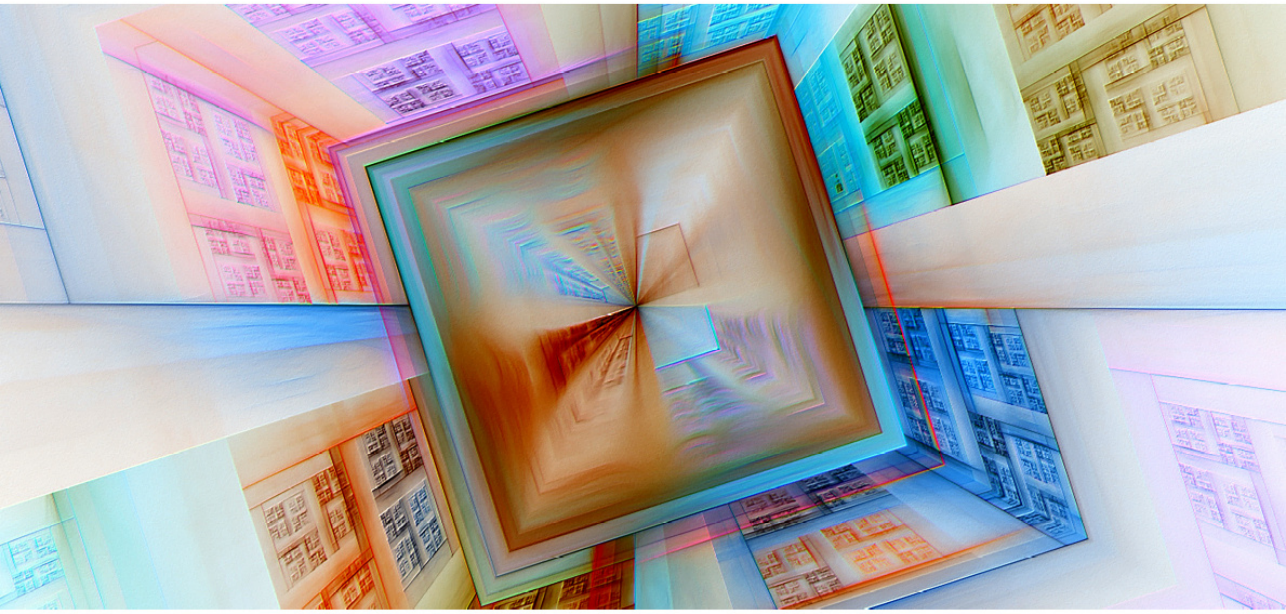
Scrum Manager®



scrum LEVEL®

Agility in companies

Scrum Level

version 3.21

Edition: October 2021.

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Credits and acknowledgements

Scrum Level would not be possible without the knowledge and experience shared by professionals whose friendship I am lucky enough to enjoy, and to whom I wish to convey my most sincere appreciation and thanks.

To the oracles of agility Alexander Menzinsky, David López Torrico, and Sergio Yazyi, to whom Scrum Level owes its cultural and three-dimensional perspective.

To Alexis Hidalgo, Claudia Ruata, Germán Sánchez, Gertrudis López, José López, Marcelino Alonso, Marta Ariza, Marta Palacio, Nicolás Escobar, Pedro José Múgica, Ricardo Araya and Rubén Álvarez. Thank you for the constant gift of your suggestions and feedback.

And to all those professionals who enrich Scrum Level through their training and consultancy experiences:

Thank you

Foreword

Scrum Level is a guide for evaluating and improving business agility in three dimensions: operational, structural, and cultural.

It harmonizes agile principles and values with the systemic reality of organizations. That is, with their specific cultural circumstances and the characteristics of the products or services they provide.

It is a model that is continually evolving and improving, thanks to the knowledge and experience provided by the Scrum Manager® professional community.

Purpose of this book

This book is the reference document of Scrum Level. It contains detailed information about its structure, components, and usage guidelines.

Intended audience

It is aimed at restless and curious people interested in improving agile management in teams, projects, and organizations.

It is a reference and training text for those interested in business agility, as well as a set of guidelines to carry out evaluations, assessments, and improvement processes.

Finally, it is also the full syllabus for those preparing for the Scrum Level Essentials exam (the second part of Scrum Manager's core curriculum).

Prior knowledge of scrum

To approach this guide's contents, we recommend having a prior understanding of the scrum framework. Specifically, of Scrum Manager's core curriculum I, which is available at scrummanager.com.

Content structure

You can find the detailed table of contents at the end of the book.

- Introduction. Basic concepts and premises of Scrum Level.
  - Scrum Level.
  - Differences between agile and evolutionary management and between traditional and predictive management.
  - What we mean by ‘scrum.’
  - Reference cultural models.
  - Dimensions of agility and companies.
- Criteria to evaluate operational and organizational agility, and to assess risks.
  - Operational dimension.
  - Organizational dimension.
  - Support.
- Annexes.
  - How: evaluation protocols.
  - Document or certify evaluations.

