or arrives in bad shape, the biker who takes the bread, etc. Would you dare to define those actions as stories?

**Juan:** Sure. I, as a customer, want to check my orders and see why they are coming late and whether I have to send the kid to the shop next door.

I, as a bread dispatcher, want to record that I have given the bread to the biker, so that in the event of a claim from the customer, we can track what happened.

I, as a support technician, want to check the status of an order in case the angry mother calls me.

An so on.

AS a CUSTOMER  
I WANT to be able to validate  
purchases through some  
kind of messaging system  
with my partner/friend  
SO THAT I don't forget anything.

**Roberto:** That's initially done using cards or post-it notes to play with them: break them out, reorder them, divide them, etc. Imagine we do it using paper napkins.

**Juan:** I see this is becoming big, and the granularity will depend on who is doing it. Do you think that after a training we would already be able to do it by ourselves? We have highly experienced people at the project functional definition area that could work on this.

**Roberto:** Looking for a shortcut once again? Writing user stories takes a bit of practice. In nearly every place I go, they start doing the same old thing they did before, masking it on pseudo stories. It makes sense to you to have someone training and helping you along the process in the first few projects. Bear in mind that the first time one does something, it's usually hard and mistakes appear.

**Juan:** Who takes part in this?

**Roberto:** The person who works on the story definition at your side is the product owner at the agile methodologies, and more precisely, Scrum. It is advisable that they get the help of an agile coach at the beginning. Someone who's used to doing it but, on top of the technical knowledge they hold (what is called a Scrum master), can move easily around the hierarchy to train, preach, facilitate change and evangelize. It has to be someone who people will listen to.

**Juan:** Evangelising?

**Roberto:** We are talking about having people agreeing to define projects in a different way, to change the purchasing policy, to get staff assigned at early stages and more other changes you will see... Let me warn you it is going to take a bit more than faith. We will have to grab any occasion to teach. Someone too technical will focus on solving the project rather than in creating the conditions for the organization to transform.

**Juan:** So what would be the profile of such a product owner? Is it someone from IT or from the Business? Do they write the stories, or have someone do it on their behalf?

**Roberto:** Ha, ha... This is where the difficult subject starts. The product owner is responsible for modelling the initiative, representing every Business area and, above all, prioritising them based on the value they add. They have to come from the Business. In fact, despite any existing work group or commit-

tee, that is the single point of contact when it comes to prioritising or validating stories.

**Juan:** But that is normally a job we do from IT. The Business never has the time. I don't even think anyone from the Business will be willing to do the job of writing the user stories, and then I suppose detailing them with their UX or screen layout (I am not able to distinguish between the two concept right now). Do you think they will go down to such a level of detail and define how the system is to be used?

**Roberto:** It does not mean they can't have their counterpart at IT in case they do not have the time, structure, capacity or will. When agile methods are implemented 'bottom up', a role called 'product owner proxy' appears in IT to facilitate the Business' job. It is a useful and versatile artefact till an organization matures. I could even tell you other tricks to try and dote Business areas with this capacity.

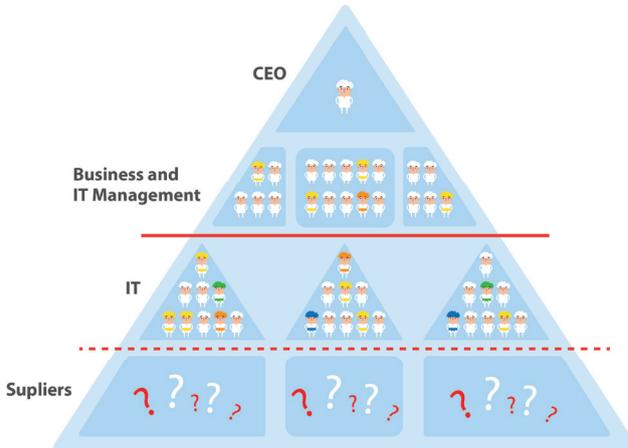
**Juan:** That is closer to reality: them having someone make the wording work and later saying if they like it or not. They will pay more attention if we help them not to perceive the language as technical. That idea of stories associated with screens looks like a very good level of abstraction to work upon.

**Roberto:** I'm quite sure we'll see a temporary model for some weeks or months, until the new models are implemented, and each role takes its actual responsibility with the right task balance. We have already spoken about judo belts: people need to be allowed to learn. They will be white or yellow belts at the beginning! We have to search for a certain everydayness between the Business and the developers. Train and divulge.

**Juan:** And are there really no shortcuts for this?

**Roberto:** Don't you worry. The big consultancy firms will soon be around to meet your needs. I would recommend that you start reading about some agile escalation methodologies, where you will find a lot of roles and responsibilities, like SAFe,

which I believe is quite close to what you might want to hear in order to map your organization to a model. Not that it is what you need for the first approach during your early projects: I am sure someone will sell you a whole lot with a tool suite included.



**Juan:** You said: ‘It is what you might want to hear’. You shoot to kill...

**Roberto:** Ha, ha, ha... recipes and more recipes. It is the same everywhere. Power struggles everywhere. An attempt to make a change without changing. We can go back to the personal trainer example. You will easily find recipes to get fit at any library’s shelves. The personal trainer will, however, follow your degree of development, your capacity, interest, mood and if they are a good one, they will adapt in order to make you progress without you getting overwhelmed or quitting. Better if they train with you. An obese personal trainer would not have the right image, even though there may be such cases.

**Juan:** Perhaps we are too used to being self sufficient even if the results are not optimal. I see you have quickly gone to the technical side of things, but... does this only work for software?

**Roberto:** It is true that ‘a leopard doesn’t change its spots’ and I am used to building software. Indeed we have already said that a Digital Transformation project is not about building an app. It is a corporate initiative, or a change program that will include a lot of subprojects. As an example, our initiative should have an inspiring name. It can be ‘bread on your table in fifteen minutes’, or something even more fun and disruptive like ‘breadding’. It is also true that this initiative has its impact on different departments. Let’s see. Though you have anticipated it before, what do you think each department should be essentially doing? But start thinking about stories.

**Juan:** So... I, as operations, want to name a pilot town in order to limit the risk associated with the test.

I, as Purchasing, want to negotiate the bread, vehicles and ovens supply in an attempt to have the products at a reasonable price.

I, as Infrastructure, want to analyse the impact of the power facilities on the pilot shops.

I, as Human Resources, want to hire the first bikers.

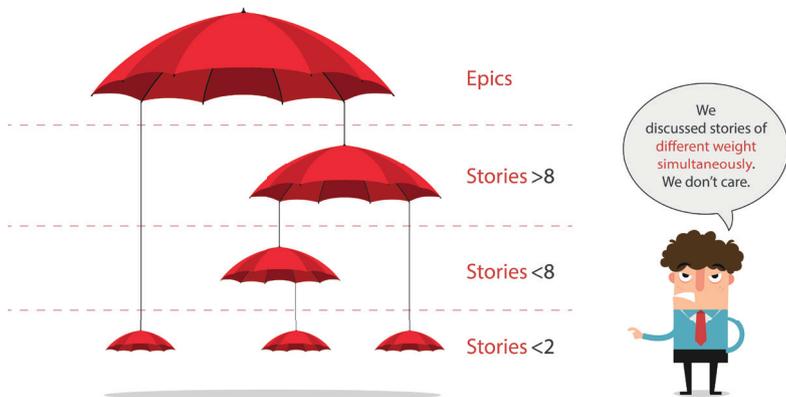
**Roberto:** It doesn’t look that complicated, right? These stories will include tasks. The ones that are usually in your classical project plans, but grouped in a more manageable way.

**Juan:** Seen this way, it looks quite mechanical. There are little stories and big ones as well, but it seems that it all can be defined this way.

**Roberto:** We are obviously speaking about stories with a different level of abstraction. I am being blurry on purpose though, because an actual project has more than just stories to it. The complete set of things to do within the scope of a project is called backlog. That backlog comprises backlog items. Those backlog items can be stories or other tasks, which are normally characterized by other kinds of requirements: regulatory, data protection, performance, etc.

**Juan:** I thank you for not being so precise. We keep focused on the stories for now, and we can be more precise when I am more confident. We are already talking about many concepts.

**Roberto:** The bigger or clustering stories will be called epics. And thus we will know they can be broken out into smaller ones. Here comes the size concept, but please let's not go down to the detail now because this is a real mess with a lot of lovers and haters. Let's simply stick to the idea that there are techniques to help us out with a potential estimation. We will see it some other time.



**Juan:** That's starting to make more sense to me. Of course I need some mechanism to estimate at an early stage! I am so glad such mechanisms exist!

**Roberto:** It then seems reasonable that, when working with these stories for a while, dozens will appear with different size or abstraction level, but with a very clear wording both for the Business and technical users. It is vital to prioritise and indicate which one is the first and which the last to be put in place depending on the value added to the business. Looking at our bread application. What do you think is most important? Always with stories, please.

**Juan:** I, as a user, want to be able to download the app...

I, as a user, want to be able to register...

I, as a user, want to be able to log-in...

I, as a user, want to be able to choose the number of loaves to buy...

I, as a clerk, want to be able to report I have dispatched the bread loaves...

I, as a support technician, want to be able to manage a claim...

**Roberto:** When in doubt about priority, we can check the ‘what for’ of the stories, and that will let us know why we are carrying them out. Let us keep it for a while at least. If we see no value in it we should not feel obliged to always do it.

**Juan:** Got it! I would need some additional stories: I, as Business, want to be able to see the impact on the invoice of the customers who use the application, to check if sales increase or decrease. OK. It might not be that easy though. Perhaps it can be done by other means.

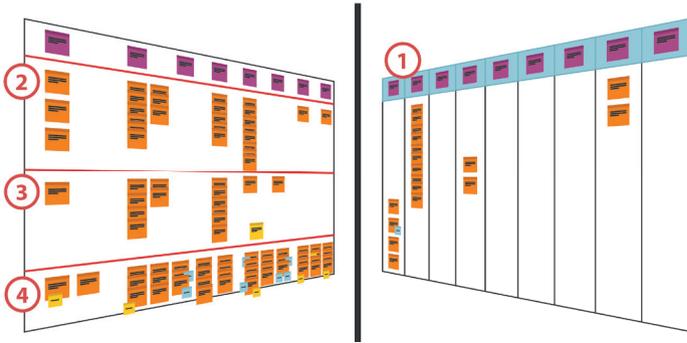
**Roberto:** I completely agree. And do you think a project defined only with this set of stories could possibly be launched in less than six months? At least a functional prototype to be tested internally.

**Juan:** Wow! Things usually grind slowly here, but it should be feasible to have the first small phase at the technical side. Assuming the Board give their support or create a dedicated team, we can make it. Specially if we simplify the contracting. We could ask a regular provider to give us a small team of people.

**Roberto:** That’s already a kick off: believing it is possible or at least it is not impossible...

**Juan:** And what if I have two hundred stories? Because not every project is so simple to understand.

**Roberto:** It looks simple now, but if we started to speak with every department and actor, and started writing stories, we would see how many we would have! It is more than likely that you will have two hundred or more at any given project. A simple prioritisation mechanism can be to start grouping stories into batches of a set size. The first thirty stories, the second thirty and so on. And then just sorting the first ones from one to thirty. It doesn't matter if we are talking about thirty or forty.



**Juan:** Seems logical, but the Business areas usually want it all. Even more so, they want the total cost of the project before even starting...

**Roberto:** That's a fallacy. A very common one but still a fallacy. Look. Once the third phase or story cluster is done, the rest are what many call 'what will never get done'.

**Juan:** I don't follow you.

**Roberto:** Imagine we make a system with thirty needs, the most relevant ones, and roll it out to production in six months time so that our customers start using it. How likely is it that changes or improvements arise as a result of the customer's feedback or our own experience using it? How likely is it that we miss features that didn't look important but now seem vital?

**Juan:** There's a 100% chance. This is half conceptualised, but not until it is working will we notice what we have forgotten, or what is more popular at a commercial level.

**Roberto:** And so, I am sure you will agree that the second cluster of thirty stories will not be as interesting as it was originally defined, and some of them will be taken off of the prioritised list and others will make it to this second cluster of high priority. The project might have been running for a year, and even the needs might have changed due to external factors.

**Juan:** But that's insane... 'Blasphemy!', as the Thermopile's 300 would say. Provided that we have already contracted the whole project, how are we going to govern, if we are now giving this sort of flexibility?

**Roberto:** Blasphemy? This is agile! Ha, ha, ha. But.. what is your role in reality? Building what you agreed upon in a document or a contract with a provider a few weeks or months ago, or rather doing what your business needs today? With this division in prioritised blocks, we lead to the optimisation of financial resources without even noticing. If we start contracting them one by one, or the first three but not the fourth, we avoid making large financial commitments to build unimportant pieces, when the uncertainty over the final success is still high. Besides, we are working on the wrong premise that during a project we put resources together to solve a problem and then split them. The Digital Transformation problem does not finish.

**Juan:** That really hurts! Doing what the contract says or what my company needs? I need some time to think about it. Contracting only a part of the clusters until we have proved the initiative is feasible! I believe it is my bosses you will have to have lunch with if we want to be able to implement this in our organization! I also have to rethink the idea that a project is never ending. It is indeed true that the Business areas ask how much it will cost and I'll start answering: 'How much will this cluster or this year cost?'

**Roberto:** Change is accepted as an inherent part of projects in agile models. Even more so, not only on every phase or batch of stories but also within a single one, we can change the stories

and their order while we work on them based on priorities and using short cycles. We mustn't change priorities during the execution of two or three weeks' cycle (or sprint) not to drive the team crazy, but we can certainly do it with stories still not under way. The contracting models obviously need to be revisited.



*The agile manifesto (<http://agilemanifesto.org/iso/es/manifesto.html>)*

**Juan:** I start to understand why the Business areas are so interested in these models: simply because they can obtain, validate and redefine what they need and pay attention to it while things are being cooked, not during a conceptual phase. If they also accept this contracting model, even better for us.

**Roberto:** We have to be careful though, as any rebuilt feature has an unavoidable impact on the effort. It is fundamental to have high involvement from the Business in the initial definition works, and a commitment of participation from their side as things are build. I repeat: fundamental. They request

changes and feel growingly satisfied with the modifications on the go, but at the same time they have to assume that dedication costs money and any wrongly defined or rebuilt detail will play against their goal of maximum productivity; whereas before, with the fixed price contracting model and projects being willingly executed with much blurriness and on the bid specifications document, it used to play against the provider's.

**Juan:** Sure, sure... and that's what concerns me the most. The relationships with my suppliers, the contracts under way and the productivity models that we have been trying to implement for years. I still do not see how to put them together.

**Roberto:** So that is something else to change. I would even say to eradicate! At least at the early pilot stages, do you really need a productivity model, when you know your provider or internal team are working for you transparently and with that level of flexibility? The experiment is very limited to be risky. The productivity measurement document is a waste of time in this model, as it does not contribute to add any value. Even so, we can accept to keep it. There is no need to change everything.

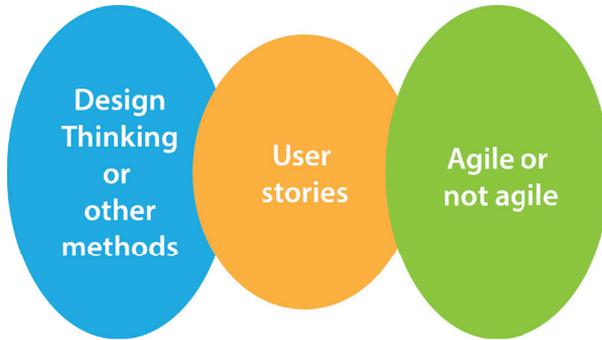
**Juan:** Provided the team's staff can be appointed personally, are highly committed and fully dedicated to us, we might not need it, but our case is the opposite. Everything is outsourced without 'theoretically' willing to know who is part of the team, so that it can be considered a service.

**Roberto:** Ha, ha, ha... I will remind you of this conversation in a few years, when you are striving to hire talent in-house. Then you will have to create a culture where the team has the right motivation to deliver the highest value, right?

**Juan:** I don't deny it, but now it is not the right time. By the way, I suppose defining project as stories is also useful when executing them in a non-agile way, right?

**Roberto:** Of course it is useful for any sort of project, regardless of the way it is to be executed. Defining it as stories

and early models can only streamline its comprehension by all parties. The use of the system is pictured, so that it gets more specific, and it also allows prioritising. It is amongst the first activities I suggest when training new teams. Trying to translate a traditional charter into stories, splitting them into phases and prioritising.



**Juan:** What I like the most about the model, is that notion of prioritising and breaking the abstraction using mock up models, so that we all know what we are talking about. Normally everything is important and urgent, and quite shapeless.

**Roberto:** Here we first set phases, renounce to the idea that everything is compulsory by definition and, moreover, re prioritise again at every cluster and accept the change of order, adding or removing as the execution goes by. We were at the point where we said that in order to release a product earlier, we have to do less. I can tell you by own experience that many nice-to-have stories show up at the beginning, but they are actually not important for the first phase.

Let me give you an example:

I, as Systems, want to ‘dynamically’ recommend the top-selling items at any given time of the day so that sales are optimised.

Or...

I, as Management, want to have a dashboard where I can supervise every KPI at a glance, so that I can check if the initiative is worth the while.

**Juan:** Well... you have given two examples that I consider fundamental, and that should be included in the minimum viable product.

**Roberto:** It is indeed hard! Now we have to switch gears a bit. I reckon it will be more important to provide the project with the skills needed to succeed, focusing all efforts on features related to customer service, rather than to internal justification. Don't you agree?

**Juan:** But you can't manage what you can't measure. I am asked to provide the KPI. Even to merely get the project approved, I need to justify the ROI. And that other recommendation feature could add a lot of value.

**Roberto:** Good. I am not saying those are not important features, but if the system is not well received and there are no downloads, what's the point of having a dashboard? Isn't it enough to have some data compiled in a spreadsheet in a few hours? If I have not built it, there is no need to get return on that investment. If I don't build it, it doesn't delay the roll out, neither do I have to coordinate with third parties. The amount of non-executed tasks has to be maximized.

**Juan:** Maximizing the amount of non-executed tasks when our contracts willingly include thousands of 'and so on'. This has to be carefully reconsidered. We are far too used to wanting more for less. You are suggesting to do as little as possible from the start!

**Roberto:** On the other hand, and thinking about the story of the CRM, can't a group of experts actually propose a fixed selection of products to our app user and see how they work for a couple of months? I don't know. There are things you always need, like milk or eggs. Or even this: Why not make a survey

at the shop and ask our customers which products would they like to buy at the same time as bread, and offer those? A few hours of surveys could save or delay a lot of hours of development of a CRM at the start, license payments or even product selection if it was still unclear to us.

**Juan:** Posed like this I would even buy it. It is hard for me to take failure as a potential outcome of a project, but it is true, thus we would fail less expensively. Now I see that thing of ‘fail fast, fail inexpensively’. We would roll out much faster, and need fewer people. We usually take advantage of those cases to inflate the project’s budget and justify that investment in the CRM system!

