The agile enterprise

1. 'Lean' origins

Since Toyota introduced its "TPS" (Toyota Production System) back in 1975 with its performance and success, the term "lean" spread rapidly around the world. Now applies not only in production or in industrial environment but also in companies and organizations of all kinds.

It is actually an integrated system that includes a philosophy and practices. The basic principles and philosophy have earlier origins, in 'JIT' (Just in Time), 'Kaizen', quality circles, autonomous production cells, high performance teams, and other techniques or tools.

The primary objectives of TPS were to avoid or eliminate the overhead (muri), inconsistency (mura) and waste (muda) in all production processes. Production is focused primarily on the 'flow', in contrast to the methods used, such as resource planning, capacity of equipment, optimal batch sizes etc. Seven types of 'muda' or 'waste' were identified:

1. Overproduction. Production not needed, usually resulting from production to stock, to optimize capacity and optimal batch sizes.
2. Timeouts, including materials or resources that are usually waiting for controls, lack of existence, downtime etc.
3. Transportation. Avoiding all kinds of unnecessary transport.
4. The process itself. Generally parts of the production process, routines or non value operations. Often due to poorly designed or over engineered production processes.
5. Inventories. Stock in inventories such as components, raw materials, work in process or final products in stores or parts of the distribution.
6. Movements. All kinds of unnecessary movement of materials, machinery or people, usually because of bad placements or facilities design
7. Defects. All quality incidences, rejections or threads caused by them.

The removal of all or most of these wastes produced spectacular results. Whether that was the launching pad of philosophy 'Lean' worldwide and its application in almost all countries and all industries. Subsequently, also used in non industrial sectors and organizations.

The result in a vast majority of cases was an increase in quality and reduced cycle times and costs. Consequently, additional capacities were always generated, together with a large reduction in inventories and a more effective and economical production flow.

The philosophy of 'Lean' comprises a series of principles which, if not present in the organization or its culture, will not ensure results. These principles, pointed out by Toyota itself, are:

• **Continuous improvement**. It is part of a long-term vision. It comes from "Kaizen", i.e. to improve operations continuously evolving and always looking for innovation. Find the root causes of problems to take the right decisions, not to correct the symptoms but the causes
• **Respect for people.** Working together and create high performance teams must be based on respect for the other, understanding each other and building trust and credibility. This teamwork, and above all, in multifunctional teams is critical to superior performance.
• **A long term vision**. Management decisions are based on long-term development primarily, sometimes even contradicting goals or short-term financial results.
• **The right processes yield right results**. Much of what is meant by 'lean methodology' is summed up here at this point:

- Continuous review of flow in processes, for problems to surface.
- Use the "pull" system to avoid overproduction. I.e., the production is exclusively driven by demand. From here derives the entire methodology of "Kanban".
- Always levelling the workload.
- Create a culture of quality. First, stop everything to solve a problem. Review the process to know what produces it. A correct process must provide the required quality to the first. That means eliminate rework and the majority of quality controls at the end.
- Empower workers with processes and tasks structured and reliable.
- Always use visual controls, avoiding the unseen.
- Use only reliable technology and thoroughly tested.

• **Solving the problems continuously**. Solving problems from their root causes, the organization learns and people are formed and developed. Not only internal but also external staff, the 'partners', suppliers etc.
• **Bring out the value**, by separation of the tasks adding value to the customer from the other. But before that, it's necessary to determine what 'value' is. Eliminating or reducing non-value activities significantly, cycle times are reduced and increased what is called 'speed' of the processes.

In summary, we understand "Lean" processes, those to which a systematic analysis from "Lean" principles and tools have been applied.

• The structure and flow identification throughout the process.
• The definition of value in the process. What value it provides and for which the customer is willing to pay.
• Value analysis of each of the tasks.
• Redesign of the process according to the above.
• Simplification of the same with the result of keeping the value but to eliminate a high percentage of cost and labour. (Typically 70 to 95%)

Consequently, the process has been redesigned and simplified, so that we can speak of a process without "waste", free of tasks that do not add value or are not necessary.