Notes about version 3.0

This version adds some relevant changes to the previous one (2.44). The improvements come from the experience and feedback of agile coaches using Scrum Level with their clients.

3 Dimensions

The organizational dimension of version 2.44 is now seen as one facet of the company (organizational facet) that contains two dimensions: cultural (values) and structural (organizational model and management).

Thus, Scrum Level 3D takes into consideration 3 dimensions:

- Technical (operational facet).
- Cultural (organizational facet).
- Structural (organizational facet).

"Variability" has been deleted

The third principle of the previous version has been deleted since it was redundant: "managing variability" is already part of the "value delivery" principle. It's necessary in order to review and handle ever-evolving requirements.

People's knowledge

In the "people over processes" principle (organizational facet) technical and soft skills have been separated from talent appreciation (which is a cultural value).

The analysis of professional skills is then placed in the operational facet, in line with the agile principle of basing the quality of the result on people's knowledge rather than on processes and tools.

"Reference models and frameworks" has been deleted

This chapter offered a summary of state-of-the-art agility frameworks. It's been deleted after considering it more appropriate for other guides other than this one.

Updated terms

Previous element	Previous term	Current term
Principle 1	Focus on value for the client	Value delivery
Practice 1.1	Connection between team and client	Collaboration between team and client
Practice 1.3	Constant improvement of requirements	Variability
Principle 6	Quality of the techniques	Constant attention to excellence
Practice 6.1	Ensuring quality	Use of techniques to ensure quality
Principle 8	Timing and synchronization of teams	Global timing and synchronization

Table 1: terms updated in version 3.0.

1. INTRODUCTION

Scrum Level

Agile project management increases the speed at which companies can deliver value to their clients. It also increases client satisfaction, the level of involvement of team members, their productivity, and boosts learning and development, leading to higher quality results. [versionone.com, 2017]

These outcomes have drawn the attention of companies towards agility, eager to transfer the same benefits to their entire organization.

But becoming an agile business goes beyond implementing agile practices across departments, or an XXL version of an existing agile framework.

The bigger the company, the more complex to manage its people's structure and organization, due to the implications this has over agile governance and culture. Using an agile framework designed for a team to the whole company rarely yields good results.

Taking this reality into account, our goal is to understand and address agility's implications in the three dimensions of a company: operational, structural, and cultural.

Scrum Level's business agility model is developed and supported by Scrum Manager, an organization that has spread agility beyond the operational knowledge of agile practices since its origins. Its approach is a holistic one that considers the organization from a global, systemic perspective. [Scrum Manager, 2017]

Scrum Level develops this idea, integrating the recent contributions that have extended the possibilities of applying agile tactics in areas outside of project management.

Agile and predictive management

Project management models can be divided in two big groups: agile or evolutionary and predictive or traditional management.

20th-century industries used to focus on manufacturing standardized products efficiently. The change of century has brought products and services that require more than efficiency. They need innovation and improving their value in short cycles, taking other aspects such as variety and customization into account.

This change has introduced projects with unstable requirements, which grow and evolve during development and never become a final product, just its latest version. The traditional management model based on closed, change-resistant planning doesn't work for these projects. They demand different approaches to design, management, and production.

Predictive management aims to deliver a complete product complying with the pre-established budget and deadlines.

Evolutionary management aims to deliver a minimum viable product as soon as possible, and keep evolving and improving it at a regular pace.

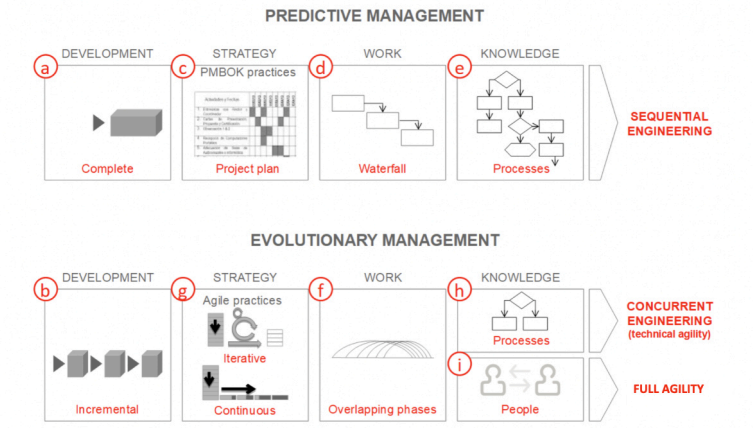


Figure 1: differences between predictive and agile management.

The diagram in Figure 1 highlight the main features of each model, to provide insight into their different goals and approaches. Predictive management wants to deliver a finished product within set deadlines and budgets (a). On the other hand, evolutionary management's goal is to deliver a minimum viable product as soon as possible, and then improve it over time (b).

Predictive management plans work (c) through specialized sequential stages (d) such as defining requirements, analysis, construction, integration, and testing. It ensures that the result will be of high quality by using appropriate processes (e). This development model is called sequential engineering.

Evolutionary projects don't plan separate development phases as just described. Instead, those phases become overlapped and the tasks are carried out in parallel. This concurrent way of working allows to stay open to a constant flow of modifications and improvements on the products' functionalities (f).