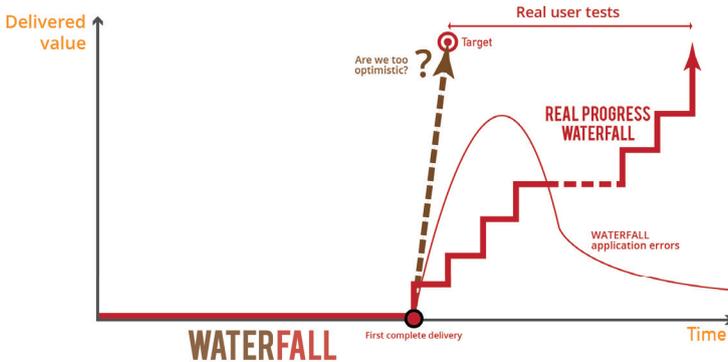
**Roberto:** The true difference between agile methods and traditional ones is that the latter gives more weight to anticipation and planning, and we hope to see the results at the committed date. What happens if when the results are presented after a few weeks or months of work they are not accepted?

**Juan:** Then... a lot is done and a lot has to be changed or discarded. But the Business is normally not available or willing to spend time until the system is relatively stable and complete. Even I prefer it that way! If we show them an incomplete system or something breaks, we screw up.

**Roberto:** That’s because you are forgetting to make them feel like owners and co-designers of the system. You are taking a lot of responsibility when you try to satisfy them without asking them. With the agile model, you build and deliver little portions and little can be wrong.

**Juan:** I know those who have to give an opinion are seldom available, or when the construction is done at the provider’s office, they don’t even know who to call. Or, if the team is junior, they prefer to carry on trying to use common sense.

**Roberto:** Thus resulting in everyone’s frustration and the usual witch hunt thereafter. And who is to blame?



**Juan:** I have already told you that's what contracts are for and that's why we outsource. To delegate risks. The consultancy firm is supposed to be an expert in managing this kind of situations, which should not happen in the first place. But everyone knows they happen all the time. If the team is junior, it is their fault.

**Roberto:** Do you really think that is the case? If the product delivered satisfies neither the Business nor the end customer, whose problem is it? But assuming a tense situation between parties is a lesser evil, cost and time increase for any of them will raise the pressure on the team and so will the error rate, and the quality of the delivered product will go down. More and more pressure.

**Juan:** Well, they will have to work some extra hours to mend it without breaking commitments or we will penalise them.

**Roberto:** More work for the developer. More to do on the fly as 'and so on' contents get added, and more chances to make a mistake, right?

And more margin will the providers have to add to their initial estimations. Or we might assume extra hours are usually not paid in this sector, and it is the developers who pay with their commitment or their fear. Not really ethical or even legal!

**Juan:** Or let the provider accept the fact that they will have losses on this project in order to get the account. They will surely gain it some other way! Even though they will have to fight for it.

**Roberto:** OK then. We play the cheating game, right? It sounds like a perfect place to go to work everyday... Let us change our perspective, once again trying to make the project smaller and more specific from the beginning. Let's try to make even a junior team able to find the right questions at an early stage with little effort, and avoid surprises coming from the 'and so on' that we need to improvise answers for. I suppose that way it would be easier to attain the satisfaction of those defining it.



**Juan:** OK, tell me more about this.

**Roberto:** When we define a project based on stories, the next thing we think about is trying to find the acceptance criteria for each of them, defining a set of tests a user would have to perform in order to be satisfied. Imagine our scenario, for us to consider every story as valid: I, as a user, want to make my order so that I can have the bread in fifteen minutes. What should we test? What would the test sequences be?

**Juan:** So I would say:

I get to the application in which I am registered as a father, I choose a bread loaf, click on 'buy' and it tells me it has been ordered. And it gets delivered within a moment.

The same if I click on the 'add' button to add another one. It confirms two are ordered, and the right number is delivered.

**Roberto:** And can you think of any error test?

**Juan:** Sure. When I get in a single loaf has to appear by default, and it should not allow me to click the 'decrease' button and set the number to zero.

It also has to be an upper limit in case the user orders a truck of bread. The risk has to be limited. This is a question for the Business.

**Roberto:** Notice we have only been talking a while and you already have a simple mechanism to drill down on stories: defining the test is going to help ask the Business the right questions, or at least note points we are not sure about. Come on, try and find an operative failure test. Something that shouldn't happen but still happens.

**Juan:** I have added a bread loaf within the minute lapse I have to modify my order, and I still get one loaf instead of two, but I am charged for two. And I get angry, of course. I could also have ordered regular bread and get ciabatta, or baguette. And I get angry again. It is true that I have just added the possibility that several kinds of bread exist.

**Roberto:** Have you already seen the value of asking questions at early stages without going too low?

**Juan:** It really looks nice. We are defining our tests before starting to develop anything. Sometimes we don't even have any suite of tests when we get the project delivered. That starts a very valuable conversation at a very early stage, without worrying about the underlying technical solution, which will

obviously be a limiting factor. In our example, the kind of bread will have to be chosen somewhere in the app. The mock up model will have to present the option.

Scenario <input type="text"/>						
Case to be tested	Success	Failure	Operating fault	Pre-conditions	Post-conditions	Observations

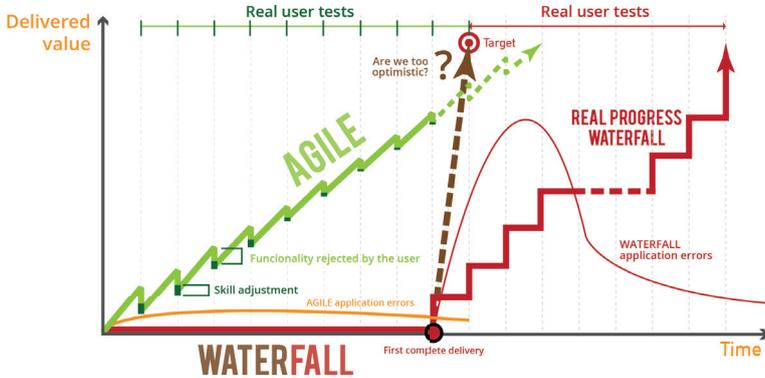
*Potential template to define different kinds of test for each story.*

**Roberto:** The more we guide the Business user to specific questions in the discussion, the easier imagining the system and anticipating its behaviour. I don't know if you have heard about paralysis by analysis before: when you have been thinking for several hours about a project and you don't even know what to ask any more. We avoid it with this story and test model. Now imagine we start building in short cycles, and the user starts seeing all his test scenarios are covered or realises he had forgotten something.

**Juan:** No question they will be far more empathetic with the situation, and will have to evaluate if it gets introduced in this phase or not. In principle, the team should not care about building one or another feature, as their duty is to deliver value.

**Roberto:** That would add a lot of mental stability everywhere, because we co-create. Building in such a way, there would be many occasions to test and detect if any scenario

is missing. The system would be in maintenance mode from time zero, and everyone testing it would progressively acquire functional knowledge. That's a differential value from agile, but could also be done in a classic way with a better initial specification, without going into an awful lot of detail.



**Juan:** Our specifications documents or RFPs could clearly improve a lot if we only wrote them as stories and thought about the tests, even if we then executed them in a classic way. It would even be simpler to have comparable offers from different providers.

**Roberto:** Realising that a detailed specifications document is not actually necessary, is the really important step. A detailed specifications document for a whole project is the most 'anti-lean' concept you can think of.

**Juan:** I am not following. What are you referring to with 'anti-lean'?

**Roberto:** In any process optimisation, there is an aim to limit stock, to make it practically non-existent. For instance, if I manufacture car doors and buy a truck of sheets, I'll need an expensive vehicle, or they can be stolen, and I'll need room to keep them or they can get damaged. Moreover, if I see there are too many, there is a chance that the workers are careless and fail to optimise, right?

**Juan:** Certainly. One tries to reduce the batch size and get it served ‘just in time,’ when they are needed.

**Roberto:** So with a classical charter —full of imprecisions, which takes weeks to define, looking for the one who gives more for less money—, what is the batch size?

**Juan:** In that case, the batch is the whole project, but we could agree on partial deliveries. But then... how would you do it?

**Roberto:** If you started with an initial list of prioritised stories, just the first few detailed with their model and test cases, a competent, united team and the ability to stop the contract at any time if the results are not satisfactory after a few cycles or the value attained is not enough, wouldn’t everything be simpler? You wouldn’t have to drill down too much on the stories or their details beforehand, waiting for everything to be crystal-clear before tendering and bearing its associated administrative burden. The work could start much earlier. A document is not a valid increase in added value by itself, but a task or, at most, a synchronization element. When you are really mature, you will understand it, but I admit there have to be intermediate steps along the way.

**Juan:** This thing of working without an official charter and trusting to validate the delivered value on short cycles would leave us in the position of having to delegate the provider relationship and productivity control to middle management.

**Roberto:** With one exception: using this continuous delivery model, the Business areas will be the ones constantly telling us how satisfied - or not - they are. It is really the team that needs to push to deliver value, to prove themselves valuable. There is no need to push their members to be productive. That management role switches to a different one, a more facilitating and coordinating one.

**Juan:** So how about you? Do you work like this, with no specifications documents or tenders?

**Roberto:** It is really seldom that they trust me on the first day, though there is always someone who does. It is what we end up doing with many customers when we have been working together for a while. Those who mature as an organization and want some parts to be done in a different way early, buy the model, most of all for the visibility and continuous learning. Which judo belt should you be wearing in the organization to understand this model and get it rolling?

**Juan:** I suppose it is early for us and some of our principles and values need to change, for example trust, which is normally the point to start with, as you said. If development was in the hands of internal staff, the investment would probably be better, because of the knowledge accumulation.

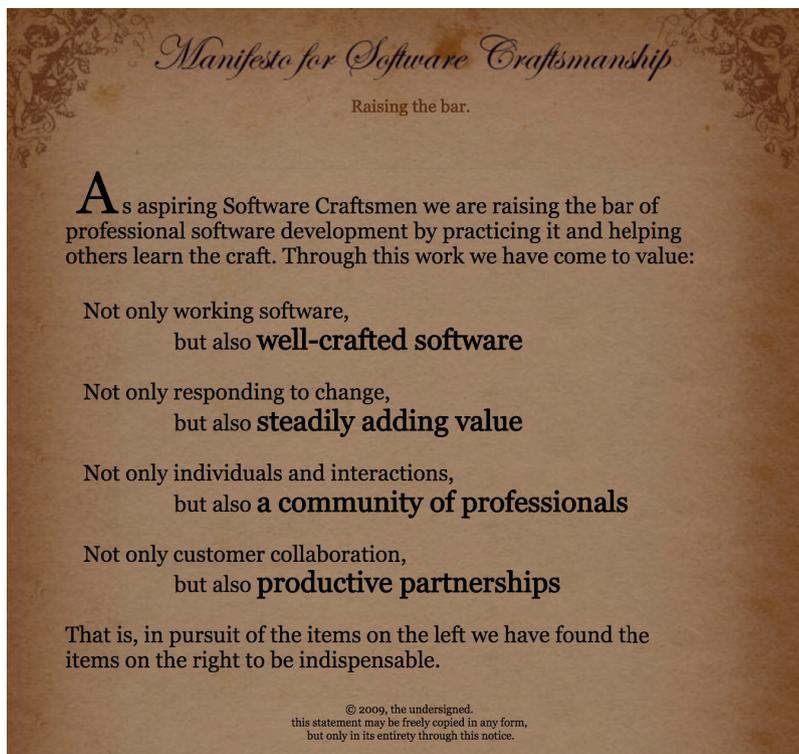
**Roberto:** The longer we keep talking, the more you will realise it is a different mental model: when you have been practising for a while, you will not understand why you did not work like this before, because it has more collateral effects.

**Juan:** For example?

**Roberto:** Working with classic models, what are the chances that a team concentrates on technology rather than features when the next delivery is months away? Getting their geek on and testing everything they always dreamed to apply in a project, many times without knowing how this particular feature will work in production.

**Juan:** Welcome to my life. I give this one something between fifty and eighty percent, depending on how technical or geek the project managers from the provider or from my side are. I can clearly picture the developers devoting the first weeks to improve and learn technology... Damn frameworks! They will surely have asked the Business users almost no questions, because they are way too focused on technology.

**Roberto:** Now we are approaching it in a different way. Having prioritised the stories and improved clarity with the models and test cases, started building and delivering them using extremely short cycles and forced the Business to validate them on the fly, don't you think a good chunk of the problem is getting solved by itself?



<http://manifesto.softwarecraftsmanship.org/#/es>

**Juan:** It looks like the technological research will have to be measured, or we will not make it.

**Roberto:** But remember those technological investments are also necessary. We should avoid creating a big problem by solving a small one. Let's not jump constantly from one end to the other. The investments will, however, have to be worded as

a sort of story or backlog item. A mature team will already have internalised this mechanism, and a junior one will not have a chance to divert.

**Juan:** Ok, now I would hardly be able to tell how much time we devote to technological improvements and how much to new features in a given project. Using this, I might even find a mechanism to do it.

**Roberto:** Besides, as already said, the project is on on-going maintenance from time zero, and hence every feature will be double checked with the Business and tested a number of times. Quality must be tightly integrated with the process to avoid chaos, and the team discipline must be really high. And so, the error rate and the number of non-covered scenarios will plummet, or at least become stable in time.

**Juan:** But this early value delivery can only be achieved by more united or qualified teams than the ones we usually work with here. This has an impact on the cost per hour. Won't the projects be more expensive?

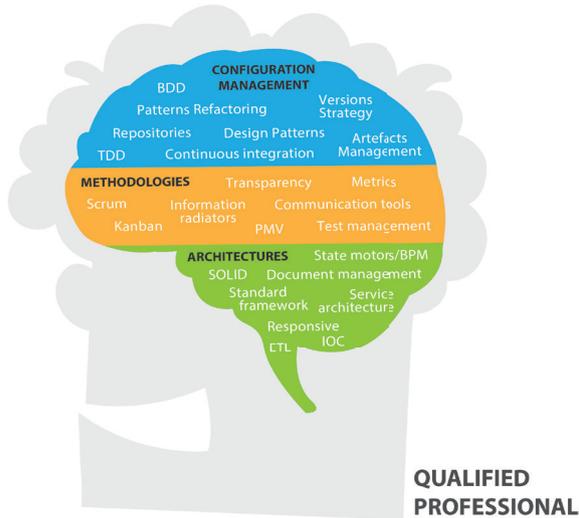
**Roberto:** So... are you trying to tell me that, working with less qualified people, defining the project in a blurrier manner, using a bigger batch size, delivering late and not having the Business users actively participating on the product definition and validation, things will work better?

**Juan:** Hmmmmm. We really should measure it: More cheaper and less qualified people or fewer people who are more qualified.

**Roberto:** This job is all about knowledge. Make sure you measure it right. And also think about the sector you are helping to create. Anything other than high qualification will eventually be moved to cheaper regions, which is no concern in this case as there is always market for quality.

**Juan:** Well, it is true that some providers have decided not to work with us any more, or at least we believe so, as they

have discarded themselves from the new tenders by raising their rates to a level they knew we would never accept. Perhaps their employees saw our company as being sentenced to forced labour. This is forcing us to think about hiring internal staff.



**Roberto.** Surrounding yourself by high level staff and thinking how to create an environment your providers want to work at! You said it, not me.

**Juan:** I reckon it doesn't sound like a bad path to explore. Is that why you said before that we will soon be another competitor for talent?

**Roberto:** In order to answer this question, how can we deliver projects faster? We may well say that, by taking a number of steps (defining a project based on user stories, prioritising based on the value added to the Business, reducing the batch size and hiring qualified professionals who work close to the Business, focusing on delivering what they need and taking constant care of quality), it is indeed very likely that projects are delivered faster. I never said the hourly rate will be lower, but I am certain that the project as such will be way cheaper,

because the customer satisfaction will increase. We are doing what is necessary and there is no need to pay for big delays or thousands of mistakes. You can fail quickly and inexpensively.

**Juan:** It makes sense that making less allows us to actually make more. Giving results in the short term means working with more qualified teams. It is also quite obvious that we need to make the Business feel like the projects are theirs. Defining projects this way seems more accessible to them. This is quite a change to the trend of seeing software development as a commodity service.

**Roberto:** Let me bring the thought back. Do you think the best shops work like you do? Do you think start-ups work like this?

**Juan:** I'm doubtful now. Writing specifications documents this way, based on stories and defining acceptance criteria in an attempt to reduce ambiguity, is far more work for our organization. Who should be in charge of this work? When does it have to be done?

**Roberto:** My dear friend, that's the major challenge we face! You can see that the Business has to accept changing their participation and dedication to the crafting of stories. If we didn't need a specifications document for a tender and for hiring as well, we could simply start very lean with an enumeration of stories and the detail of a few of them. And IT will have to be smart and make it easy for them, even taking care of the wording themselves or paying a third party to help the Business doing it so that they have more resources and training.

**Juan:** Are you then saying that the help they need will be paid for by IT? Wouldn't they have to request it and get the budget for it?

**Roberto:** Every organization is different, but there is something quite common out there: almost everyone struggles with change. In some companies, changes come from Senior

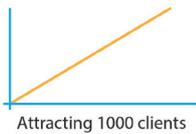
Management and the Business doesn't want to accept them. In some others, it is the Business who promotes change and agile models, and the Board and IT fail to see it. And yet in others, it is IT who starts, while the Business is completely disconnected and does not want by any means to have more people helping define products. Who gets the budget and who gets trained or helped can be different in each case.

**Juan:** Ha, ha, ha... I see how much fun you have. In my case, I think it is Senior Management and the new Digital Transformation area who want it, and the more classic Business area and we (IT) have to adapt. We will see if my team and providers are willing to push for it. I feel, however, that the point of conflict at our level is who will devote time to the Business to write or review the charter, or the list of stories written in a different way.

### 'What's a PO?'

YOUR VARIABLE PAY

NEW PROJECT



What time am I spending in these tasks, if I am not relieved from the others?

**Roberto:** I insist. It would be logical to give a medium sized project a go, and there should be no charter but a list

of prioritised stories and a small, but motivated and dedicated team we can work with. I take yours as a good first approach though. People who define a product usually have many others running with goals to achieve and reports to write. This is usually going into far too much detail for them. Either you release some of their load or this will fail before starting.

**Juan:** So how do we do it, then?

**Roberto:** Let's go down another step, but you'll see we will need a few more staff temporarily again, and the role of an agile coach to 'train and invite everyone' to do what has to be done. I would say that, in many cases, the agile coach writes or works on the stories together with the Business, so that it is easier for everyone and we avoid mixing three different problems: lack of technical knowledge, lack of time and lack of clarity on the definition of responsibilities.

**Juan:** Invite or force? And are you sure an agile coach wants and knows how to do this, or do they just give lectures?

**Roberto:** Ha, ha, ha. This would be food for thought in a lecture about agile methods. The responsibilities of a mentor, a trainer, a consultant and a coach are not that far apart for me. I like leading by example. Doing so and teaching a particular technique to later expand the alternatives and, at the end, step aside to let the teams choose their own methods. Other colleagues prefer making the teams find their own way and organise their own training. A matter of styles.

**Juan:** Defining a project based on stories, thinking of batches rather than complete systems, sorting stories without repeating the same priority twice, reviewing test scenarios, hiring more qualified teams, avoiding claiming for the total cost of the project from the beginning, establishing a relationship with our providers and the Business in a different manner, making exceptions to the purchasing policy, counting on an agile coach to help us solve issues we currently don't know we have... This is going to be fun.