2. *The term agile. Agility*

The term "lean" suggests some fat-free, light, and therefore free from unnecessary weight. The term "agile" is similar, but additionally has a certain connotation of movement, speed or ability to acquire speed, i.e., light and with good acceleration capabilities.

The agile company has made an important effort of processes acceleration. Not only, but some more: As a result of the 'lean' methodology increased quality and reduced cycle times and controls were achieved.

Then, with the additional capacity that has appeared, the company must make a decision: Apply these results only to reduce resources with the effect of cost reduction. Or, using the additional resources and capabilities obtained to do more things, in this case, obtaining flexibility and income generation capacity.

The company gains agility when you choose to use spare capacity to do something new, that is, when an innovation is made, in this case internal innovation.

Thus, the agile enterprise is one that has managed its priorities, because firstly has gained 'velocity'[1] in all processes and second by a totally proactive approach i.e., not satisfied with the "status quo", has taken advantage of synergies.

3.   The agility, the heart of business survival[i]

Agility is the quality of being light, quick, and speedy. It is said of a person or animal. In the sense most commonly used in the business context, would mean the ability to be flexible in a proactive manner. Not only react quickly to changes and events, but proactively seek opportunities and how to reach them more quickly and effectively.

We talked about the agility of the acrobat, the dancer or agility in the fingers of a pianist. All are fruit, not from responsiveness and improvisation, but from long hours of training and habit formation. It's not the result only of flexibility, although this is a necessary quality. Can a company act as an acrobat or a dancer? If the word implies the possibility of a risk and long hours of training, the word may even seem appropriate. Can a company behave like the fingers of a pianist?
If the word carries the sense of acquiring habits of excellence, and the application of these habits and the speed and flexibility of interpretation, it seems also appropriate.

In fact, if we look for the traits of an agile organisation, could be the following:

Lightness. It comes from the absence of "charges". In the sense of a light structure or organization, uncomplicated, neither authoritarian, nor bureaucratic. In any case, has made an application of 'lean' techniques to all processes, including innovation.

Velocity. Not in the sense of doing everything quicker and running. It means that all processes are optimized and using measures of 'velocity' in them. Cycles have been reduced by the elimination of waste, repetitive or useless tasks from the point of view of value.

Speed. Indicates that waiting times have been eliminates, the processes are realised in a continuous flow, with appropriate responses at all times, even in discontinued operations. Decisions and responses are taken, not in fire fighting way, but responding to created and structured patterns.

Elasticity. Associated also be to flexibility. Flexibility to adapt quickly to different changing needs and elasticity to know in each case the required position.

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[1] 'Velocity' in the sense applied here means the % time of a process that adds value, over the total cycle time or process. Usually between 3 to 5% and can be optimized to more than 50%

Dynamicity. It is the opposite side to the static or stationary. The dynamic company or organization is the one that moves constantly evolving to improve and adapting to changing requirements. It also includes the concepts of prediction and anticipation, without which it would be very reactive to events, while the dynamicity expressed the will to influence these events, cause and anticipate change.

The combination of all above will summarise the agility in terms of business or organization. We can begin to imagine the agile enterprise to innovation and change, as one that evolves with security in its competitive environment and it demonstrates:

• Being the first to detect and understand the events and trends in the competitive environment
• Having a permanent capacity of rapid reconfiguration to changes and needs of new environments and paradigms
• Being able to detect and / or create the same changes to existing paradigms.

In a book written back in 1998, Michael Fradette and Steve Michaud, defined the concept of "corporate kinetics,"[ii] describing the ideal company, able to adapt, to renew, to reinvent itself again, in a constant and permanent. They had already defined the way of survival for the modern enterprise, as their ability to discover, achieve, live and finally, "to be" unexpected. And therefore be able to understand customer needs and serving them to "zero time".