These are commonly seen as agile management elements: incremental cycles, overlapped work phases, the use of agile techniques and tools such as the product backlog, sprints, kanban boards… (g) However, there is one element that sets agile management apart from concurrent engineering, which also does all of this. The difference is: where does the knowledge that will determine the quality of the result come from? From processes (h) or from the people (i)?

In the first case, we can call this "technical agility" or "operational agility". It's concurrent engineering that uses agile techniques. The second case would be "full agility".

What we mean by “scrum”

The New New Product Development Game [Takeuchi & Nonaka, 1986] was a study that analyzed a new model of work organization that was obtaining the best results in innovation and time to market. Due to its characteristic self-organized teams, the researchers referred to it as “scrum”, comparing it to the rugby formation.

During the following decade, some software companies started to explore practices in the same line. These attempts emerged as a reaction against traditional engineering and development procedures that had not managed to solve software projects’ specific problems. To the thesis of traditional software engineering, agility posed a refreshing antithesis.

In 2001, the *Manifesto for Agile Software Development*, commonly called *Agile Manifesto* [Beck & Grenning & others, 2001], synthesized the principles of these new working practices. It establishes four core axioms of this new way of working:

> *“We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:*
>
> - *Individuals and interactions over processes and tools.*
> - *Working software over comprehensive documentation.*
> - *Customer collaboration over contract negotiation.*
> - *Responding to change over following a plan.*
>
> *That is, while there is value in the items on the right, we value the items on the left more.”*

“Scrum” meanings

1. Rugby

In this context, scrum refers to a formation in which both teams, crouching and clinging to each other, push for the ball without touching it with their hands.

Figure 2: scrum formation in rugby.

2. Self-organized teams

In 1986, researchers Nonaka and Takeuchi gave the term a polysemic dimension. They used it as a metaphor to describe the new development principles in some of the most innovative technology companies.

Scrum, according to Nonaka and Takeuchi, is characterized by the leading role of brilliant, self-organized, motivated teams, which develop complex systems starting from a general idea and overlapping the development phases.

Figure 3: Ikujiro Nonaka and Hirotaka Takeuchi.

3. Software development

Ken Schwaber presented a new software development methodology in 1995's OOPSLA (the Object- Oriented Programming, Systems, Languages & Applications annual conference). It was based on a scrum work environment and used this term to define the process.

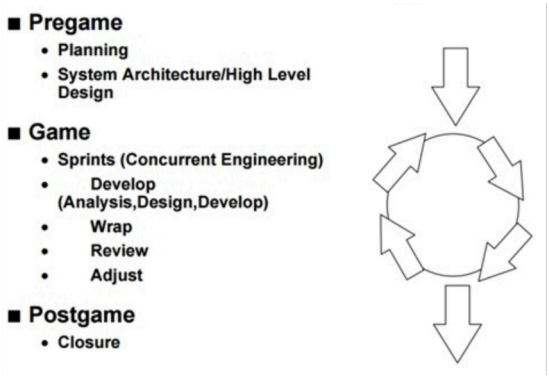


Figure 4: scrum in OOPSLA 1995.

In 2005, Mike Cohn, Esther Derby, and Ken Schwaber founded the Scrum Alliance organization, based on this methodology, which they continued referring to as 'scrum'.

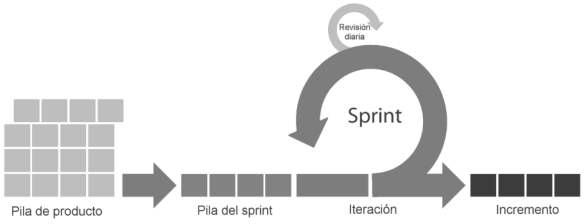


Figure 5: standard scrum cycle

Since then, agility has continued to demonstrate its potential when developing products or services in an evolutionary way, with the involvement of motivated and self-organized teams.

Its popularization has transcended the scope of teams. Current reference models have evolved towards frameworks that scale agility to encompass entire organizations, or towards models oriented to other types of activities

other than software development such as marketing or education.

The purpose of this book is to offer key concepts to classify and identify the circumstances in which each management model is more appropriate, and then expand on this knowledge to decide between specific strategies to implement or improve agility.

Scrum Level uses the term “scrum” with its original meaning, the one given by Nonaka and Takeuchi: a work environment defined by agile, self-organized teams, that work with autonomy, overlap the development phases, and openly share their knowledge and learning.

Cultural paradigms

Some companies' primary focus is to produce the maximum benefit possible for their owners or shareholders. Others also consider the interests of other groups, such as customers, employees, the community at large, or the environment. Some are organized according to vertical or pyramidal structures, while others are flat, rejecting traditional hierarchies. Each company develops a personality that is a reflection of its culture.

It is advisable to know the evolution, characteristics, and implications of the different cultural paradigms, to describe our own better. It can help us predict the consequences of introducing specific changes when agility goes beyond the operational scope and implies cultural and even structural transformation. Through the study of cultural paradigms, we can gain insight into the tensions that implementation or improvement processes can cause.