## CHAPTER 4 MANAGING MORE PROJECTS SIMULTANEOUSLY

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**Roberto:** We have already seen how we can put our two cents in the way to Digital Transformation by contributing to the idea generation and stepping out of the organization, and how we can execute projects faster defining the right user stories and prioritising by batches. Now we will try to face managing more project simultaneously. If not now, in a reasonable time range.

**Juan:** Well, that one is easy: hiring more people, directly or indirectly. Tell me how to do it under the current market conditions, where it is already too hard to find and retain staff!! And I am fully aware that our providers struggle with the same.

**Roberto:** It does not only take technicians to make innovations. As you have already noticed, one has to work at two levels simultaneously: Business and IT. When a clear notion of the organization's strategy is not present or does not get communicated down the line, it is completely impossible to get the staff aligned with that strategy. We have to strive to change the relation between the Business and IT; for that purpose, the Business areas have to evolve and open to these same models. We have to increase the capacity of the technical staff as well. More teams, with more cohesion between them.

**Juan:** I was thinking of the part I have control over first:

project managers, analysts, developers and so on. I understand they have to face changes in the Business.

**Roberto:** Yes... and no. We have already talked about organizations flattening! We can consider alternative organizational models. What if we started to think of the Business and IT teams sitting together? It could be a simple tool to ease communication and align objectives. If you look at a start-up, does it not work like this?

**Juan:** Wow! A completely different structure should be planned. Who would these people report to? How would their performance be measured? Where would they physically sit? Because even space is quite limited.

**Roberto:** This is only lunch. Let's let our imagination fly!

**Juan:** OK, OK... I will let you fly a little.

**Roberto:** Let's take the first step: giving a little part of your team such an initiative, regardless of who it depends on. I believe they could still report to you. I am not being radical. It could be a matrix structure. The Business areas would have to do it as well. We are all supposed to be working for the organization's sake!

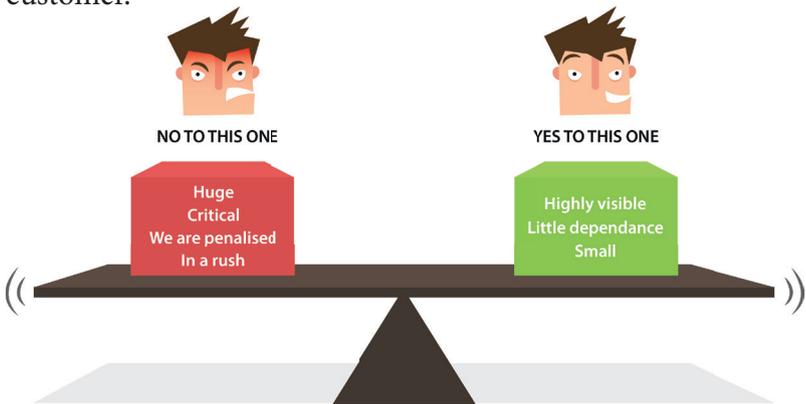
**Juan:** It is very nicely put, but you know there are many power struggles within organizations. The Business gets its bonus for achieving the initiatives they commit to. We are in trouble if we don't deliver. When they lag behind defining or Purchasing does it contracting, the delivery phase is never changed and we need to rush. There is clearly an objective misalignment.

**Roberto:** That's why we need to embrace the notion that optimising only a part of the organization always results in a sub optimisation of the whole. If you give Purchasing a lot of power to bring the prices down, they might buy incorrectly in order to do their job right. If you give the Business a bonus for achieving a few objectives, you are killing IT and Operations. If IT becomes very bureaucratic or looks for ultimate innovation,

every initiative will get stuck. It becomes clear that we need to work aligned.

**Juan:** So, what do you propose we do?

**Roberto:** First, we will create the right conditions. I believe the first step is defining an actual project as we have seen we can, and start working on it this way. Even if it is not something critical for the Business. I mean, imagine there is a regulatory change and we need to build in three months time to avoid a fine. Not that one! If it is something very visual like an mobile app or a new customer facing system. That one! That'd be even better. Thus, we will learn how to prototype and check with the customer.



**Juan:** There are always little developments we are asked to do, like applications for the users to download our product brochures, contracts or invoices.

**Roberto:** That could fit very nicely. It even reduces the documentation deliveries or the number of calls to the call centre, and the value added to the Business could easily be measured as well.

**Juan:** OK to the kind of project to start with. We could use the bread example to continue the conversation.

**Roberto:** Once we have a clear project in mind, a Product Owner will have to be assigned to unify the Business' criteria. In order not to break the initial model too much, a technical manager (or alike) will be appointed to take care of the interaction with the company end to end. Someone has to manage those things. The General Management will get anxious very quickly if they feel they are not being informed as usually.

**Juan:** It is not very different from what we have now. I don't see the improvement!

**Roberto:** Just some minor hues. Let them sit together and commit solely to this project for a while! I would suggest that project manager should be quite a particular person at your organization.

**Juan:** With which skills?

**Roberto:** Someone proactive, energetic and willing to learn. Willing to get home and keep on studying! It is the one who has to acquire the knowledge from the agile coach. They will help the agile coach move across the different areas and try to train and divulge on every occasion.

**Juan:** It doesn't seem like a bad idea. Even if I don't quite see anyone getting home and studying. We might have killed that attitude a long time ago! Anyhow, I have someone in mind...

**Roberto:** Some companies do also create a committee, in which every area is represented for each project. A sort of 'impact team', 'program team', 'New Model team' or alike, so that no one feels left out of the initiative. We will have the first team to train, who will see how they are impacted. These people must represent their departments' interests in the project, and give the product owner a wider view.

**Juan:** Wow... I don't know if that model can work. Does it not happen in other organizations that these people represent their dominant bosses who later on reject what their people accepted? It happens quite a lot here.

**Roberto:** Rules have to be set at the beginning, and with help from the General Management this can indeed work. Having said that, if you give the right power of interaction higher up to the external agile coach, many silly reactions will vanish.

**Juan:** And how do you empower someone?

**Roberto:** When a big boss tells all his subordinates to do what he says, they are seen walking around together and have lunch together every so often... that gives real empowerment!

**Juan:** Does it happen to you often? Being empowered, I mean.

**Roberto:** It does in some organizations and doesn't in others. This helps you diagnose the cruise speed at which the new practice will be rationalized, and how much I will be listened to. If a General Manager of an organization doesn't have a third party to give feedback to about Business and IT alignment, these areas will try to go their own way.

**Juan:** Back again to the personal trainer example! It is sad to see how much you insist on having someone from the outside pushing and forcing the change. Don't you think it could be someone who is already in?

**Roberto:** Well, I have been to many battles and no man is a prophet in his own land. I am telling you, your Project Manager will have to learn, and on the other hand, this is going to cause friction and fatigue. The internal one has to stay after it's all over! The agile coach doesn't need to be so politically correct because they have been hired as a change agent.

**Juan:** Companies sometimes hire a General Manager or HR Manager ad interim, for a while, only to do what it needs to be done without any personal or emotional bond, and then they are kicked out. Thus the new person responsible starts from scratch and with no grudges.

**Roberto:** So this is pretty much the same. Even if the context is different, there will be friction. The Business manager acting as product owner and the project manager will be two key internal people. They will have to push a lot. They will have to digest the new model of project and stories definition, as well as the agile execution model. They have to be willing to get their hands dirty. Too many times I have seen those profiles being used to have someone else do the work and say if they like it or not. They have lost touch for doing the work themselves. That's one of the first tasks we need to get back! Even though they may later have people at their command and stop working themselves again.

**Juan:** And don't you find a lot of resistance? Even I would be lazy about getting down to that level! Walking in my subordinates shoes, it could well be that, being assigned to a single project and forced to do it, would seemed like a step back.

**Roberto:** Don't you think they will get some market technical skills? That will bring their self esteem up. They will see it is not that complex and find a place in the future organization, because it endorses them as lead agents of change.

**Juan:** Seen this way it looks quite all right. We could even do it the other way round. Those chosen first and given this opportunity to learn are the ones who will lead in the future.

**Roberto:** Believe me when I say, people are eager to get their enthusiasm back and work better.

**Juan:** We now have those who will represent the Business and a project manager who, as you say, has to be like a sponge to define our projects (I don't know if past or future), being aware of it. Now what do we do with the technical team?

**Roberto:** The Business team is also expected to be like a sponge. We need some passionate technicians to get the initiative started. We are a subspecies, and even if different kinds exist, those with vocation usually require the same.



**Juan:** Really? What is that in your opinion?

**Roberto:** Having a secure environment, some autonomy, understanding the value of what they do, the feeling of constant learning, of quality work, of being amongst colleagues and being valued for their contribution. How do you do all this? Notice that I am not talking about money here. As you know, it is important but I don't think it is the key factor. There will obviously be no motivation if they can't pay their mortgages.

**Juan:** Well. We could probably improve it. We normally have specialists for each functional area, such as analysts, technicians and architects, who have been there for many years. The analysts know the applications better than the Business users, who are usually not aware of the impact of their requests on other systems. The only problem is that they no longer do anything directly. They dispatch to our providers, with the exception of a few little groups who still write code. We possibly ask for more information than we later pass down the line. The

environment is secure. No one gets fired here... they leave on their own. We would have to take a look at the quality bit, and with regards to evaluation, there is an annual review.

**Roberto:** A certain rotation is usually not bad. I mean having people coming and leaving. The bad news come when it happens too often or your organization ends up being a luxury retreat where people are only searching for security. If you don't foster an attractive environment, the best professionals will soon be gone.

**Juan:** And how are we supposed to manage growing on teams? Specially without the cost running out of control. Moreover, as we have been sued by subcontractors for illegal yield of employees, we have to make sure we create boundaries between staff and externals, which is causing long-term employees a lot of issues. I know you are going to tell me I always end up on the same matter: money and how to buy.

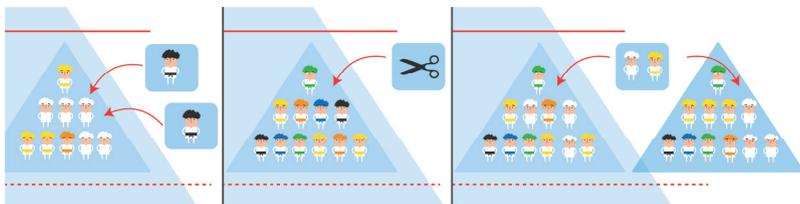
**Roberto:** Let's go step by step. If you never train and suddenly you need to run, perhaps because a dog is running after you, what would you think?

**Juan:** That I should have trained? Are you telling me we need to plan for it in advance?

**Roberto:** For you organization to be able to execute more projects simultaneously, you have to invest in it, and in getting ready. First of all, you have to identify a team that works well: better if it is one already with a good degree of collaboration between the Business and IT. Then, we can improve it with people focusing on consolidating the training and a set of practices, and after a few weeks, split the team into two, strengthening both teams again with new and motivated members. After a short while, you will have more capacity. We feed a cell and cause mitosis.

**Juan:** I am quite surprised. I understand the developers know how to do their job. They have been doing it for years.

**Roberto:** I'll go back to the judo belts. If you are used to working with green belts who you constantly press, you probably don't understand what some well trained black belts can offer. But don't you worry. I will explain it to you.



**Juan:** So the teams to be promoted... Will they be formed by internal or external people?

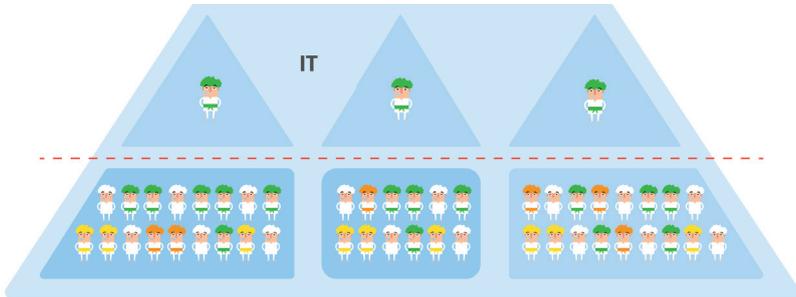
**Roberto:** It makes no difference if it's one or the other, because a team is a team. Besides, there are things which we will not be able to do anything about in the short term. We will have to work with what we have.

**Juan:** And what about the employee loan?

**Roberto:** If you hire the externals for a single project or defined service, you are already observing the legal, purchasing or HR constraints. It is quite clear here. However, you should possibly need to think if technology is a competitive advantage on its own. You may want to empower the high level internal staff to whom the generated knowledge should be transferred. Or at least ensure providers continuity within the same project, treating them as true technology partners, so that there is also people continuity in different projects and that company's staff want to work on your projects. If you fail to provide a satisfactory environment to the external technicians, they will leave your providers.

**Juan:** I don't get it. We have focused only on three large providers in order to try and create this partnership.

**Roberto:** Yeah... I bet that's the case! What you have tried to do is simplify your hiring processes and achieve rate homogeneity. Are you not blackmailing your suppliers by ignoring their estimations and forcing them to accept rebates under the threat of giving the projects to someone else?



**Juan:** Of course we do! Thus we promote competency. And we try to get more for less.

**Roberto:** And how is that going for you? I can tell you... Let's see if I am not wrong: loss of knowledge in the organization, complete dependency on a little group of people from the provider that act as interface, lack of quality, as we focus merely on productivity, inability to determine who is really working for us at a given moment, because it is a service, etc.

**Juan:** Well... with some hues.

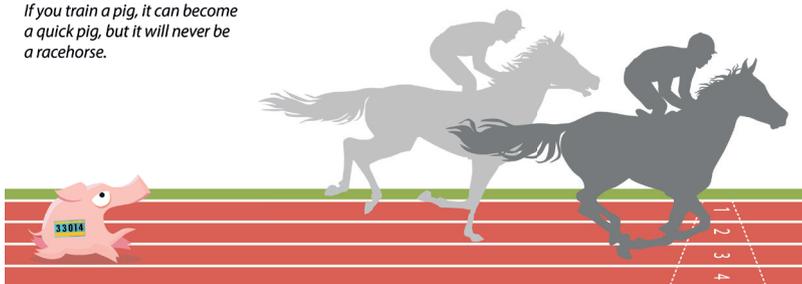
**Roberto:** Remember Einstein's quote: If you want different results...

**Juan:** ...don't do things the same way. Not that we are in a good position for the internal staff to gain importance or responsibility. A lot of competent people have left lately: the market is way more dynamic. Is it worth investing in recycling people or should we rather bring new staff?

**Roberto:** Then you admit that retaking part of the control and knowledge to your technical teams is essential: getting

down to the detail. Don't be PowerPoint presentations experts any more!

*If you train a pig, it can become a quick pig, but it will never be a racehorse.*



**Juan:** But this has been the market trend for years. I myself feel more comfortable delegating this responsibility to someone else, who's considered to be an expert. Even the group puts pressure from Europe to hire global providers! I think what you are proposing is way too misaligned with our current strategy and the market trends.

**Roberto:** Ha, ha, ha. When you get information about the market activity, what are your information channels? If you only speak to people over fifty, coming from the consultancy world which they have left before getting their hands dirty, what do you think they will value most? Now, if you get closer to the innovation world, start-ups and the companies of the future... I would like you to think of the list of the richest people in the world for a minute. Tell me whether they are consultants dismissing basic work and quality on each piece, or they go down to the workshop and could be hands-on if they wanted to. Think of Zara, Google, Tesla and the people who run them.

**Juan:** I am going to take a look at those people's biographies out of curiosity.

**Roberto:** Some good technicians of your staff may still be recoverable and get enthusiastic about the idea. They can recycle soon with these external help we are talking about.

**Juan:** So you are asking to request the approval of an investment to get us ready to do what we already do in a better way, without providing any additional value to the Business? Is that really something anyone has bought? We measure the RIO of everything around here, and I would not know how to present this.

**Roberto:** I am sure quality and speed will be increased in just a few days. In this case, I propose you increase discipline of a single team, with experts and without decreasing productivity, so that we get ready to face new initiatives guaranteeing quality in the short term (just weeks), maintaining control and making the organization more attractive to catch external talent. Give it a name in English and you will see how they buy it!

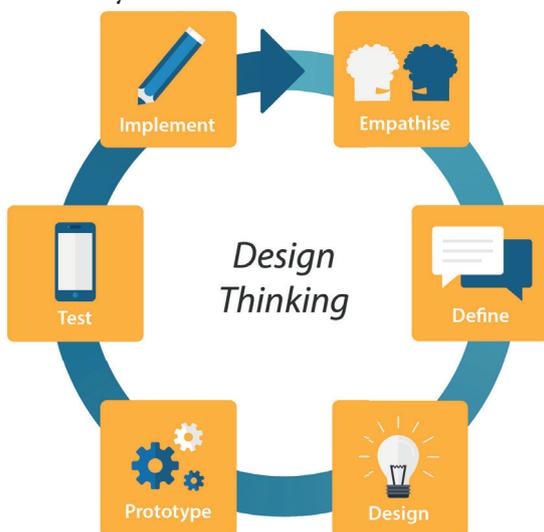
**Juan:** But when you say strengthening the team. Which level are you talking about? For which projects?

**Roberto:** Look, I believe you have to differentiate between various kinds of projects and services. If your system's kernel has been there for thirty years and its evolution and corrections are outsourced, I would leave it like this for now. But if you are about to face Digital Transformation challenges, I would like to keep control and knowledge internal, or at least a chunk or just during the first projects. The same concepts we discussed about failing fast and inexpensively, and the design thinking techniques can be applied here to market technologies and methodologies.

**Juan:** Lord! You finally recommend leaving something as it is! That would also be nice for the Board to hear!

**Roberto:** The message that you are going through a transformation and defining a new technological model can be very attractive for competent people to join you and stay for a few years. We will see then. I can already advance that, when you change your dynamics in the new projects facing the customer (what we usually call front end), it is going to be necessary to get the traditional side (which we call back end)

behaviours aligned. Obviously you might also want to review categories, salaries, etc. or you will catch or retain little. And of course, at due time you will have to let those individuals struggling with the new models go. Even those you consider essential nowadays.



**Juan:** Changing the salary structures? I don't see how a technician making more money than their manager or leader would ever be accepted. Letting people go?

**Roberto:** Modifying salaries is not going to be an option: it is really about supply and demand. The market is exploding when it comes to specialized profiles. Europe cannot cope with the demand of professionals and is taking many in, or even buying complete companies to hire them for remote services. Letting go is not a bad thing. Or you have ever heard about a football team whose players never changed teams? I reckon the new coach will come with a new strategy and expect a new discipline.

**Juan:** So we have said that we hire people to strengthen our current team, thus gaining technical capacity and discipline.

The product owner, helped by so-called impact team, starts playing the creative process at the design camp and defining the project based on prioritised stories initially mentored by the agile coach. Simultaneously, we can start defining test scenarios and models under UX criteria, setting up the execution team by splitting the strengthened technical one and adding some new highly skilled people to the resulting two. I suppose the teams can be strengthened using lower profile people later on, when the practices are consolidated, so that the process can be replicated. Is that correct? The project manager will have a corporate view of this role, and the duty to make sure the project is not only about the technical side, but also that it adds an end-to-end view from the definition to the roll-out, training and operation.