To build this type of behaviour, structures and business processes, they need first of "agility", as opposed to the "rigidity" that characterizes them in many cases, strengthened and supported by a flood of rules, regulations and controls framing all activity.

Jacques-Antoine Malarewiwicz, theoretical and practical of change and systems analysis,[iii] said, that change is a process to transform the impossible or unpredictable to possible. What better definition of agility in the enterprise to survive and thrive because of its ability to innovate. But he set one condition: not to be "locked" in procedures that make the structure rigid, but rather, establish processes (procemolles) light and flexible, rather great rules of behaviour (a client calls them "metarules"), (others prefer something more general and still refer to "values") that frame the steps, preserving the rapid adaptation to the context and promote agility.

• **Difference with flexibility**

Be "agile" is much more to be "flexible", but the flexibility agility shares the notion of "lightness", however, is limited to the "adaptation", which is quite remote and less strong than the "reconfiguration" .

Flexibility is defined as much resilience and thus to cope with minor changes, planned or sometimes recurring. It is what allows a company to customize a product or service adapted to your client, or in another aspect, volumes fit unexpected changes in demand or on an occasional basis.

Flexibility is a necessity in today's environment is a real need for companies because it allows adapting the routine without compromising efficacy. Something closer to continuous improvement. But not enough on innovation where reconfiguration is needed to meet future or emerging needs.

• **Difference with reactivity or responsiveness**.

The reactivity or responsiveness, as desired by the leaders of many companies, which make a fundamental value, in this case would be a quality third level being reactive is knowing how to react to events to avoid being late and missing an opportunity or stop giving bad service. The reaction becomes synonymous with acting too late.

4. Cultural and organisational change. Agility: a project

Agility is often a cultural change in the company or organization. As in all cases of cultural change must be careful with people and with perceptions that the project is received.

With the theme of the process acceleration, people who are best placed to distinguish the tasks that add value or not, are often the workers themselves. You better adapt bottom-up initiatives with the vision, support and facilitation of management.

The direct operators of each process should therefore work in multifunctional teams to identify and improving all processes. To effectively implement agility in the enterprise, teams must become real self-directed, so that the people required solving problems, are designated by the same team, not by management.

It is necessary that members of management or middle management act as motivators and facilitators, helping to create and extend the strength and perseverance.

There are a couple of additional changes in which management can contribute: the first is to modify the strong focus on functional departments to devote the same priority or more focusing in processes. This is essential to unlock the waste that always seems to be generated at the interfaces between departments.

The second is to educate and designing cascade training to achieve understanding and lead to new behaviours. For years, management has focused on improvements around the organization of work and tasks, but in reality that really add value to the entire process often represent only between 3 and 5% of the total.

The education and training program for people and teams can be coordinated by the head of human resources, but should be part of the project activity, ensuring that training is directly related and applied in the work environment.

Sustain

Keeping what has been achieved is difficult, going back is easy. This happens with all new philosophies, implementations and changes. It is often due to lack of management commitment, lack of communication and alignment with the target, lack of understanding or training, or that the project's goals really were not consistent with the strategy of the company. Hence the great importance of beginning, the first step.

Ongoing communication, continuous effort with not giving up and passion for the project, are required. This means continued long-term commitment that can only be achieved by changing habits and culture, so as not to accept more 'waste' or worthless tasks in business processes.

Another important aspect to keep what has been achieved is to have in place or implement an appropriate system of indicators to measure outcomes of processes, including measures of velocity.

This can bring enormous benefits to any organization or company, whether in production, services or government. Success can be achieved if there is a real commitment at the highest management level and that the company recognizes the need for change.

[i] J.F Lacoste-Bourgeacq, P. Crapart, G. Lauga, P. Morin: Innovation Agile. AFNOR. 2007. ISBN 978-2-12-475571-4
[ii] Michel Fradette, Steve Michaud. The power of corporate kinetics. Simon & Schuster, NY, 1998
[iii] Jacques-Antoine Malarewiwicz, Systemique et Enterprise. Village Mondial, 2005.