Scrum Level's reference model for cultural paradigms comes from Frederic Laloux's *Reinventing Organizations* [Laloux, 2016]. He describes the evolution of the cultural values with which humanity has shaped different organization models. We are going to focus our attention on the five last paradigms since they are the ones that still shape current organizations. In Laloux's system, each one is represented by a color: red, amber, orange, green, and teal.

Impulsive paradigm (red)

This paradigm appears for the first time about 10,000 years ago. Humanity moves in a dangerous world, where strength is the most critical asset. The powerful demand and the powerless submit themselves in exchange for safety.

This model produced organizations with chiefs and soldiers or footmen. Its principles are still present in some tribal societies, and impoverished or marginal sectors of today's society, in the form of street gangs or mafias. In this type of organization, the chief maintains his authority by demonstrating absolute and ruthless power.

The emotional relations between people are crude, and empathy is scarce or null.

These organizations are highly reactive to new opportunities and threats, making them effective in the short term. They adapt well in chaotic-catastrophic environments, but they are not useful to develop complex results in stable environments.

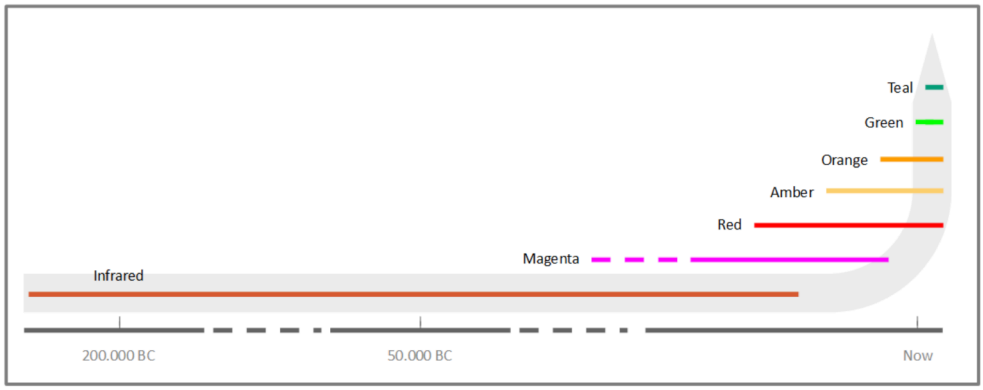


Figure 6: timeline of cultural paradigms.

Conformist paradigm (amber)

About 5,000 years ago, a new paradigm sets in, one that understands casualty and plans for the future. Agriculture requires anticipation and sticking to precise processes, such as collecting and preserving seeds to guarantee the next harvest. Chieftains give way to a rigidly stratified social hierarchy: leaders, officials, priests, warriors, artisans.

In contrast to the opportunism and short-term vision of red organizations, amber ones are appropriate for stable contexts in which it is possible to plan for the future. It enables medium- and long-term projects, such as building cathedrals or extensive and complex trade circuits.

Amber organizations operate on the axiom that the world is immutable, and there is only one right way to do things. What worked in the past will also work in the future. These organizations fundamentally reject changes.

The values of order and predictability that emanate from amber organizations cause them to be perceived as safe havens. It is not so necessary to protect oneself from unforeseen threats or events. Power is hierarchic, immovable, set in pyramidal organization charts, with layers of bosses and subordinates.

The presence of strata and castes with formal titles encourages the adoption of social masks. Amber organizations have invented ranks and uniforms to institutionalize and mark the different functions. People's image and the way they dress reflect their functional identity within the organization. Similarly, people adopt and display behaviors appropriate to their caste.

Achievement paradigm (orange)

The orange paradigm appeared when we began to consider that we were not part of a fixed universe ordered by immutable laws, but of a system that functions as a complex mechanism, with an internal articulation that is possible to study and understand. The new metaphor to define and understand the world we live in was the machine. And to enable progress, it was necessary to understand the underlying mechanisms of this machine.

This paradigm has resulted in scientific research, innovation, and entrepreneurship. It is currently the most widespread model among entrepreneurs and politicians. Over the past two centuries, it has extended life expectancy and produced hitherto unknown levels of prosperity.

Orange organizations present three significant advances compared to the amber ones: innovation, accountability, and meritocracy.

However, this paradigm also has some less virtuous facets: corporate greed, strategic and short-term political goals, over-consumption, indebtedness, and over- exploitation of resources.

Pluralist paradigm (green)

The pluralist paradigm appeared as an antithesis, a reaction to the shadows of the orange paradigm: social inequality, materialistic obsession, and loss of the sense of community.

Currently, the orange paradigm is the one that predominates in politics and business. Green is making its way into non-profit organizations, among activists, social workers, and in general, into people's organizations that operate valuing relationships over business results.