**Roberto:** I would add a scrum master to help the technical team on their way towards learning and implementing the daily methodological dynamics. The technical team can also start taming the infrastructure and getting engaged with each other. And also breaking the big resistance that they will surely find within your own technical area when they try to roll a system out to production in a much faster cycle, or when they rely on tasks to be performed by teams from the old provider army, ruled by their contracts and SLAs.

**Juan:** What do you mean by engaging with each other? And once again the damned SLAs...

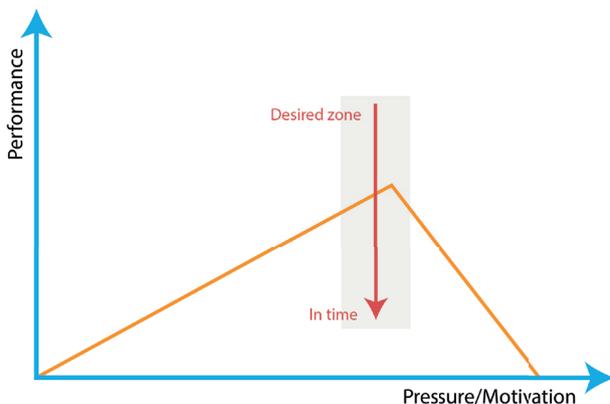
**Roberto:** The most efficient teams are those who are highly autonomous and feel accountable for what they do. It is no longer such a hierarchical relationship: they need to give their very best. That doesn't happen overnight.

**Juan:** But that's quite like bravery at war. A professional is supposed to give their very best during their working hours.

**Roberto:** Do you really believe what you just said?

**Juan:** Well, it is true that intellectual professions are a bit more complex. Motivation and training are indeed linked to each other. I would even say it is the same in every profession. I can press the masons if they are not motivated, but they will always put less bricks than if they were.

**Roberto:** There's a model by Bruce Tuckman that details the phases of growth are the following: forming, storming, norming and performing. A few more have been added to it lately. It seems clear that you have to form a team and break its bosses' paternalism and dependencies first. Then let them find their way and relationships, and after that, you have to formalize the rules. You should lastly share the vision and objectives, giving a high degree of autonomy. This is how high performance initiatives will be set-up. We should move from a hierarchical model to a flatter one.



**Juan:** And which capabilities or roles should the team members have?

**Roberto:** Think of a cycling team. It needs to have every capability to carry on with the task. They are not all the same, but all together they have all the necessary skills. Without the one who goes to get the water, the leader can never win. Nei-

ther with no gregarious ones preventing attacks, nutritionists or physiotherapists who are nearly not seen or even work part-time. They are a team.

**Juan:** OK, but how about our application development team specifically? What do we need?



*Own picture: Tour de France 2016 by Roberto Canales.*

**Roberto:** Someone who focuses on functional knowledge and on detailing stories, UX and design people to define good interactions and attractive screens, developers, architects to be technical reference, testers, database or experts in specific tools... Some of these roles don't have to be 100% dedicated to the project, though I would say it would be good to have them full time initially. It would be essential to have a scrum master to make sure good practices are not quickly distorted.

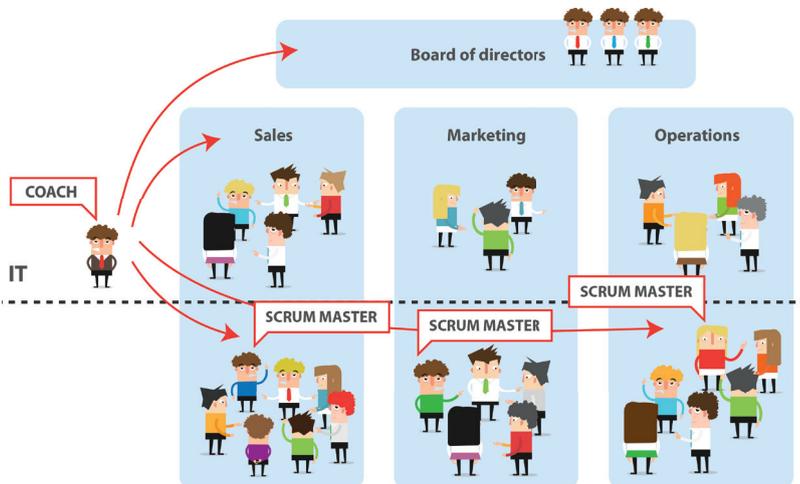
**Juan:** And what's the difference between an agile coach and a scrum master?

**Roberto:** Keep in mind I am using those terms mostly because they are widely accepted at the corporate level. It is easy to sell and start the change. I am not really assigning the roles a specific methodology or book dictates.

**Juan:** Got it. So every organization is different, and I understand, each person is able to deliver a specific value.

**Roberto:** From my perspective, there is an overlap. The scrum master is a member of the team in charge of training and facilitating the execution of the dynamics as defined by the team itself, and takes care of removing the pitfalls, so that the team can deliver the highest value within the project. The agile coach has to be mostly concerned about the corporate implementation of the model, making sure that there is homogeneity between teams, that cross-team practices are not forgotten about due to short-term-oriented attempts to deliver a project, and once again to avoid the search of short term value additions that might compromise evolution. They can be the same person initially, if you start with a single team, but I believe each role requires different skills.

**Juan:** For example?



**Roberto:** The scrum master is usually a full-time short-term position (only for a few weeks or months), and leaves when the team digests the methodology, unless the project's or the organization's complexity is really high. After that, a senior team should take this responsibility. If the responsible person has a good technical knowledge, they can also help the team assuming more technical processes and practices, generally named XP or eXtreme Programming. These questions are highly related with the 'Quality built into the process'.

**Juan:** And what about the agile coach?

**Roberto:** The agile coach needs more self-confidence, proactivity and empathy to swim across all the organization levels with no hesitation. It takes more experience and ambition. When you talk to the General Management with a too idealistic and technical perspective, you may not connect with your audience. Here you have a simple example. If I tell my customers' executives that a businessman who lectures at a business school is going to give them a speech, they might attend. If I tell them an engineer is going to show them the basics of a methodology, you can be sure they will not show up.

**Juan:** I think I see what you mean. People at a certain level choose very carefully where to go and who to meet. I see many companies offer scrum masters body shopping. What do you think about this?

**Roberto:** It can be interesting for a team's first phase, if the approach is only methodological. If that person is also a good engineer, they can linger together for longer. Be it as it may, one of the core values of the scrum master and the agile coach is their ability to make themselves dispensable to the organization who hires them. The model changes when you have many teams in an organization. The collaboration can then take months or years, as you are not helping a single team but many. Let's hope the internal staff or the provider take these roles.

**Juan:** I am not sure whether the values of the methodology will not run into conflict with the interest of the service managers and commercial staff, who sell body shopping of scrum masters. Make themselves dispensable? That's a good one!

**Roberto:** You can also force it. When we deploy agile methodologies in companies, more and more often we do something very simple and valued by the management: quantifying the adoption of agile methods, thus forcing this autonomy to be transferred.

**Juan:** Quantifying the adoption of agile methods sounds good. How is that made?

**Roberto:** We step into a team and work with them for a few weeks. Then we all agree on the practices to follow and create a checklist of ten points that every team should follow. The scrum master or the agile coach go from team to team, and measure to what extent the practices are applied, and how homogeneous their use is in the organization. We turn what was subjective into quantitative measures.

**Juan:** As which practices for instance?

Practices to homogenise	1	2	3	4
Stories are written by the PO in their language				
Cycles are kept constant during the project, preferably in 2 weeks				
Visual panels are used: product backlog / stories by sprint / speed				
Planning meeting have the stories prepared				
Stories are estimated by related points				
Retrospectives are made regularly				
Functional tests are ruled and automatized				
They are designed / developed with TDD				
Daily meeting are organised at a specific time and based on a task				
Demo guides are developed				

**Roberto:** The stories should be written by the Business or in their own language, and explained to the team; the acceptance criteria should be well defined and the team should meet every day to present the progress; in order to simplify the product

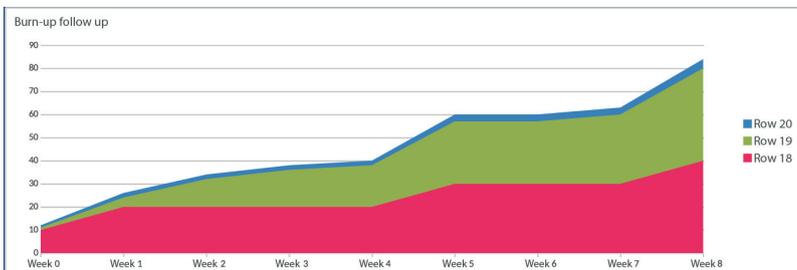
owner's job, guidelines should be created to make the presentation at the end of each sprint; and visual panels should be in use to sort the work and visualize progress, amongst other technical details.

**Juan:** Establishing some common practices and following up their application, we may even create charts with each team's contribution. But I reckon that not all practices will be applicable to every team.

**Roberto:** Remember the judo belts. First, let them follow the practices till they get automated; then, they will develop their own style. Questioning the value added by a certain practice would even be a sign of the good adoption of agile methods. I wouldn't give many options in the beginning though... I am well aware that it's not fully in line with the principles of self management that we want to consolidate; I am only suggesting an intermediate step.

**Juan:** You convinced me! This quantification mechanism could even be used to measure the adoption of many other practices in the company.

**Roberto:** Measuring is not so complex, if you have imagination, and it generates value. Otherwise, you might end up only with numbers. And remember these last comment. It is of paramount importance: don't end up only with numbers! The system will soon be corrupted to make the figures be nice and neat.



**Juan:** So then, you say that, on the one hand, we need to define the project with representatives from all areas; on the other hand, we also need to develop the technical team, who has to set-up the infrastructure and implement homogeneously the practices coming out of the methodology and XP. What do you mean with this?

**Roberto:** That thing about extreme programming, and XP, and quality can be discussed later.

**Juan:** Sure, but you have already sidestepped a number of points. Though it definitely could be too much detail for now. At least, tell me: how do we manage the project when we have two cruise speeds? I mean, a new team needs to collaborate with suppliers who work at a different pace, mostly on traditional and critical systems. Those related to the SLAs.

**Roberto:** Such cases happen in almost every organization. The legacy systems, which are usually perceived as those bringing food home, go at their own pace; for example, with quarterly roll-outs and urgent patches. Now we are talking about building innovative systems with a roll-out every two or three weeks, but able to put things in production within a few hours. How would you solve it?

**Juan:** I guess that, provided an agreement on the interfaces is reached, including what is send and received, both parties could be aligned around synchronised delivery cycles on pre-defined dates.

**Roberto:** Change aversion is normally fed by fear. Everything can be transformed with patience, focus and experts.

**Juan:** Being specific. How can we get to do it?

**Roberto:** Let's think about stories. Imagine you define every success and fail scenario in which you call such systems during the agile construction. They work as a black box and you establish that a mock up is created, which, during the first week, returns the value expected for every call. That would theoretically set the

basis for the integration. If you additionally create automated test systems for those scenarios that we already have from the very beginning, you will have the ability to check whether the results keep being the right ones while the mock-up data gets replaced by real data with nearly no effort.

**Juan:** Automated test systems and asking the teams who work following a classical approach to make only a little part. Sounds well...

**Roberto:** This is part of the XP techniques: testing continuously and automatically. Imagine that you accepted to pay your provider a bit more if they manage to delivery parts earlier. As an incentive. Do you think people would argue much?

**Juan:** But that's overcosts once again. That's intervening in already closed contracts!

**Roberto:** It is only an idea... What's going on here? Are we lazy even about looking at alternatives? You cannot win every battle, and this could really be peanuts. I mean, financially irrelevant and in favour of the new model.

**Juan:** Well... we could look at it twice, but I don't quite see it. I could try and see how they react.

**Roberto:** But listen. Are you telling me that you are scared about telling your providers? Should they not be the ones apologising for not making it easy for you? They are lately sponsoring events about these models...

**Juan:** Yes. What I am really scared of is getting a positive response, and then see no change.

**Roberto:** Well... they are also interested in this change. At least in the medium term. Besides, if you empower the agile coach to go down to the detail and inform you, you would have a qualified third party pushing for you. Summarizing, this line points out at:

An organization can start working based on an actual project, not too critical, but appealing.

It has to find a team that works properly, and help them gain knowledge, homogeneity and discipline.

An impact team can be created in order to define the project, to coordinate the other areas at the organization, and to take responsibility.

This team should correctly prioritise stories. They should insist on actual use cases, and think that the system is already built and working on its potential tests.

The 'vitaminised team' can be decomposed by mitosis, creating a new enhanced one, which will be given some time to adapt and start breaking resistance in the organization.

And all this is made to achieve quick success that we can leverage to extend and scale the practices in the organization.

With expert team members and a scrum master, we could develop the teams positively, hence improving their practices and working the pitfalls out.

With a confident and resolved agile coach, we could impact the organization, making the business areas start defining projects this way, regardless of the way they are to be executed.

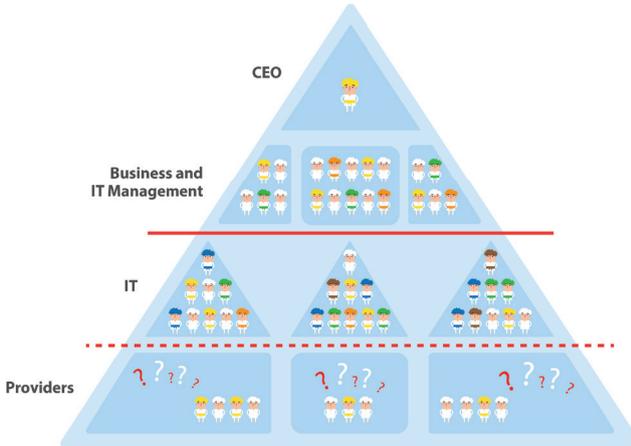
We can create simple tables or checklists as a methodological reference for the qualitative follow-up of the model implementation.

This way, a new culture of change will be perceived as a possibility to reactivate the hibernated internal staff, and attract new actors to the organization.

And it would be progressing judo belt by judo belt. IT would jump from blue to brown, and the Business would consolidate their methodology knowledge, and become an agent of change.

**Juan:** Imagine that we do all this only to see how these 'vitaminised people' leave us later on. We would have invested on training staff for our competitors, because they leave due to our inability to meet their expectations for growth or salaries, and take the opportunities the market offers.

**Roberto:** Is it then preferable not to develop and activate people? Someone said that the only worse thing than training people and seeing them go, is not training them and seeing they stay.



**Juan:** Ha, ha, ha. I presume... Einstein?

**Roberto:** Henry Ford, but it works the same. You have to understand that they don't leave their companies. They leave their bosses, partners and day-to-day boredom. A good salary helps to get and retain talent, but only temporarily. And that is what we sometimes need: a good push.

**Juan:** So we have added to the wish lists: improving the teams working on actual projects to be able to split them, bringing IT and Business groups closer to each other, choosing the right project, creating an impact team to represent the areas, empowering the future role of an internal agile coach, having a scrum master accompanying the team and finding our own ones, negotiating with our suppliers their direct and indirect participation in the new model, defining the dynamics to be extended across the organization and measuring the implementation of the model. Piece of cake!

**Roberto:** Your traditional providers could be able to surprise you in a positive way! Look the bright and selfish side when it comes to facing all those changes: who will be more attractive to the market in five years time — the manager who tried this path, or that who has been twenty years doing the same thing? If you start now, it is very likely that you are a CIO of the future, rather than one of the past one in two years time. The organization will have matured and you will have a much richer experimentation field.



## CHAPTER 5

# IMPROVING PROJECT QUALITY

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**Juan:** And what can you recommend in order to face projects with quality?

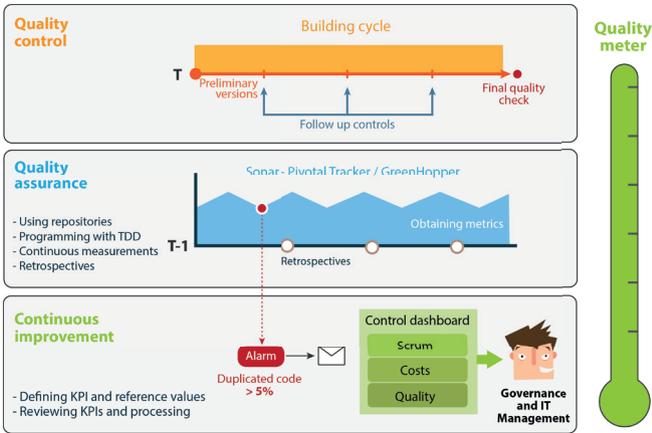
**Roberto:** First, we need to clarify a few concepts regarding quality, such as quality control, quality planning and quality assurance. Deming talked about intrinsic quality, and about not being dependant on massive inspection.

**Juan:** That sounds like classical project management.

**Roberto:** Sure it does. Acquiring new knowledge doesn't always mean throwing all you knew away. Let me use an example: if you assign a six-months development to an internal team in a consulting firm, and you look at quality only the day of the production roll-out, what can you do in the event that there is something wrong?

**Juan:** I send it back to the provider until it meets the expected criteria.

**Roberto:** Not even you believe this! Come on! The Business has organized the launch with external agents; there are marketing campaigns and brochures containing time ranges for promotions, advertising spaces, commercial staff training, etc. And you tell them that you will not go to production, because the source code quality is not acceptable, and the supportability is low.



**Juan:** Well... we might have to take it as it is, but they sure will have to fix it later!

**Roberto:** OK, but covered by the guarantee or through a maintenance contract?

**Juan:** I am not quite sure. We normally don't look at quality at that level, and link projects with maintenance contracts.

**Roberto:** Would it not be better to review the quality of what has been built the first month? Working this way, if the technical expectations are not met from day one, there is not so much made to be fixed, right?

**Juan:** OK then. So now you are telling me that I have to micromanage even the lines of code, because people are not professional and don't work like they should.

**Roberto:** Being politically incorrect, I would perhaps say: 'Well, if you still believe in fairies...' Or whatever you prefer: halflings, gnomes, etc. If you work with teams who are stable and motivated by the job, I bet you will not have many problems; however, I would like to see how aware they are of this question. Is it always the case?

**Juan:** I can tell you it is not right now. I would even say most of the projects are delayed from the contracting phase. I also suspect there are too many junior staff.

**Roberto:** Anyhow, establishing periodic controls on every strategic project from early stages, you will only confirm that everything is all right and discover early when it is not. What's the loss?

**Juan:** Obviously, the resources devoted to it. But, haven't you just said that we should not depend on massive inspection?

**Roberto:** There's a whole journey from never doing it to doing it massively. Remember that one of the quality principles is that someone building something with production performance in mind cannot be the same who tests its quality, focusing on finding as many errors as possible.



**Juan:** When I sign a contract, I take the existence of the right teams and people at the supplier for granted.

**Roberto:** Also when it is your teams who do it?

**Juan:** Well... we might be a bit more relaxed when that's the case.

**Roberto:** Why is that?

**Juan:** I would need to get into historical or politically incorrect questions, and I don't like putting my organization down.

**Roberto:** We may touch the second concept then: quality planning. If you hire me to execute a project, and a few days before delivery you warn me that you are going to make a quality audit about a few points I was not aware of, we will all have a problem. I reckon that, before starting, you should give me a set or rules that will not be changing afterwards.

**Juan:** Well, that depends. I assume quality is quality. And we also have dozens of pages with technical requirements in our contracts. It is also true that those clauses may not get down to this level of detail.

**Roberto:** So, when do you understand an application has the right quality?

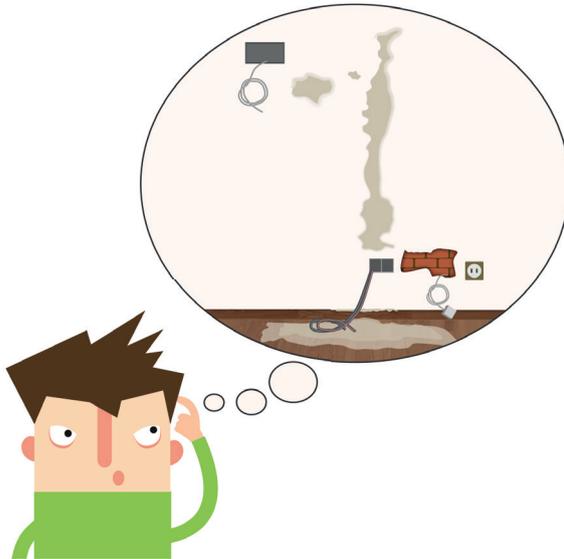
**Juan:** If a system has a low number of defects, it is presumed to have the right quality. Or at least that's how we defined it in our SLAs.

**Roberto:** Well... I would say it barely looks like quality. Imagine you buy a house with beautifully straight and nicely finished walls.

**Juan:** Well, only that would already be science fiction. If I showed you pics of my place when we tried to get the textured coating out, you would be flabbergasted.

**Roberto:** So you endorse my point about universal quality and professionalism. Now imagine that the plastic tubes inside the wall are so bended that the cable doesn't fit within, and in a year you try to add a new one (say optic fibre), which would work but couldn't be bended. What would you have to do?

**Juan:** Well... a new groove I guess. But I am fully convinced that it is covered by the ten years guarantee in case of hidden defects houses come with.



**Roberto:** OK, but you are the one who has to complain, go through the works, dust and so on. It is you, right? So the same happens with software. Well, except that it is way more likely that the tubes are not set right!

**Juan:** But it has been some years since we don't build software. We might not even have the right criteria to determine whether it is well built. Neither we have resources to go down to that level of detail.

**Roberto:** I am glad you say that. I would think about it a bit because, as time goes by, you will get farther apart from the code, and have less ability to assess quality. It can always be done by a third party! Be it as it may, there are quality measurement tools that basically tell you quite objectively and based on standard rules if your developments are well or badly done. At least to an extent.

**Juan:** And which parameters should we measure?

**Roberto:** There are four basic metrics. One is the amount of duplicated code. If a developer copies and pastes code blocks, they will have to remember where they are when the module has to be modified to reproduce the change. Imagine we are calculating the price of a product in ten different parts of the code.



**Juan:** It could be a maintainability disaster. And if there is rotation in your team, they are lazy, or the module remains untouched for years, nobody will remember about it and errors will occur. Even more, it is nearly sure that we will not notice until we get a complaint from a customer, because we will think it gets calculated the same everywhere, and only one occurrence will get tested.

**Roberto:** I could say the same about automated code generators or any tool which magically translate code from one language to another.

**Juan:** I should better not talk about that or we would be in trouble...

**Roberto:** The most surprising fact is that many organizations still measure quality based on the number of lines of code a project has, or are even proud of having a two-million-lines project, as if it were something good. The less you write, the less you need to maintain.

**Juan:** This question of duplicated code is happening, and can get worse at any time.

**Roberto:** That's why we need to talk about quality assurance measurements, even if there are other metrics. We have to train the developers in quality code writing fundamentals that are given for granted! I mean, we have to redefine the way we currently work on a daily basis, to guarantee that quality is embedded in the process. One of those quality assurance mechanism is what we call 'continuous integration'. If every time a developer retrieves code from a common point or repository and puts it back, it gets detected, extracted, compiled, packaged, and rolled out in a test environment by the system, and its quality is measured, you can have an alarm notifying that value is degraded.

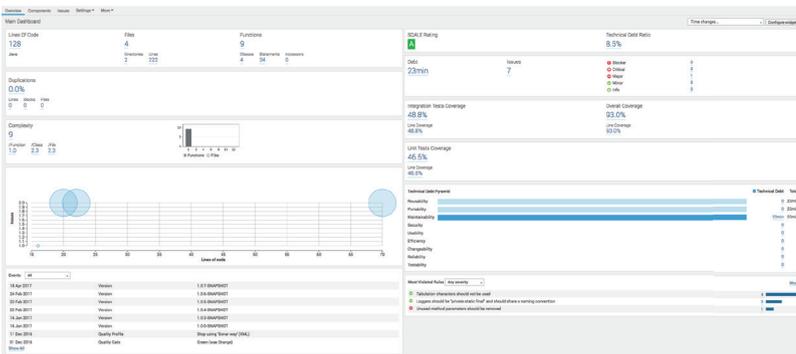
**Juan:** But the code is in hands of the providers. And I have already told you that we are even more relaxed with the little we still do ourselves.

**Roberto:** You simply have to ask for this information the following month. Someone will magically see how it is got, analyse the figures it gives, and fix it if it is really embarrassing for them, or drag their feet a bit to present a more decent value. Moreover, if we are talking about continuous integration, we are also discussing a continuous chart that these tools provide and could be accessed at any time.

**Juan:** But If we have never focused on quality and now I tell my providers I am going to be looking at it, we might lose productivity and make them nervous. Productivity could even be ruined by having the developers correcting what's wrong

(even if it is not causing incidents), but not adding value to the Business.

**Roberto:** Indeed. Here's where a concept known as 'technical debt' appears. I mean, what they are building has a few quantifiable deficiencies. The tools can even tell you the number of days it would take to get it right. It could be years in many cases... It is not even worth to face this debt without thinking about it carefully beforehand.



*Example of a panel generated by SorarQube for a well written application.*

**Juan:** But, is that so important? We have lived without it for years!

**Roberto:** Everything is questionable, but let me ask you a question. How many times do you add a cable to a wall at home?

**Juan:** Never or hardly ever.

**Roberto:** How often do you change your software?

**Juan:** Every month in some cases. Not much in others.

**Roberto:** That should answer your question... You should pay more attention to those elements that are more critical to your business or that you know that will change often.

**Juan:** But I don't understand. Shouldn't the provider be concerned about this, and try to ensure their software is always high class, or at least not too bad?

**Roberto:** A small question. Imagine you assign a bunch of millions in contracts every three years to a provider, but chances are high that you change to a cheaper provider who makes the same commitments. Do you think they will focus on producing the maximum for a minimum price, and let the problems be solved by the next one coming? Even more, wouldn't it be convenient for the provider to make things difficult, not very well documented and dependant on a few key people? And is that not a consequence of your model?

**Juan:** This chat we are having is somewhat frustrating to me. Most of all, because I am not even sure if my team is looking at that level. I don't know if the contract gives us the right to access the code and the metrics. I'll take note to ask my people.

**Roberto:** Well... being willing to know the status of this and other parameters of your projects is already something. You may even be surprised, but unfortunately most of the projects we audit are quite improvable. We find creditable exceptions though.

**Juan:** You have told me about a metric: duplicated code. What are the others?

**Roberto:** I think the most important are: critical errors detected by the tool, cyclomatic complexity and amount of code that is tested automatically.

**Juan:** Can you depict it in a bit of detail?

**Roberto:** Critical errors are failures or potential failures detected by the tool and rated by its criticality. It tells us, for instance, that some pieces of code can cause errors of occurrence. They will never get executed because the conditions are not correctly set or will block resources. Example: they talk about it on TV when someone asks for information and gets someone

else's. It is likely to be a little occurrence error, but with a very high visibility. There are thousands of similar errors with nearly no relevance, that drives the technicians crazy in support departments, as they are unable to reproduce the customers incidents.



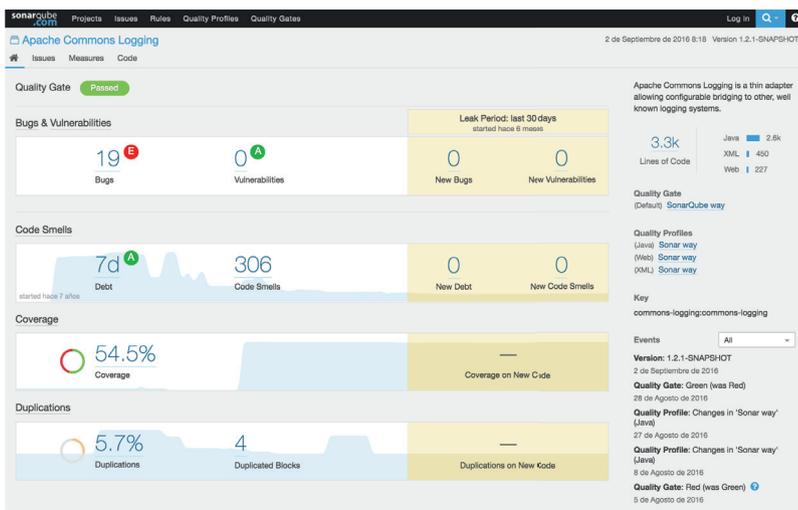
**Juan:** It sounds very familiar. Do you find this in any project?

**Roberto:** Whenever there is no one watching the project. Even in those cases it can be overlooked. It is like computer security: a very complex subject that deserves attention when developing.

**Juan:** And what about cyclomatic complexity?

**Roberto:** That's relatively easy to understand. Imagine you have a piece of code or a function with a thousand lines and twenty seven places to flow across, depending on the existing conditions. Is that easy or hard to test?

**Juan:** Well, it looks complicated. Many combinations or permutations.



*SonarQube result of a public project with Apache Commons Logging.*

**Roberto:** That's it. Look, I always say writing software is not complicated, but making sure it works is. For each hour a team devotes to writing and changing something, someone has to test it and make sure nothing else got broken. The issue is to remember every condition that has to occur in the system and the values you need to use in order to test all those alternatives.

**Juan:** But that would make the software very expensive and would force the existence of dedicated test teams in order to make sure that the software worked fine after making changes.

**Roberto:** Ah... don't you have them then? Anyway, you are talking about quality controls again, and I am now speaking about assurance. Imagine that every time a developer had to make a program, first they wrote another one to test it.

**Juan:** Wait, wait. I don't understand you.

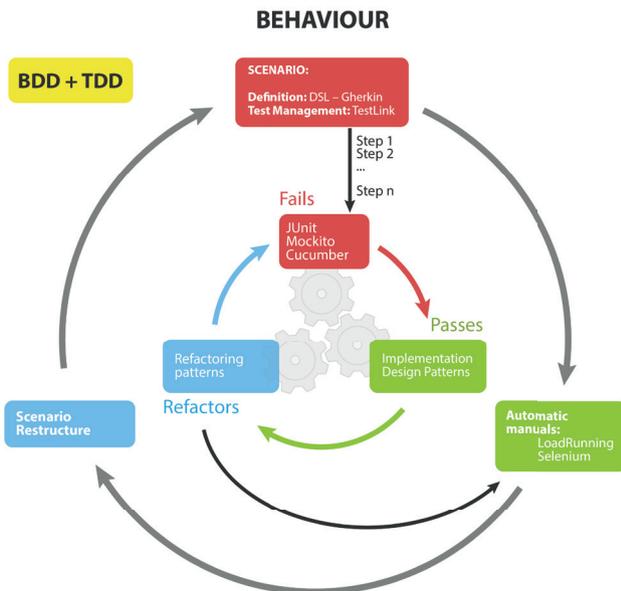
**Roberto:** OK. Imagine we want a function that sums. We might make a test program named ‘test\_addition’. Add two to three and make sure the result is five, even before writing the addition function. It wouldn’t be a complex program, right?

**Juan:** I suppose not.

**Roberto:** Then that person would have to define from the test how this function is to be called, which parameters will have to be passed, and what error values it can return. Even to check all those conditions during test, before actually building it.

**Juan:** You leave me dumbfounded. It is similar to what you said about defining tests for the stories before starting, or having something tangible to discuss without really solving the issue. But this time at a much lower level.

**Roberto:** That’s called TDD: Test Driven Development. We could say it is a different way to design and build software, where the programmers think of scenarios first, and the actual



code second. I could even tell you about the most complex techniques like ATDD or BDD, but I do not think it is worth going lower now. That's already a tactical level which the scrum master and the expert team working on strengthening the teams would have to work on.

**Juan:** But that means programming twice. It is twice as much effort and twice the cost. When changing the software, you also have to maintain the tests.

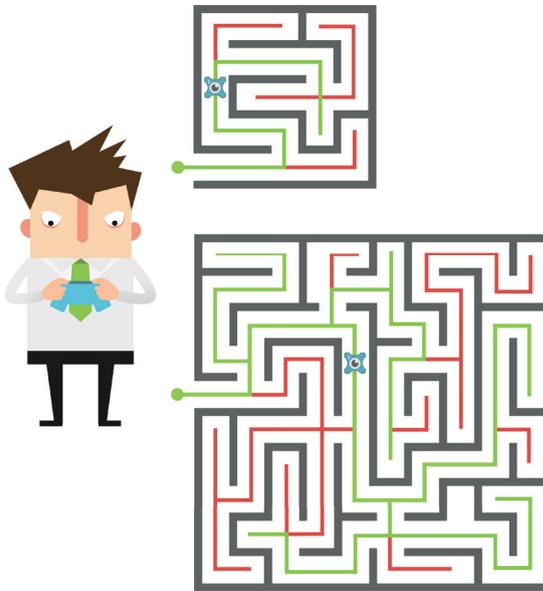
**Roberto:** Do you think so? Consider I spend thirty five hours programming and five testing the first week. After two weeks working, I would have spent thirty programming and two testing. After three weeks, twenty five programming and fifteen testing. I'm exaggerating... but not much. If part of the system tests itself, how quick do you think the time devoted to automatic testing gets amortized? In addition, thinking how a system is to be tested gets us closer to the customer and helps design the system better. Test driven development is indeed a better way to design software.

**Juan:** But once again. If this has such evident advantages, why are the providers not working this way?

**Roberto:** Now that's a good question. Why don't you ask people why they throw papers on the floor, or why they are obese or smoke, or...?

**Juan:** There are disciplined people too.

**Roberto:** Don't worry about the disciplined. Just give them space to run. Those undisciplined are the ones who need rules. And here comes the last parameter I was commenting on. The automatic test coverage. When software goes through quality metrics, the systems measuring coverage detects the amount of code that's automatically tested and the cyclomatic complexity paths that have been followed during the automatic tests implemented. And colour-code it for you to be which have and which haven't been tested.



**Juan:** So I want this straight away. You could never imagine how traumatic it is every time we have to roll out a project or version to production. We fix a problem and break other X features.

**Roberto:** Wait, wait... Let's not go crazy about this. Training a team to understand its value, having them learn how to do things and actually doing them are different games. It takes time and help. These are some of the techniques we were talking about before XP. We are talking about disciplines that are part of the developer profession, which has been devalued by hiring processes that we need to set back, and practices we need to measure quantitatively, using the tables we have already discussed.

**Juan:** Then I start to see the scrum master's and agile coach's technical value on top of the methodological one, when it comes to helping changing the model, guiding us to adopt those practices. As soon as I get to the office I will start asking

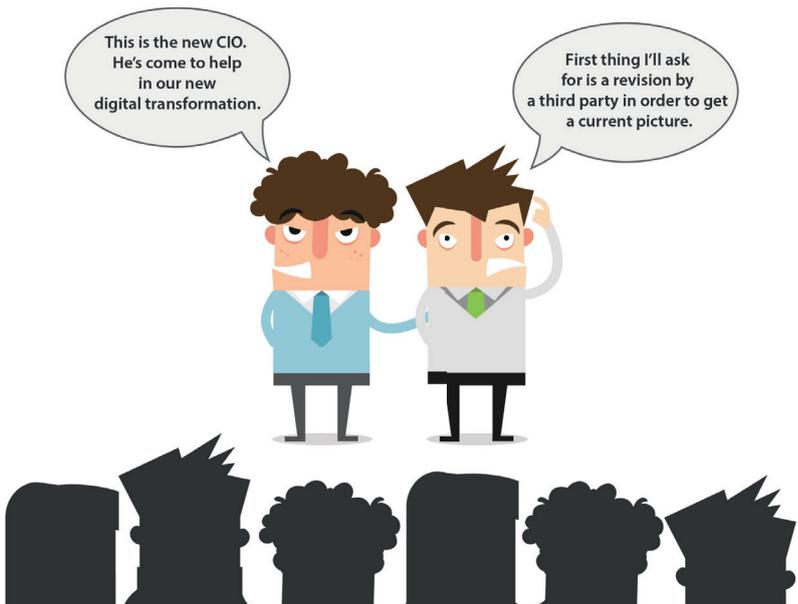
my people about these things. Whether we are doing them or not, and why.

**Roberto:** Keep in mind that an organization needs to get two kinds of tasks done: those focused on producing, and those on supporting and motivating teams. I reckon if you are like a bull in a china shop...

**Juan:** So then. How are we supposed to do it?

**Roberto:** I believe area managers should get an external assessment of their department done periodically. Or at least when they come new to an area, so that his positive or negative impact on it can be checked afterwards.

**Juan:** A snapshot of the state of technology when someone new starts managing an area: said like that, it is quite obvious. An internal could very well do it. Or does it have to be an external?



**Roberto:** That would make no difference, as long as it is not an interested party, or that person isn't afraid of getting negatively impacted. I always have good laughs when we go to a new place and they tell us they use quality tools and the results are never as bad as ours. Or course. They have half of the rules disabled and have never added customized ones!

**Juan:** Hmm... can this indeed be done?

**Roberto:** I know you are asking about things you already know, but I prefer to explain things from scratch.

**Juan:** We have started a few initiatives like those, but we generally lack continuity. We have many irons in the fire and no one has the time to follow up on a daily basis. Anyhow, using this concept of continuous integration, the information could be pulled daily, and also when we decide to analyse it.

**Roberto:** I would say it is often better to have the information available, even if you don't make use of it immediately. It is usually enough if your provider knows you have the interest and the ability. It is like telling a salesman that the expense notes will be reviewed this month. Expenses magically decrease. That's why they will go back up, if no one is reviewing them.

**Juan:** We will end up having to pay not one, but many people to make sure we do our job!

**Roberto:** Well... Is it not the goal of renewing ISO and other quality certifications? You obtain a certification and pay those institutions to help you implement it and then audit whether you are consistent with your own will. It is pretty much the same everywhere. Nevertheless, let us not get stuck. It might be a good moment to retake the reasons usually behind high attrition and technology gaps.

**Juan:** I think I know what you mean. There is probably no better motivational factor than knowing you are not working with quality.

**Roberto:** Imagine how happy your old engineers, who now only manage, must be. We also have to be careful with agile methodologies, because they can soon turn into an additional way to press your staff even more, trying to get high productivity delivering stories to the business regardless of quality or the technological evolution.