It brings alternatives to the orange organizational models, such as decentralization, empowerment, value-driven culture, and a wider focus on multiple stakeholders: shareholders, but also suppliers, customers, local communities, the environment, and others. The relevance of this paradigm, at least in its beginning, was its disruptive nature, rather than the addition of practical alternatives. According to Frederic Laloux:

> *"In hindsight, we know that these extreme forms of egalitarian organization have not been successful on a meaningful scale for any meaningful amount of time. Bringing about consensus among large groups of people is inherently difficult. It almost invariably ends up in grueling talk sessions and eventual stalemate. In response, power games break out behind the scenes to try to get things moving again." [Laloux F., 2016]*

Technical agility frameworks such a scrum, and organizational agility frameworks such as dynamic governance or sociocracy, work in this way to achieve efficiency and practical results in green organizations. In some cases, they are also used to drive the evolution towards the teal paradigm.

Evolutionary paradigm (teal)

The evolution into teal involves to stop identifying with our ego, for which success, recognition, and wealth are just traps. The goal of teal culture is instead making life worth living, which may bring success, recognition, wealth, or love, but only as a secondary consequence.

The three contributions of the teal paradigm are:

1. Self-management

The green paradigm brings empowerment, but it implies that a senior manager must delegate that power. In teal, authority is not part of a zero-sum system. In the structures of teal organizations, there are no members with decision-making power and executing members. By nature, and not by delegation, everyone can make decisions, and the organization's structure includes holocratic processes for regulating the flow of information and choices.

> *"Every decision made at headquarters takes away responsibility from people elsewhere in the organization and reduces the number of people who feel they are making an effective contribution to the organization."*
> *Dennis Bakke*

2. Fulfillment

In organizations, people tend to present themselves through a professional mask that is appropriate to the expectations of their function and workplace: lawyer, doctor, engineer, mechanic, office worker, director. In teal organizations, there are no promotions to fight for, no bosses to please. People can show their authentic selves. These organizations invest a lot of time in personnel selection, informing candidates of the values and ways of working so that they can decide whether they want to be part of the organization. In this sense, the case of Zappos.com is well known. They offer newcomers a check for $3,000 if they regret their decision during the trial period and prefer to leave the company.

3. Evolutionary purpose

For teal organizations, profit is a by-product of a job well done. The purpose of the organization is not shareholder value or profit maximization, but its evolutionary mission. Brian Robertson, the founder of Holacracy, uses the 'father-son' metaphor to explain the concept:

> *"What is the organization's identity? And what does it want? ... The metaphor is like the parent-child journey: we recognize our child has its own identity and its own path and its own purpose. And just because I might be really excited at the idea of my child being a doctor, that doesn't mean I get to project that on my child. There is a harmful, co-dependent process when I do that. We've learned as parents that the healthy parent's journey is a differentiation process, and ironically that differentiation of parent and child allows each to have their own autonomy and identify more fully, which then allows a more conscious integration where we are in relationship and interconnect, but it's a relation of peers, of equals. It's us humans that can tune into the organization's evolutionary purpose; but the key is about separating identity and figuring out "What is this organization's calling?" Not "What do we want to use this organization to do, as a property?" but rather "What is this life, this living system's creative potential?" That's what we mean by evolutionary purpose: the deepest creative potential to bring something new to life, to contribute something energetically, valuably to the world. ... It's that creative impulse or potential that we want to tune into, independent from what we want ourselves." [Brian Robertson, (Laloux F., 2016)]*

Paradigm	Summary	Organizational model	Examples	Contributions
Reactive (red)	The powerful rule. Binder: fear. Reactive. Short-term focus It thrives in chaotic environments.	Pyramidal, dictatorship.	• Mafia. • Street gangs. • Urban tribes.	• Division of labor. • Command authority.
Conformist (amber)	Functional formalization. Vertical command and control. It values stability and obtains it through rigorous processes.	Pyramidal, caste hierarchy.	• Church. • Armies. • Governments. • Public education.	• Formalized functions. • Processes.
Achievement (orange)	Focus on profit, growth, and outperforming competitors. Key value: innovation. Management by objectives.	Pyramidal, meritocracy.	• Internatio-nal and traditional companies. • Private education.	• Innovation. • Responsibi-lity. • Meritocracy.
Pluralist (green)	Focus on empowering and motivating people.	Hybrids.	• Agile organizations.	• Empower-ment. • Cultural values. • Groups of interest model.
Evolutionary (teal)	Focus on developing the holocratic potential of people within the organization and the community.	Fractal, holocracy, sociocracy.	• Holocratic and sociocratic organizations.	• Self-management. • Fulfillment. • Purpose.

Table 2: characteristics of organizations according to cultural paradigms.

PURPOSE OF THE COMPANY	Profit Shareholders / company owners	Benefit for interest groups Shareholders, providers, employees, community, environment…	Evolutionary purpose The company itself as an organism that is part of a global system
STRATEGY	Methods and processes		People
CULTURAL PARADIGM	**ACHIEVEMENT Orange**	**PLURALIST Green**	**EVOLUTIONARY Teal**
ORGANIZATIONAL MODEL	Pyramidal, meritocracy	Hybrid	Fractal, holocracy, sociocracy
EXAMPLES	• Multinationals. • Traditional companies.	• Agile organizations.	• Holocratic and sociocratic organizations.
CONTRIBUTIONS	• Innovation. • Responsibility. • Meritocracy.	• Empowerment. • Culture values. • Model of interest groups.	• Self-management. • Fulfillment. • Purpose.
METAPHOR	Machine	Family	Organism

Table 3: characteristics of organizations according to cultural paradigms.

Company dimensions and agility

Companies are complex systems in which factors of two facets interact:

- Operational: in charge of the products or services provided by the company.
- Organizational: cultural principles and structure of the company.

A common approach to scale agility is to do it from both facets at the same time, introducing modifications in project management, development processes, culture, and governance. This fails to consider separately:

- If the company can build its products, services, or projects incrementally, and whether doing so provides benefits to customers or to the commercialization.
- Whether the company's ownership desires changes in the structure or governance model and is aware of the implications of those changes.

In companies that do not need or cannot deliver incremental results to their customers, agility has its place in the organizational facet, rather than the operational one. Some examples of this scenario would be AES (energy sector, 40,000 employees), Heiligenfeld (mental health hospitals, 600 employees), or Zappos.com (online retail store, 1,500 employees).

On the other hand, some elements can jeopardize an attempt to escalate agility in the company's organizational facet. For example, if the company focuses solely on the benefit of its shareholders, or if it bases its know-how on process engineering rather than on the tacit knowledge of people.

Not considering each facet separately fails to recognize that one can adopt evolutionary management and concurrent engineering practices without making significant cultural and structural changes. It also makes it impossible to introduce such changes without adopting technical agility practices, which can be inappropriate for the company's products and services.

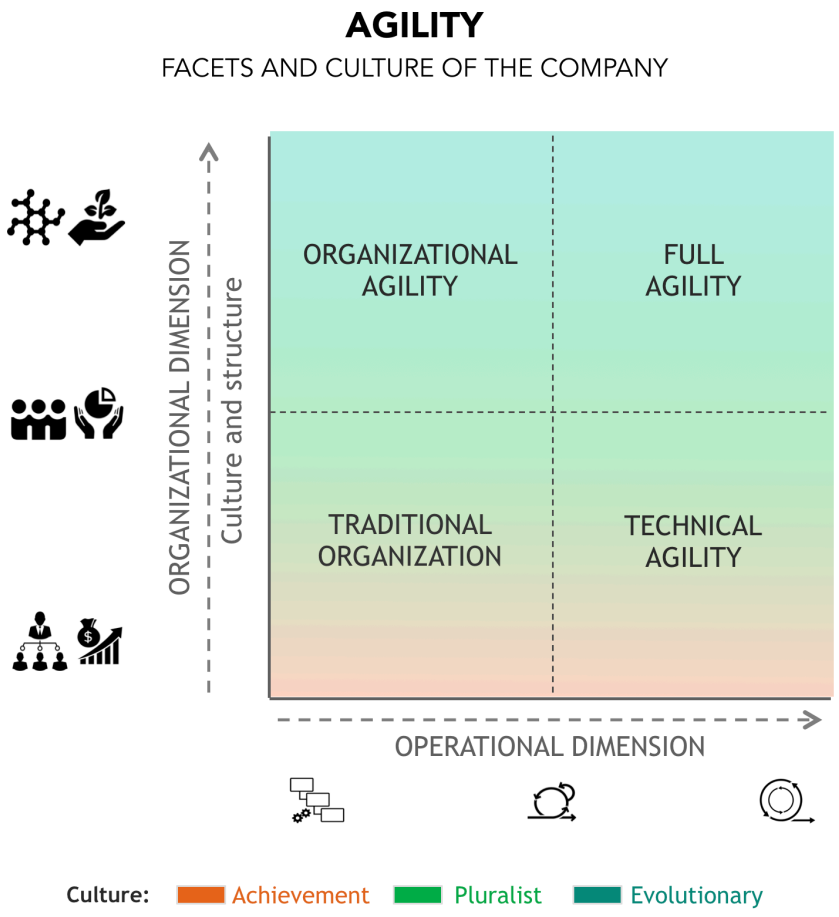


Figure 7: company agility and dimensions.

Reasons to be agile and how to achieve it

The first question we need to ask to pick a suitable strategy to scale a company's agility is why it wishes to go through this transformation.

1. For operational reasons

To deliver value early and continuously

If this is the motive or one of them, the company needs to institutionalize some form of technical agility. It is advisable to start with a standard one and, observing and experimenting, adapt it to the organization's specific needs.

The best model for small companies is probably the standard scrum framework. For larger organizations, the most common frameworks are:

- LeSS (Large-Scale Scrum).
- Nexus.
- SAFe (Scaled Agile Framework).
- Scrum of Scrums.

To create environments that boost motivation and produce value

Organizational agility strategies focus on the company's structure and culture. Structurally, they try to shift from a vertical hierarchy to a horizontal, fractal model. These allow for a transition from management to self-organization and autonomy. The most widespread models in this area are:

- Sociocracy or dynamic governance.
- Holocracy.
- Fractal teams.
- Sociocracy 3.0.
- Holacracy®.