**Juan:** I don't understand.

**Roberto:** Agile methodologies help build functionality in short cycles. We will try to add value to the Business from the first ones. The team will have to add technical capabilities consolidation, learning and improvement tasks as well, and even of technical progress in frameworks or basic tools. These are stories too, or items of the work stack that will have to be reflected in the system. The good news is that it will no longer be at one person's discretion but agreed by everyone. The concept is to give autonomy to the teams but also responsibility, so that they can provide the maximum value.

**Juan:** We might have to empower my quality and architecture area a bit, and think about it from a somewhat more technical perspective than we are used to. Not so much time spent drawing boxes, and more hand-on technology work.

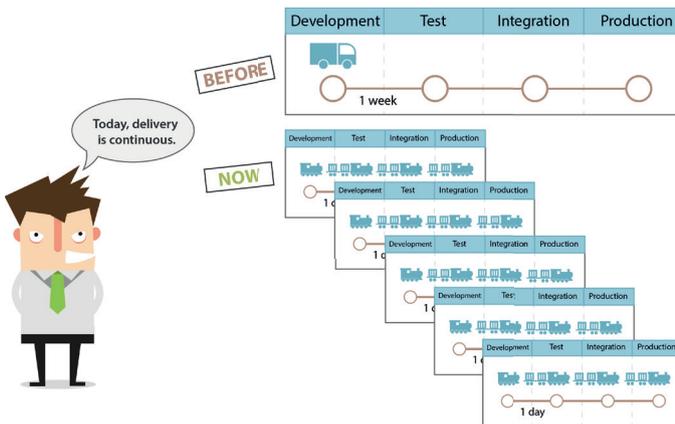
**Roberto:** I would say we can measure a company's maturity level by its ability to do continuous roll-outs, that is, by the time lapsed between a development delivery and its move to production. Being evil, I would also say by the lack of interest in their physical server and their adherence to the cloud.

**Juan:** Hmm... I think those are different concepts. Don't step on my servers!

**Roberto:** As you wish, but there are companies managing critical services that move software to production several times a day, to get incidents resolved. Others do it in months time. And as you'll understand I am not only talking about technology here.

**Juan:** You are talking about DevOps, right? I can definitely deploy everyday, but it is useless if the key areas don't test or notify the users and sales, operations and support departments about the new features.

**Roberto:** Of course. The change is larger than it might seem. But as you said, we must synchronize the process across the company. We have said so many times: this is not about writing more apps, but rather managing change, reducing the batch size and delivering smaller things more often: lean. Both in the construction and operation processes. We need to get a current picture of what's going on, manage operational traces so that, in the event that a process is missing, we realise before the customers do, or at least not long after the issue has occurred.



**Juan:** Well, we have trace monitors but they are certainly very technical tools. We monitor the network, servers, databases, disk drives, etc. and define alarms based on log files reviewing.

**Roberto:** Wait, wait. I am talking about knowing real or nearly real time, if purchases are not happening as usual. Or if there are no new users signing up, or there are fewer than normally. At a business level.

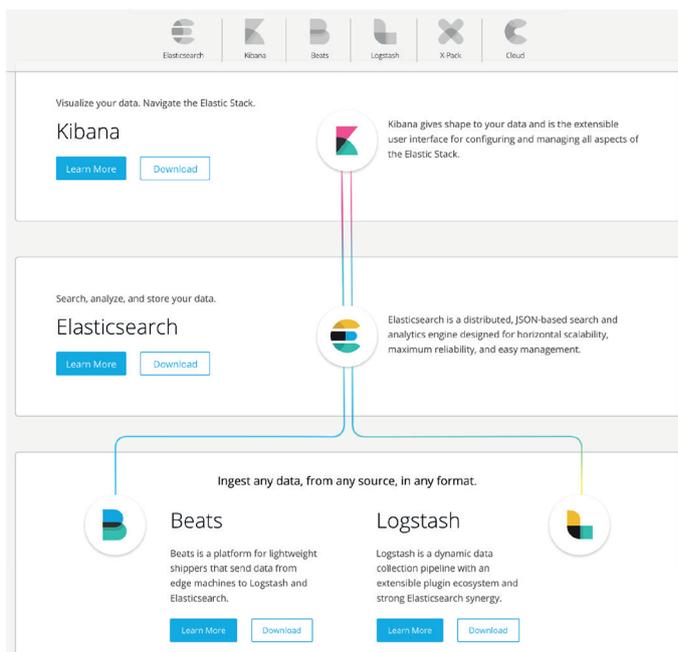
**Juan:** We have that in analytical systems, but not real time. The systems are not fit to process that much information, and possibly neither are we.

**Roberto:** Once again, my friend. Does this ring a bell?

**Juan:** Big Data?

**Roberto:** Perhaps not so much for now... but it definitely sounds like a lot of data and a different way to process them. It is not another of the weird terms the Board has on their table? Non-relational databases, NoSQL, search engines, interactive panels, etc. Having someone exploring and getting expertise doesn't sound crazy.

**Juan:** We might have to watch quality closer and get deeper into the technical detail, because it is not enough to build a lot without assuring built-in quality and keep the number of



Source: <https://www.elastic.co/products>

defects under control. That note about the technical debt has hurt. And this last one bothers me at a personal level, because we have just presented a ‘solution from the past’ to our management, with information panels years behind to what you are depicting. Perhaps we need to train ourselves on other deployment and database models.

**Roberto:** Don’t worry. I am sure you have a good basis, but we may have to give it a twist.

**Juan:** I would be really upset if it was not the case.

**Roberto:** What upsets me is seeing that it is assumed by many technical people that building solutions is a commodity, and that software developers and other technicians are indistinguishable from each other. There are true differences between knowledge professionals, and the most expert profiles are going to be more and more demanded. This is a world of extremes. The least qualified staff will have a harder time and the best qualified ones will be internationally looked for. Which model are we helping consolidate?

**Juan:** We should perhaps ask ourselves this question more often.

## CHAPTER 6

# FINISHING LUNCH

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**Juan:** It's getting late and I feel we are leaving many ideas out.

**Roberto:** There's plenty of time and there may be too much to think about already. And you don't need to agree with me! This is my point of view on the sector and what I help implement.

**Juan:** Obviously, each of us have our own vision and agenda, but I'm taking note of many ideas.

**Roberto:** Above all, I would like you to remember one of my favourite quotes: 'The problem with the world is that the intelligent people are full of doubts, while the stupid ones are full of confidence.' Though I sound categoric, I'm sure there are a thousand and one ways to do the same.

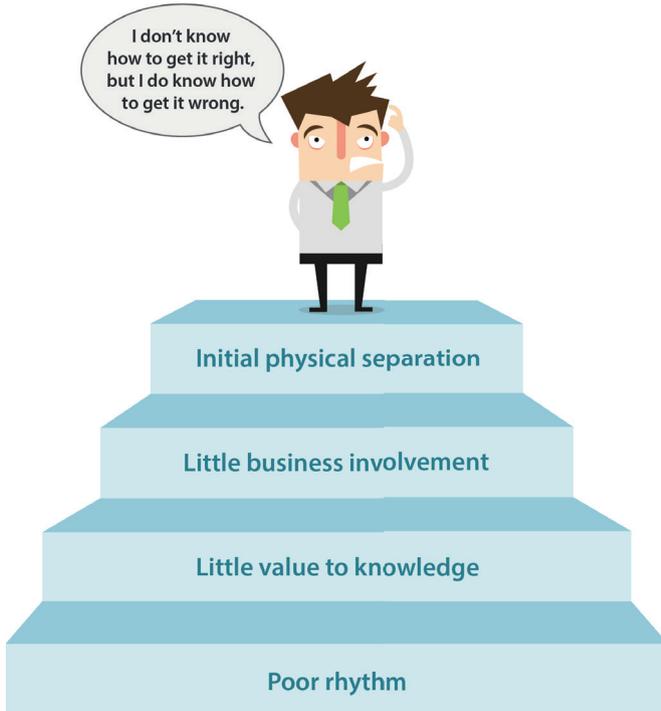
**Juan:** As you suspected, we have already walked part of the way. We started some projects based on agile methodologies, and I must say, it has not been satisfactory.

**Roberto:** Tell me about your attempt. Or even better, I can guess and you tell me if I'm right.

**Juan:** OK, let's get started then.

**Roberto:** You sent one of your project managers to a scrum training of about ten hours awarding a 'certificate', and you

have launched a couple of projects with them, without any or very limited external support.



**Juan:** That's right. They are qualified and certified in different project management methodologies. They are also familiar with the company and told us this wasn't a big change in their knowledge base. We also had support from our partner and, to be honest, we did not experience significant difference from our usual dynamics.

**Roberto:** Did you have notes, panels and diagrams on your walls? Do you work directly on you tools?

**Juan:** We all thought it was non-sense to duplicate work, and worked directly on our tools.

**Roberto:** You want to get directly to the end of the journey!

How did the Business get involved? Did they also attend the training?

**Juan:** We thought it was possible to work from the classic documentation of project definition and implement an agile execution. We tried not to bother them and make the necessary internal changes in our area first. Actually, the batch is not too large yet.

**Roberto:** And the technical team, did they work in your premises or the partner's?

**Juan:** In their office, we did not have much space here. In addition, they said it wasn't necessary: the project was quite clear, our project manager knew the details and they knew what to do. It didn't seem crucial.

**Roberto:** So you have trained the organization globally, the Business users are still far and don't participate much, you didn't have external help or anyone you could listen to and empower, you didn't define the project based on stories or prioritising, you did not test your models with the Business or the client, you trained staff not in direct contact with those executing and you did not consider the need to create a single team of technicians and those making the requests... And if you told me that you have carved a deadline in stone and that the sprints did not have a set length, my head would blow up as if I were a lemming!

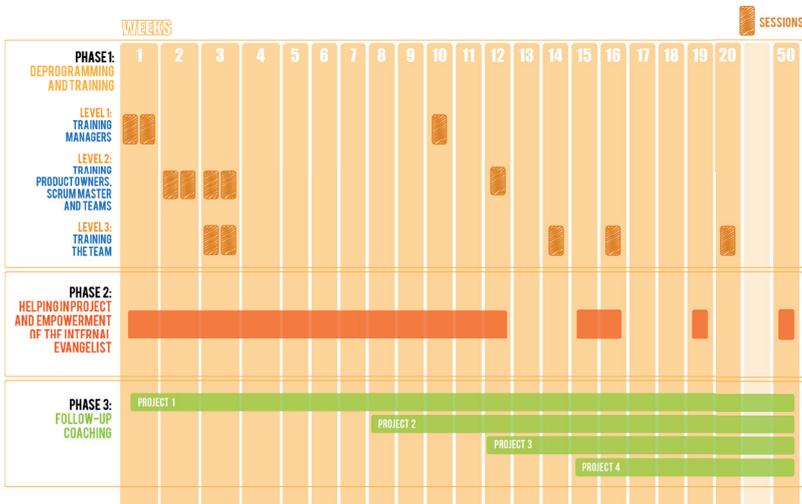
**Juan:** Putting it that way... you're right!

**Roberto:** I would have been surprised if it had worked... You are not giving it many opportunities!

**Juan:** What do you think we should do then?

**Roberto:** I believe it's the Zen philosophy saying you can't fill a glass that's already full. First, I'd recommend you de-programme yourselves before getting programmed again. All your managers, in any department, should get a minimum training

- 2 or 3 hours is enough, in different sessions, so that they don't have any excuse not to attend. That would spread knowledge, so that the rest can share it. The team starting to work on these projects should be trained in more detail. And that knowledge should be spread further across the organization. Those giving the trainings should be with you while executing your first projects. But not advising you, working on the day-to-day activities with you: programming, pushing you to create a product and not documents.



**Juan:** That's precisely what we didn't want to do: making a fuss without having tried first.

**Roberto:** Well, you can try again! Though this time it should be a bit different, shouldn't it? Back again to the culture of start-ups. What has greater value: an entrepreneur who has failed once or more, or someone who has never failed?

**Juan:** Someone who has not failed, couldn't learnt much. If that person only fails, they may be a bit clumsy. Perhaps we need to give ourselves another opportunity.

**Roberto:** Next time we have lunch, we may need to start with some topics we didn't discuss: values and principles, and method fundamentals. That is, thinking about the value of cohesive teams and highly-qualified professionals. If the foundations are properly laid, organizations are able to escalate. If you can't make a single team work as you want it to, how would you manage to do it with the whole organization?

**Juan:** Yes, but what we always lack is time, damned time!

**Roberto:** I could say 'could have called me sooner!'

**Juan:** I'll probably call you again. Dealing with so many things at the same time is difficult.

**Roberto:** I know, I know... There were too many concepts for a short talk. We can leave some topics and bring them up when you have assimilated everything: hiring, story and project estimating, escalation and de-escalation of the organization, quality, etc. One must give these things time.

**Juan:** Out of all those things, what does your company do?

**Roberto:** Ha, ha, ha. Having colleagues with the level of knowledge and discipline necessary to serve as support while taking some of these steps. If you think twice, you'll see that expert staff is essential to help CEOs understand the new model and push towards the change, the Business to define projects based on design thinking and UX, CIOs to break barriers between project definition and execution, project managers to define initiatives based on stories, technical managers to audit what they have and to clone teams, teams to implement agile, quality executions... There is space for qualified new professionals. Much training and advice will be needed.

**Juan:** Only some of the steps? It's the first time someone isn't trying to sell the complete kit.

**Roberto:** Don't trust Friar's Balsam, that which heals everything. You can't be good at everything, especially in a

world of extensive knowledge! Though we stay technical, we go up when necessary to help the different parties be aware of the needs. There's a community of professionals with different specializations to rely on.

**Juan:** Recognise a community and the knowledge of experts in different companies. Those are words we may not have used too much in our profession.

## CHAPTER 7

# CLOSURE AND CONCLUSIONS

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Digital transformation is already here, as well as new purchasing and consumption habits. This means that the organization will have to adapt. It's a world of tribes, with customised products and services for specific groups.

Agile methodologies are the perfect complement for the new techniques of project definition and trends such as design thinking and UX. They are one of many tools for this journey, where dialogue, quality and professionalism are essential.

Any change should be undertaken from a strategic perspective, that should be followed by structure.

Organizations should give themselves the opportunity to try new models and not constrain them with the current processes and established structure. There's time to industrialise good practices! However, that shouldn't be done at the very beginning.

In intellectual professions, qualified and motivated professionals are the key. There are always remarkable people: either defining a strategy, conceptualising a solution or building it. You can have a hundred people painting pictures, but they'll never do it like a brilliant artist!

Organizations should let themselves be helped by

professionals from a developing community of scholars, UX experts, agile coaches, scrum masters, trainers, creative professionals and developers. You will spare yourself a crash and get help to go where you should be heading, which is not always where you initially want to.

A quote from André Guide says: 'Man cannot discover new oceans unless he has the courage to lose sight of the shore'.



## ABOUT THE AUTHOR

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Roberto Canales Mora graduated in Technical Engineering in Telecommunications by the University of Alcalá de Henares and got an Executive MBA by Instituto de Empresa (IE); he has collaborated with both institutions as an associate teacher.

His main occupation is being a partner and CEO in Autentia, a medium-sized enterprise (>60 experts) specialized in building quality software based on agile methodologies. He is an active contributor in the definition of strategic projects, agile transformation of organizations and training services.

In addition, he is CEO of [www.tea.ms](http://www.tea.ms), a start-up company created by Autentia and specialized in employee advocacy—

utilization of influence groups such as employees, fans or other collectives in social media. He has participated as a corporate investor in other business initiatives.

He teaches and lectures on agile methodologies in various programs of Instituto de Empresa: Digital Transformation and Strategic Project Management.

He has advised several entrepreneurs in various initiatives, such as the business accelerator Cink Emprende.

He created the site AdictosAlTrabajo.com, where thousands of technical tutorials and articles have been shared within the community for more than 14 years, with millions of views.

To learn more about Roberto Canales Mora, please visit [LinkedIn](https://www.linkedin.com/in/rcanales) (<https://www.linkedin.com/in/rcanales>).



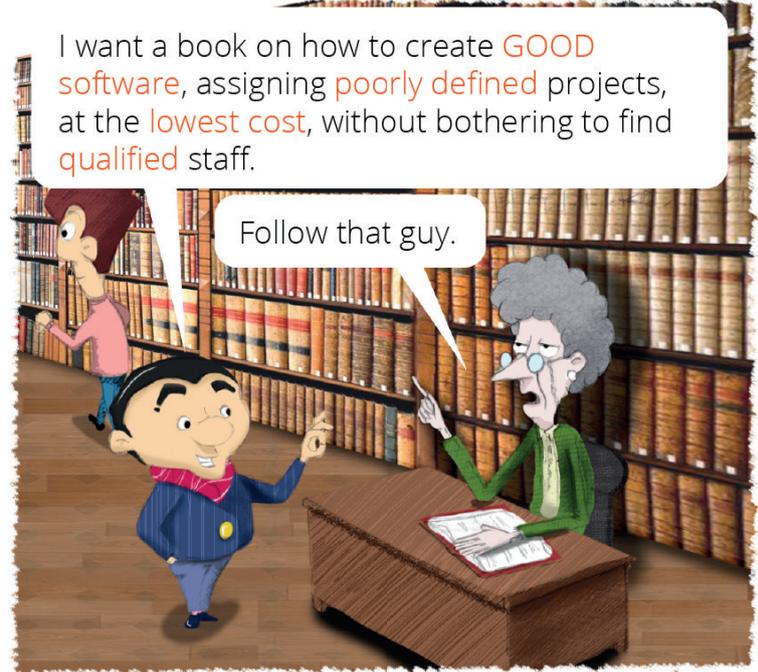




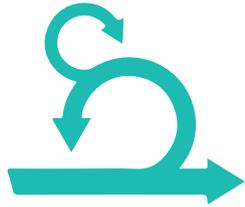
autentia

We want to be your trusted experts

**SOFTWARE**  
DEVELOPMENT  
**SUPPORT**



'We are few, we are good, we are motivated and we like doing what we do'



## IMPLEMENTATION of agile methodologies

We provide support and help to large organizations with their Digital Transformation.

[P. 3]



## DEVELOPMENT SUPPORT

We help architecture, development and certification teams improve their level and technical quality.

[P. 6]



## TAYLOR-MADE SOFTWARE

We build software based on quality and the Business needs.

[P. 13]



## AUDITS

We develop complex solutions and provide recommendations.

[P. 21]



## TRAINING

Expert technicians give face-to-face, in-house, on-line, or tailored training sessions. It is your choice!

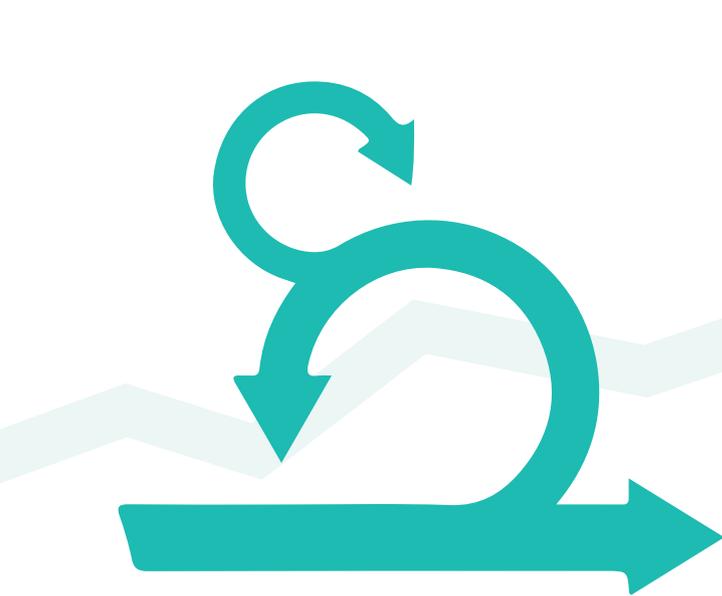
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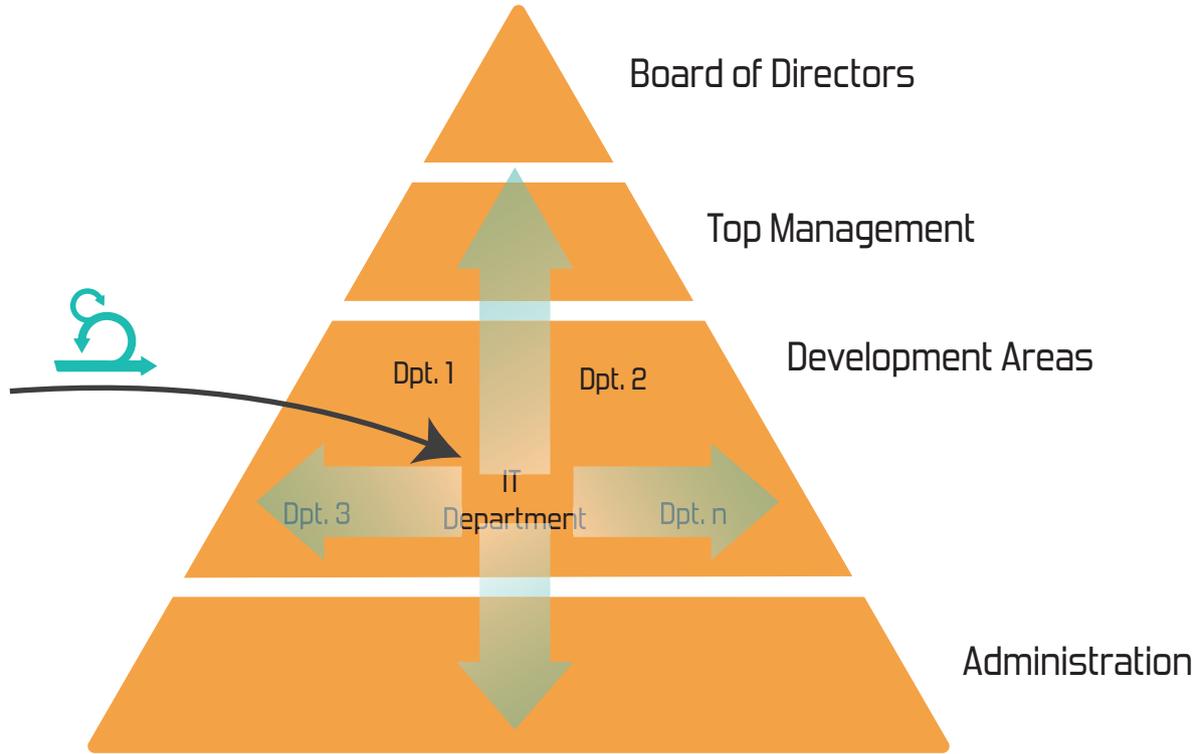
## HEADHUNTING

We select quality candidates who have passed our selection process for you.

[P. 30]



# IMPLEMENTATION OF AGILE METHODOLOGIES





**SUPPORT TO**  
**ARCHITECTURE AND**  
**DEVELOPMENT**  
**DEPARTMENTS**



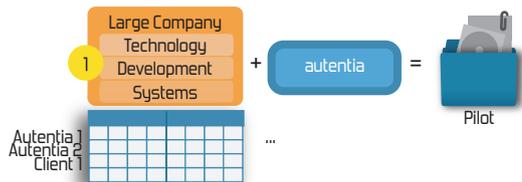
Companies must choose a development technology, which will be the basis on which applications will be built for a few years. The business needs will change during that period, and so will the technology state of the art; for that reason, renewals must be planned.

Internal development teams can feel overwhelmed by the amount of new options available to choose from, and frustrated by the lack of time to test and pick the appropriate ones, due to every day pressure.

A small team from Autentia can collaborate for a few weeks with the staff at the customer side, helping them define a new technological environment, choosing the method and the working tools.



1 Once the options are discussed by experienced professionals from the customer's and Autentia's sides, work on a proof of concept can start immediately for the theoretical solution to be validated, thus preventing the customer from being forced to discover technologies Autentia is already familiar with.

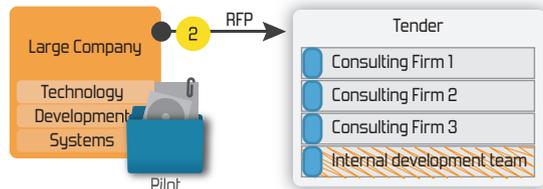


Working this way, a sample application made by expert staff used to such tasks will become available, so that it can work as a basis for future development. It presumably takes less time and effort than doing it with internal staff.

Usual deliverables would be:

- The code itself.
- A guide explaining the model.
- Development regulations.
- Environment-to-environment deployment procedure.
- Quality and certification regulations dealing with accepting third party developments based on that model.

2 That information can be used as a reference for internal teams, or attached as requirements when preparing the RFP (Request For Proposal that a company sends to its providers when outsourcing a project), thus ensuring the different offers are comparable both from a technology and a quality standpoint.



At the end of the contracting process, one or two consultancy firms or the customer development team itself will have to start working based on the defined model.

**3a** In an ideal world, the architecture department of the hiring company would give support to the new teams, who start working in order to ease their work, and prevent the current and future models from being diverted.

It is not realistic to trust that all the external staff has the right qualifications, experience and vision, given that matching demand and supply is difficult in the consulting world. Many times the appropriate staff is not available at the beginning, so those available are expected to have the ability to adapt.

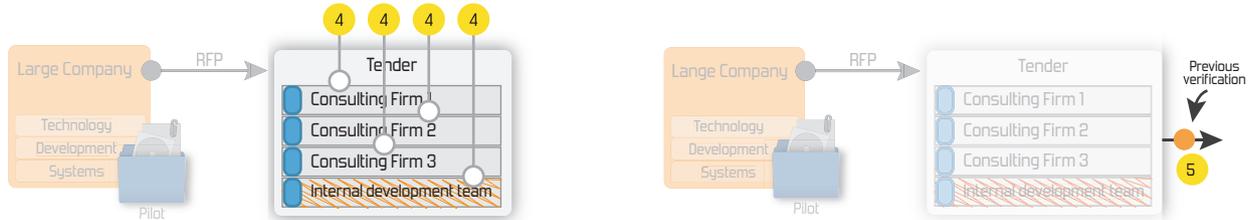
**Autentia** can free up the internal architecture teams, and make that knowledge transfer to as many external organizations as necessary.

**3b** In the same way, **Autentia** can join the internal teams occasionally in order to optimise the adoption of the new model.



**4** A project's quality has to be periodically checked in order to avoid risks. Otherwise, we will be making a number of mistakes that will result in delays or forced acceptance and roll out to production of low quality components. The Business waits for no one, and not being able to move the committed dates is quite common. Once again, preventing is the solution.

**Autentia** can review the ongoing projects, thus guaranteeing an early detection of problems and easing the adoption of corrective measures when it is still not (too) late.



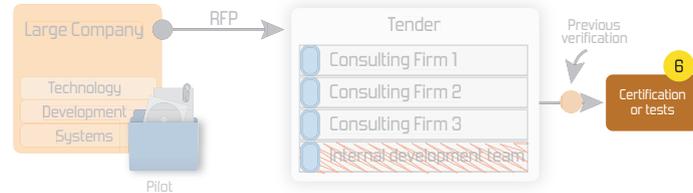
**5** Many organizations only check for quality at the end of projects, taking the providers' or the internal team's responsibility and professionalism for granted. That can work better or worse, the results depending many times on the assigned team more than on the company.

Unfortunately, many applications are rejected not one but many times before they reach an acceptable level (not to say an optimum one), which causes saturation and delays to the internal groups responsible for their certification and promotion between different environments.

**Autentia** can collaborate with those internal groups playing the role of an intermediate filter, and completing a previous verification to prevent applications below a minimum threshold from reaching the organization.



**6** **Autentia** can even work with the hiring company taking part of this quality certification burden, as a punctual external service when the workload is too heavy.



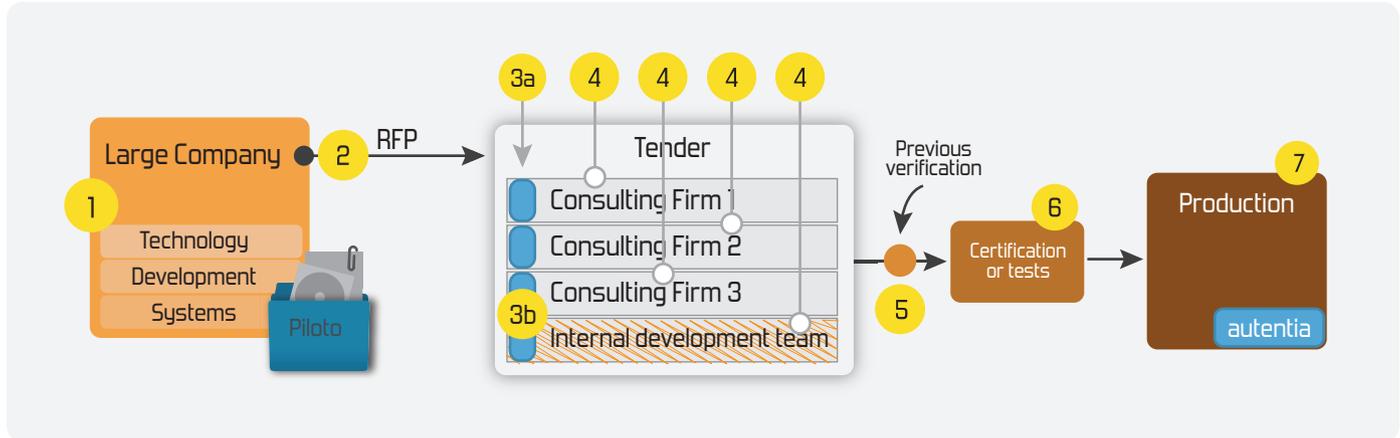
**7** The business world is complex, and sometimes blocking situations occur when issues in production are found (performance, concurrence, instability) without anyone being clearly responsible for them (Systems, Infrastructure, Architecture, different providers...).

When confronted with such situations, **Autentia** can quickly intervene to identify the problem and propose the best solution, free of any day-to-day bias and based on the experience of similar situations in different customers. This unbiased and quick vision can save all parties a lot of time and money.



Summarizing, Autentia is an ideal complement for big organizations, be it as development or as architecture support:

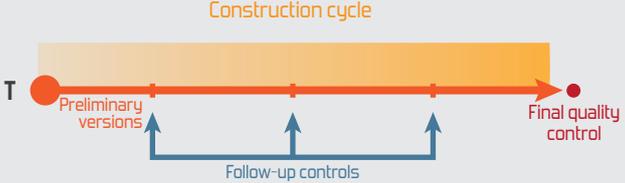
1. Corporate frameworks definition.
2. New architectures knowledge transfer.
3. Support to projects initiation.
4. Periodic quality preventive audit.
5. Pre-project certification review.
6. Capacity extension for quality teams.
7. Production issues identification.



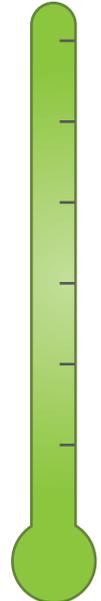


## Quality levels

In order to develop quality software, it is necessary to work at various levels. Not only quality needs to be monitored, but also to be embedded in the process.

<p>The expected maximum quality level has to be planned before starting a project and reviewed as soon as possible.</p>	<p><b>Quality control</b></p>  <p>Construction cycle</p> <p>T Preliminary versions Follow-up controls Final quality control</p>
<p>Quality has to be embedded in the construction process. Test driven design (TDD) and metrics obtained continuously are essential.</p>	<p><b>Quality assurance</b></p> <ul style="list-style-type: none"> <li>- Using repositories.</li> <li>- Developing with TDD.</li> <li>- Measuring continuously.</li> <li>- Retrospectives.</li> </ul>  <p>Sonar - Pivotal Tracker / GreenHopper</p> <p>T-1 Retrospectives Obtaining metrics</p>
<p>We have to embed quality, evolution, functionality and cost metrics for the management to have a unified vision.</p>	<p><b>Continuous improvement</b></p> <ul style="list-style-type: none"> <li>- Defining KPIs and reference values.</li> <li>- Reviewing and processing KPIs.</li> </ul>  <p>Alarm → Duplicated Code &gt; 5%</p> <p>Integrated Dashboard</p> <ul style="list-style-type: none"> <li>Scrum</li> <li>Costs</li> <li>Quality</li> </ul> <p>Governance and IT management</p>

Quality meter





# TAILOR/MADE SOFTWARE

With high technical quality



## Tailor-made software

**Autentia** builds complete projects using a methodological approach.

We adapt to our customer's needs depending on the **project's characteristics**.

We will typically combine a formal **definition** of a project and its agile execution through the adoption of the Scrum and **eXtreme Programming (XP)** principles.

Automated **functional and unitary** tests will be a fundamental part of our developments.

Our development services are fully transparent to our customers, who retain full access to every artefact at any time.

**Autentia is a small organization with a huge discipline in development!**

**The result is a company whose employees work with homogeneous criteria.**

**That discipline is located at  
three levels.**

Frameworks and Architectures

Agile Methodologies

Configuration Management

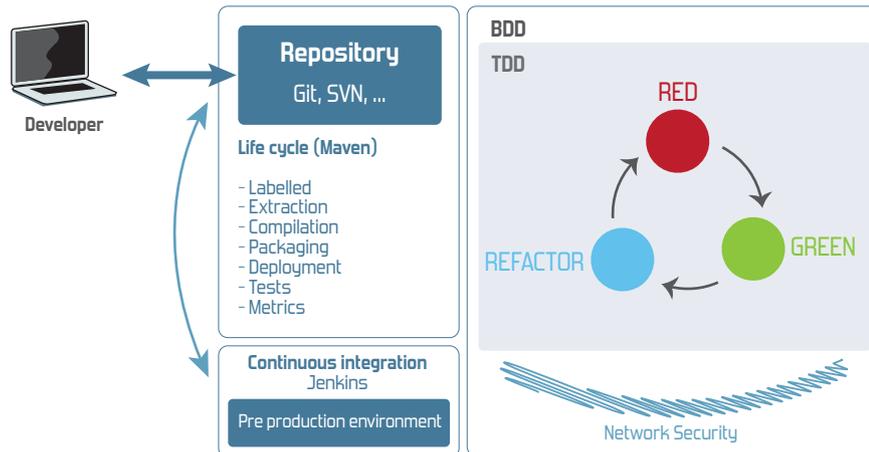
## Configuration Management

Every development must meet certain minimum criteria of its management, tests and environments.

Repositories are always used, no matter how simple the development.

We use the TDD practice (Test Driven Development), which entails writing the tests first (normally unitary), then the source code which would pass the test successfully, and finally, re factor the written code. Proceeding so, we attain amongst other things a more robust, more secure and more supportable code that is developed quicker.

When we develop a piece, we assure an approximate 70% of automated testing coverage. But we should not let ourselves be guided by self-important figures. The team will have to determine the tests needed based on the context.



## Agile Methodologies

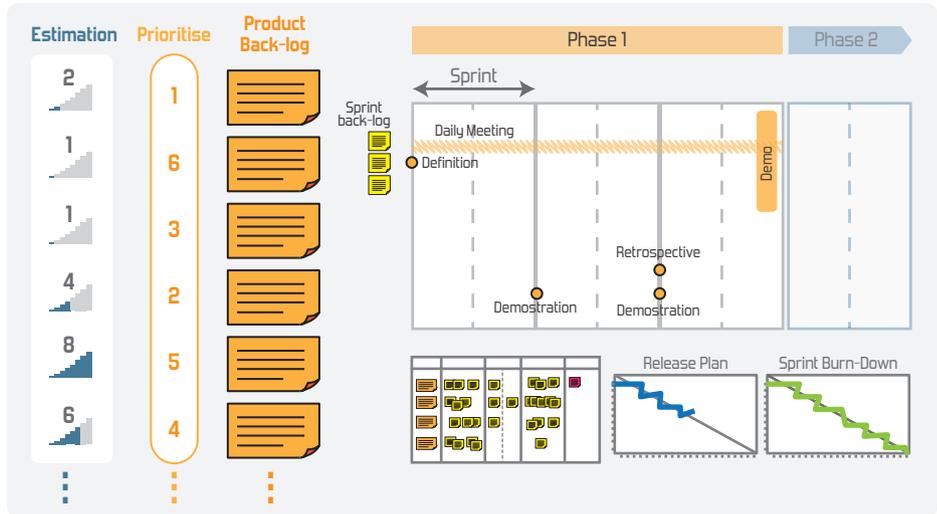
We have been working with Scrum agile methodologies since 2010.

These methodologies bring the Business user closer to the technical team, thus improving definition and communication in short cycles (2 or 3 weeks), and obtaining a nearly immediate alignment.

Projects are split in stories, prioritised and estimated.

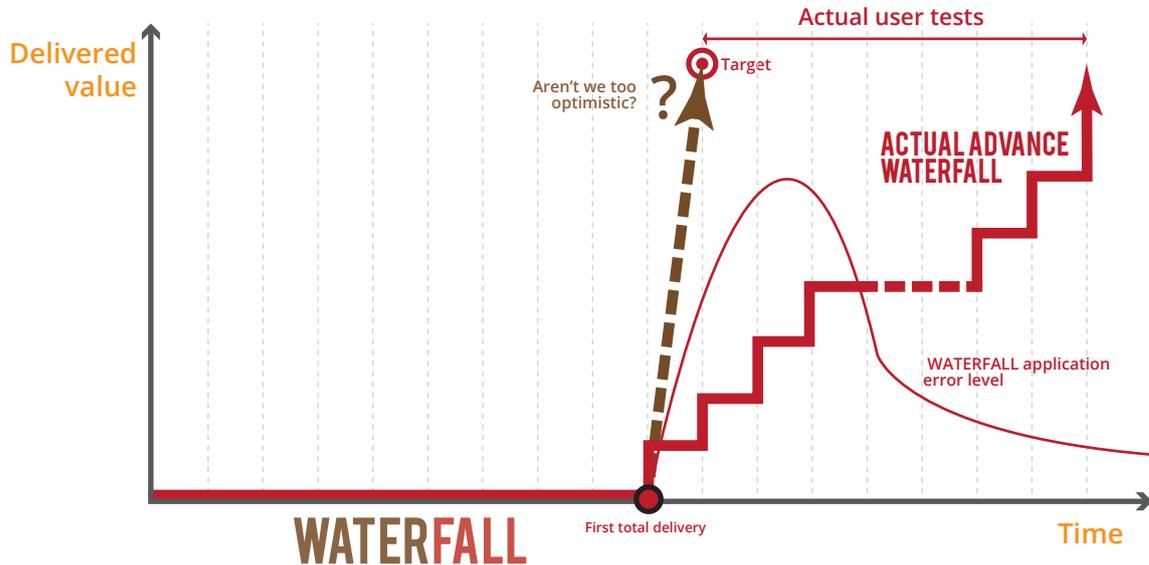
A set of stories is selected to be executed in the course of 2-3 weeks. This period of time is called a 'sprint'.