To scale up agility in big projects with several involved teams

Today's projects and complex products require several teams and practices at scale to cover:

- Team collaboration.
- Managing the dependence between teams and projects.

- Coordinating roles.
- Aligning and synchronizing events.

2. For aesthetic reasons

For contractual obligations, marketing, or trends

This guide does not deal with communication and marketing. However, it advises against the simulated implementation of agile management models for purely aesthetic purposes. Pretending to be agile is a short-sighted and dishonest management strategy.

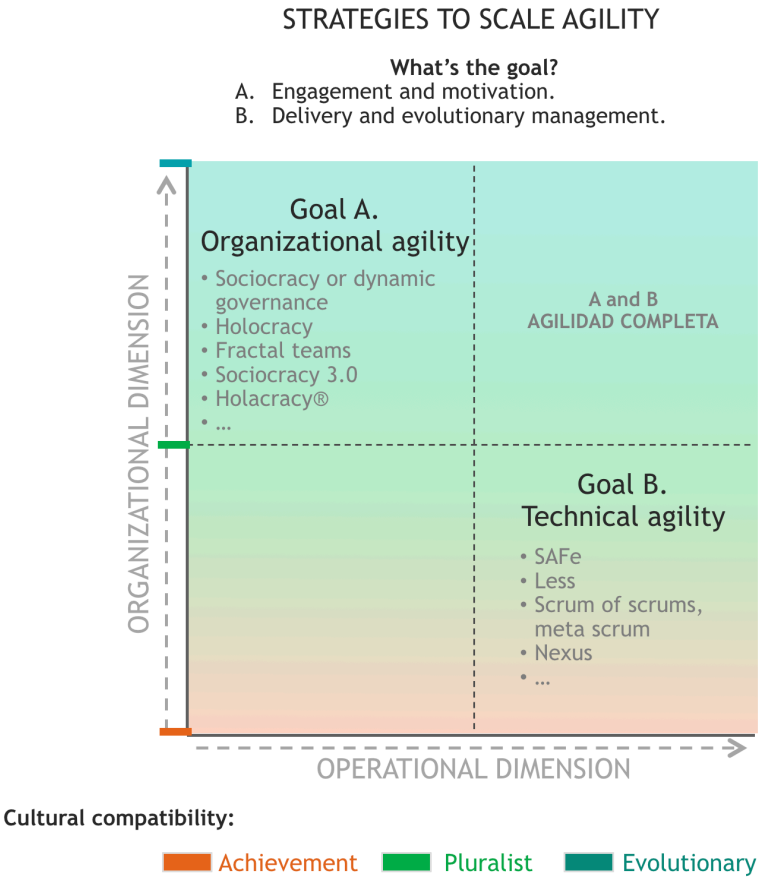


Figure 8: strategies to scale agility.

Considerations

Operational agility

It should be considered whether the product or purpose of the organization is more valuable produced in an incremental way, starting from an early launch and adding on it through iterations.

The main risks when scaling agility in the operational facet of the company:

- Lack of management support.
- Lack of training or insufficient knowledge of agility.
- Lack of implication and alignment with the client.

Organizational agility

It is most relevant in knowledge companies, those that use knowledge to generate value. They cover fields such as education, research, development, high technology, computing, communications, robotics, nanotechnology, among many others.

For a successful transformation, company owners should be willing to develop a green or teal culture.

The main risks of introducing agile values in the organizational facet are:

- Company ownership does not share the same changes in structure or governance model.
- Lack of management support.
- Lack of training on the principles and operation of the governance model.
- Resistance to change or opposition from area managers to the new governance structure and processes.

Degree of implementation

Some standard models, such as Holacracy® or the standard scrum framework, claim that they should be applied rigidly and entirely to achieve the best results.

They claim that it is not possible or advisable to use only certain practices or to combine them with procedures either from other models or unique of the company.

Other models, such as Sociocracy or SAFe, consider all their components to be optional.

In truth, being flexible enough to create a culture and production framework of one's own is the best formula, always from a well-documented, expert criterion.

Compatibility with the company's culture

Technical agility works with evolutionary life cycles, rather than predictive ones. It does not employ sequential engineering, but concurrent engineering, and produces incremental deliveries instead of predefined, complete ones.

Its scope of action is limited to project management and engineering practices, which can be applied regardless of the organization's cultural paradigm. However, this does not happen with organizational agility. This one requires the company's structure and culture to enable self-organization and autonomy in decision-making.

To empower people and teams enough as not to limit the desired agile framework.

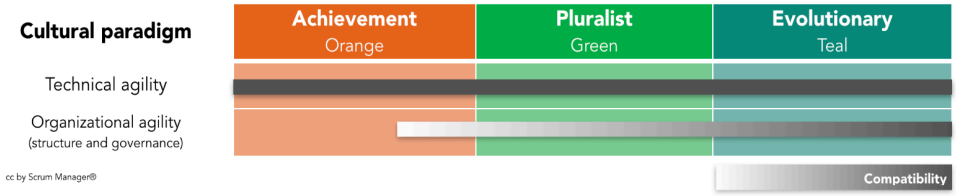


Figure 9: compatibility between agility and organizational culture.