The customer verifies the progress at the end of each sprint, with enough time to make any necessary changes and, most importantly, detect any deviations in an early stage, so that the right actions can be taken. The customer and the team get trained and aligned with every iteration.



**Traditional methodologies**, where a formal definition of the projects is made and where there are large design, construction, test and delivery phases, have proven to be inefficient when it comes to developing software. But the customers do not know what they want till they start to see parts of the system working!

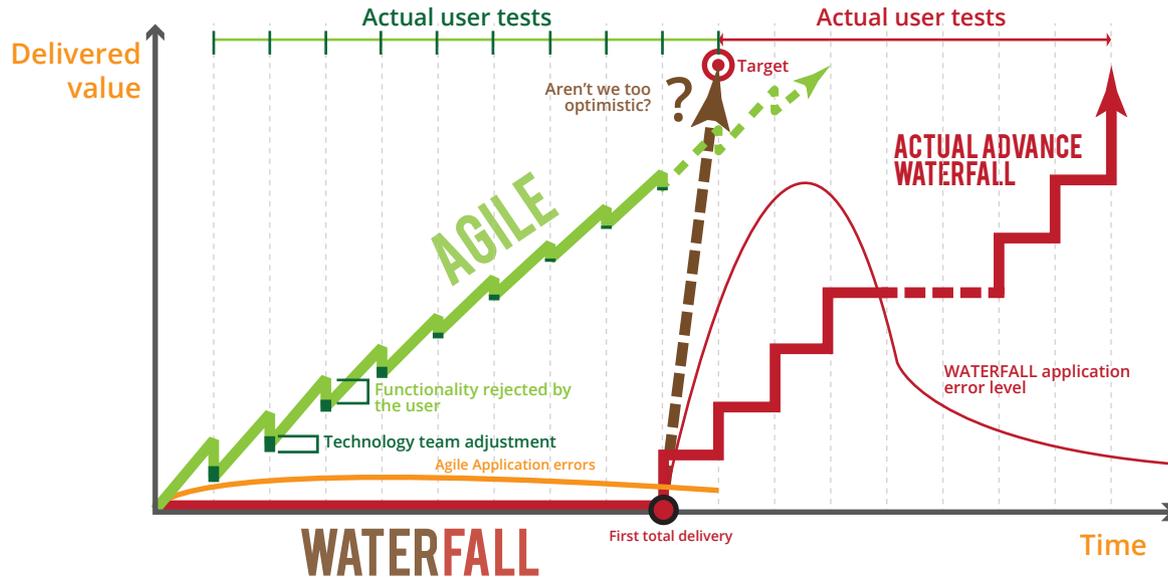
Building software is not like solving a PUZZLE (known solution), but like a MYSTERY (we don't know whether the solution is a valid until we find it).





## Tailor-made software

Agile methodologies promote the continuous delivery of software in short cycles. Progress is measured based on functionality accepted by the customer, that is, the systems is continuously tested. Therefore, deviations are solved in a quick way, and some ideas generate others, thus improving the parties involvement, training and synchronization.



In Autentia, we are experts on **implementing** these **agile methodologies** at corporations of all kinds.



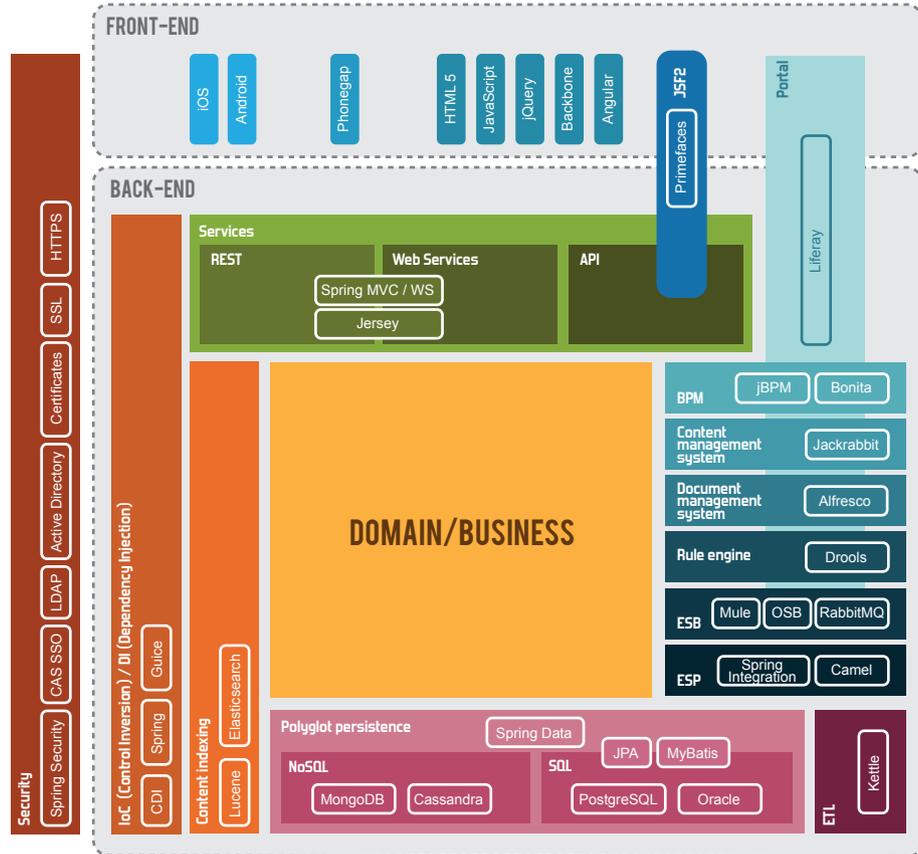
## Frameworks and architectures

The software we build will not evolve if we don't spend more time on it.

Frameworks and libraries evolve without us doing anything through the community contributions.

We have to use common sense and good judgement to determine **what to build and what to reuse** in an ever broadening world.

*Technology stack example*





## Tailor-made software

### White label

**Autentia** acts many times as a white label. We work as a software factory for other companies in the sector without the customer noticing our mere existence.

If you have to face development in technologies you don't master, we can be a good option, to start them or for a full development.

### New revolutionary work models

**Autentia** can execute fixed cost projects for your organization.

You can even make one of your employees be part of Autentia's teams. That would help you obtain the product and the training of a person who will have taken part of the complete development cycle.

**Nota:** For this model to be feasible, the person needs a minimum knowledge and the maximum interest in learning in an intense and practical manner.



## BASIC AUDIT 80 hours



### ARE YOU THE NEW PERSON IN CHARGE?

An audit can tell you how your system is and whether it is improvable.



### DO YOU WORK ON SYSTEMS?

An audit will give you an external vision of how your architecture is being deployed.



### DO YOU WORK ON DEVELOPMENT?

An audit will help you validate with people like you the best solution for your architecture.



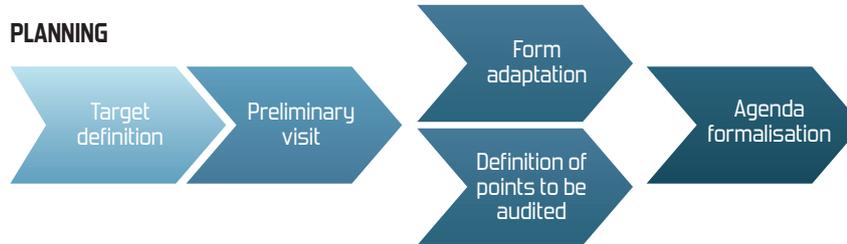
### ARE YOU RESPONSIBLE FOR AN AREA?

An audit will help you see why your applications are failing and how to fix them.



## Auditing process

### PLANNING

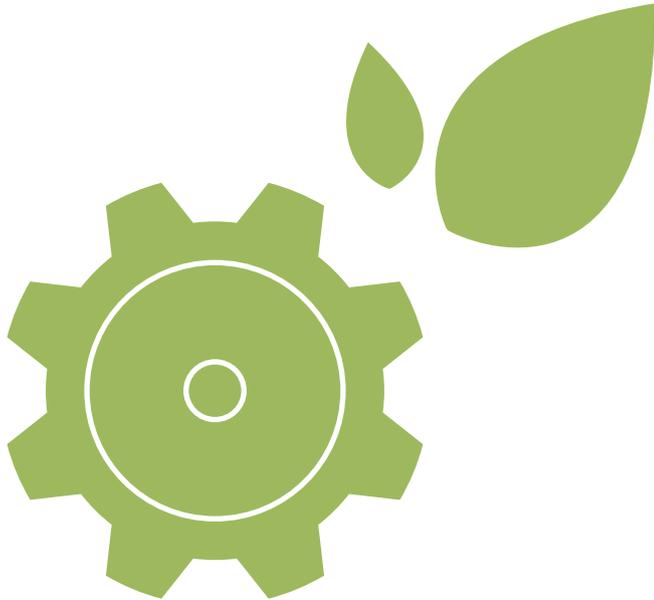


### EXECUTION



### PRESENTATION OF FINDINGS





# TRAINING SERVICES

Self-training is very interesting but comes with a high cost of opportunity.

When a company looks for training for its technology staff, HR usually faces a number of issues:

**They don't understand correctly the odd terms the technicians use.**

**The requester can have a very high level, therefore asking for a very specialized session while other colleagues will quickly get lost.**

I want a JSF course with Spring and JPA, but also with a bit of MyBatis.

Sooooo geeky!



I have requested an advanced session and this is too basic.

I see, but it is the first time your partners hear anything about it.



The course is needed in order to start a project immediately and get some specific elements solved.

What the students ask us for is not really what they need, and they only realise during the course and try to change it on the fly.



In order to solve those problems, they tend to hire generalist training firms whose activity is mostly commercial.

### THE GOOD SIDE

- That simplifies the administrative and hiring job.
- They provide every kind of course and find ways to satisfy the customer needs working with dozens of freelancers and small companies.
- They are very careful with the customer relationship management as it is always a long-term liaison.

### THE BAD SIDE

- Working with intermediaries always causes a certain loss of information between the requester and the trainer.
- They keep a relevant margin, which makes it impossible for the trainer to keep flexibility profitable, once the syllabus has been agreed.
- Their staff is normally dedicated to train full time, which takes them far from the reality of projects.

## When the customers know what they need, there are alternatives like Autentia!

Autentia is a software development company, completely devoted to the creation of innovative solutions, and which full staff is hired permanently. We additionally offer training services.

It specialises in the JAVA/JEE world, and provides courses of:

- **Project management and agile methodologies.**
- **Configuration management.**
- **Java frameworks.**

With no intermediaries, you can work with a specialised firm which gives solutions to your needs when working out this scrambled letters game.

### DEVELOPMENT LANGUAGES AND FRAMEWORKS



- Java 8 new features: Learn Java again!
- Java specialists: The course for Java specialists.
- Java concurrence and optimisation.
- Application development with Spring 4/ Spring MVC.
- Java and design patterns.
- Web applications with HTML5/CSS and Javascript.
- Security with SSO and CAS
- Spring Security

### MOBILE DEVELOPMENT



- iOS development.
- Android development.
- Learn all the power of Swift today.
- Multi-platform applications with Phone GAP/Cordova.
- Responsive design with HTML5/CSS3.

### TOOLS

- Portal management with Liferay.
- Content management with Alfresco.
- Solr as a corporate search engine.
- Process engine with JBPM and Bonita.

### PERSISTENCE AND DBs



- DB access with JPA/Hibernate/SpringData/Mybatis.
- JPA repositories well done with Spring-Data.
- NoSQL BDs
- MongoDB with Morphia/SpringData.
- Neo4J?

### CORPORATE APPLICATIONS AND EE INTEGRATION



- Web Services over Java platforms.
- Java Corporate Applications architecture: JEE.
- RESTful applications with Spring.
- ETLs with Talend.
- Integration patterns with Spring Integration.
- Service orchestration with ESB.

### METHODOLOGY



- How to introduce Scrum at your enterprise.
- Agile project management.
- Integration and continuous delivery ecosystem.
- TDD development.
- Good practices in Java application development.
- Acceptance tests for Web applications.



Refer to our complete catalogue at: <http://autentia.com/servicios/formacion/>

**Autentia** has no staff solely devoted to training. All our technical staff works leading and developing projects, combining these tasks with those of training or mentoring.

Thus our training services customers obtain the benefits of our actual experience developing projects, which is without a doubt an enriching factor to our content and the material delivered to the attendant.

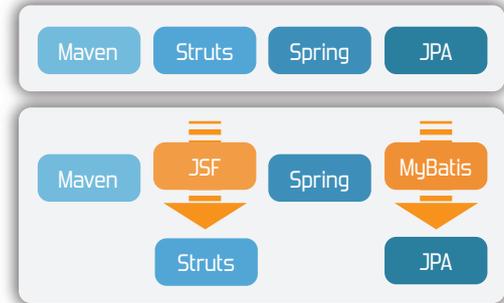
Autentia's staff can prepare tailor made syllabuses in terms of content and duration.

Training  
[10 - 25 hours]  
Specific objectives

Being used to working on actual projects, it is relatively simple for our staff to modify contents on the fly, even taking material prepared for other courses.

## TRAINER DURING THE PROJECT

On top of the course, a **pack of hours** can be bought so that the trainer gives support to the pupils the following weeks, and solve specific issues during projects.



**Autentia offers something more than just training: it offers technologically expert assistance.**



# HEADHUNTING HIRING PROCESS



Though there are good professionals everywhere, they don't abound and are not easy to find.

**We don't search for candidates the traditional way.**

## COMPANIES

As a complement to our development and support activities, **Autentia** also takes care of **staff identification and hiring** (Headhunting) for other companies of the sector.

To do this, we rely on our knowledge about the market and the company's needs, on our technical ability to evaluate candidates and on a wide database of candidates, who get in contact with us through our website and our publications on '[AdictosAlTrabajo](#)'.

In addition, in contrast with other headhunting companies, we offer our services at a **fix rate**, regardless of the hired candidate's salary.

Thus the selection process costs are not a factor when negotiating compensation between the candidate and the hiring company.

If you wish to hire our headhunting services or need more information about them, you can contact us:

[rrhh@autentia.com](mailto:rrhh@autentia.com)

**Ph: +34t 91 675 33 06**



## CANDIDATES

Many companies like Autentia's staff and ask us to help them with their selection processes.

You can go through our tests to **work with us** or to get our help to **work in other interesting companies** of our sector, in which case we will most likely collaborate.

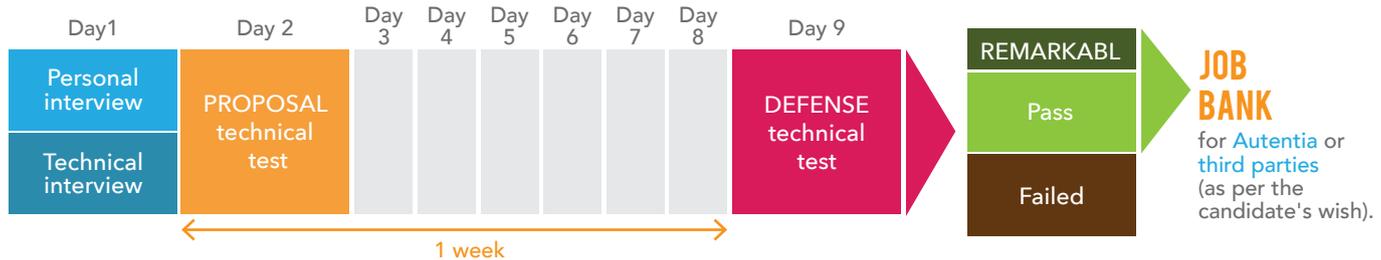
This process is **free** of charge for you.



## Recruitment process

Anyone interested in working with us will have to **go through a recruitment process**.

It consists of 3 **steps**.



## Personal interview

To know what their objectives are, which competences they master and whether we can offer them what they are looking for. Also to determine if they could fit in a team like ours. [We like people who are enthusiastic about IT and know how to smile.](#)

## Technical interview

In order to determine their experience and maturity level in the development world: configuration management, agile methodologies and Java frameworks. They will be interviewed by a [senior architect](#), who would be their future partner.

## Tailored test

It would entail [solving a problem you are not experienced in](#), to prove your self-training ability. The test deadline is a week. You don't have to give us the source code, but every line written will have to be defended: it is not only about solving it, you have to understand it as well.

## Certificate of validity

Should the results be positive, a 'VALIDATED BY AUTENTIA' certificate will be issued. This certificate proves you are someone we would like to work with.

If interested, you could participate sending your CV to [rrhh@autentia.com](mailto:rrhh@autentia.com)



## What do we require?

- » Technical or Superior Engineering Degree in Computer Science.
- » Advanced Java, Android or iOS knowledge and will to keep programming.
- » Intermediate software engineering and design patterns knowledge.
- » Illusion, humility, will to continuously learn and share the new knowledge.
- » Good presence and communication capabilities in order to give trainings (not immediately).
- » Being based in Madrid.
- » If you have just finished your studies and would like to join the labour market, we could also be interested.

## What do we offer?

- » **8-hours working days** and a nice atmosphere.
- » **Adequate means:** last generation Hardware, tools, books, etc.
- » Being part of a rare, young, brilliant and **proactive** team at a cutting edge technical level.
- » **Permanent contract.** We can even talk about **work practices**.
- » Flexible schedule, **work-life balance**, possibility to work partially from home (whenever the customer and work specifics allow).
- » **A decent salary.**
- » We don't hire people for specific projects, but to **develop themselves in the company**, so we are in no rush.

**Don't you worry! There is no need to have great knowledge, but only will and ability to learn. If you enjoy studying at home as well (and you meet our criteria), we may be interested in you.**



## Contact us at:

info@autentia.com | T. (+34) 91 675 33 06

Avenida de Castilla 1, Edificio Best Point, Local 21-B.  
San Fernando de Henares (Madrid), 28830.

**Or check our website:** [www.autentia.com](http://www.autentia.com)

Many clients say:

‘I wish I had found you  
before...’

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## Conversations with CEOs and CIOs about Digital Transformation and Agile Methodologies

Traditional organisations are transforming themselves, pushed by the new management models and the pressure of the start-ups. The new general managers demand:

- Reinventing the Company by defining new solutions according to the new consumption patterns.
- Developing projects in a quicker and more agile manner, releasing products to the market sooner.
- Being able to address various initiatives simultaneously.
- Integrating quality, as any problem goes instantly public through social media.

The Digital Transformation and Lean culture have come to stay. In addition, agile methodologies offer new work models that represent an important organizational change.

Using a mere conversation, this book intends to explain CEOs, CIOs, Purchasing Managers, HR and any other person not familiar with this topic, the benefits of starting the journey and how to take the first steps.

The topics to be discussed are Design Thinking, UX, Lean, Agile, Coach, quality, organisation flattening, batch size reduction, knowledge professionals and many more.