2. VALUES, PRINCIPLES, AND SUPPORT

Agility's principles and values

In software development, agile teams handle client requirements by adding them to a product backlog, while traditional teams use software requirements specification (SRS) documents.

A product backlog is an example of lightweight documentation used in agile management. On the other hand, the SRS is a formal model to specify software requirements, used in predictive management. But what sets these two styles apart is not the use of specific tools such as the product backlog and the SRS.

It is never about the practices employed by management models, but about the principles they enable.

The agile principle behind the product backlog, for example, is incremental development. Agility produces and delivers fully operational parts of the product in increments, and requirements evolve in parallel. Thus, a format that is easy to adjust, such as the product backlog, is more appropriate. A project's management style would not be agile for using a product backlog, but because it develops the product incrementally.

A company's agility in its operational facet (technical agility) is the result of certain principles that enable specific practices, rather than a consequence of the practices themselves. The more appropriate the methods are to the type of project and company, and the higher the knowledge and experience of the people who execute them, the greater the degree of operational agility.

Similarly, the agility of the company in its organizational facet is a consequence of cultural values, which manifest themselves in people's behavior: management, relationships, and communication. It also depends on the principles behind its organizational structure and relations.

Lastly and most importantly: the development of a company's agility, in any of its sides (operational, structural, and cultural), needs the implication and support of its managers. Without it, or even worse, if the management's behavior is incompatible, any attempts to improve agility will be unfeasible.

When working on agility implementation and improvement, our focus

shouldn't be on introducing certain agile practices or even frameworks. Instead, it must be on the necessary principles, values, and support.

Dimensions and facets of the company

Any company has two facets:

- Operational, which develops the products or carries out the services of the company.
- Organizational, which manages the company's structure and culture.

Figure 10: dimensions and facets of the company.

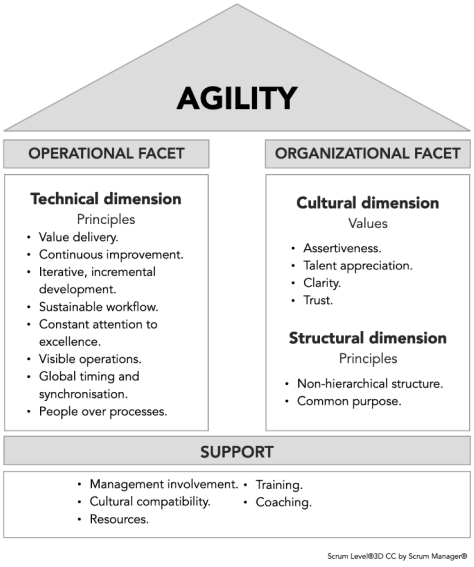


Figure 11: principles, values, and support of agility in companies.

Operational facet

The next table features the principles of operational agility and practices used to develop them. This chapter will explain each one in detail:

Principles	Practices
1. Value delivery.	1.1. Sharing and understanding the client's vision. 1.2. Connecting client and team to ease collaboration. 1.3. Managing variability.
2. Continuous improvement.	2.1. Reviewing work methods and techniques. 2.2. Continuously improving the product or service.
3. Iterative and incremental development.	3.1. Start from a viable minimum. 3.2. Frequent integration points with feedback analysis. 3.3. Milestones based on the objective testing of finished parts.
4. Sustainable work pace.	4.1. Keeping an optimal and continuous workflow. 4.2. Focus.
5. Constant attention to excellence.	5.1. Use of techniques to guarantee high quality.
6. Visible operations.	6.1. Early identification of obstacles. 6.2. Sharing information relating to development status.
7. Global timing and synchronization.	7.1. Cadence and synchronization through crossed planning. 7.2. Predictable delivery dates for increments and integrations.
8. People over processes.	8.1. High technical skills. 8.2. High soft skills.

Table 4: principles of operational agility and practices to develop them.

1. Value delivery

There is a crucial difference between business value and customer value. Here's how Steve Jobs explains it:

> *"I have my own theory to explain why decline happens at companies like IBM or Microsoft. The company does a great job, innovates and becomes a monopoly or close to it in some flied, and then the quality of the product becomes less important. The company starts valuing the great salesmen, because they're the ones who can move the needle on revenues, not the product engineers and designers. So the salespeople end up running the company. John Akers at IBM was a smart, eloquent, fantastic salesperson, but he didn't know anything about product. The same thing happened at Xerox. When the sales guys run the company, the product guys don't matter so much, and a lot of them just turn off." [Isaacson, 2011]*

The goal of the agile company is not the business value it produces, but the value it gives to its clients. Income is a consequence, a measurement of success that confirms that the company must be doing something right.

Practices to facilitate the institutionalization of this principle:

Sharing and understanding the client's vision

The team should know, understand, and share the customer's vision, what they want to achieve. Some practices that can help: product vision board, product backlog, product vision box, product canvas, PI planning, product owner board...

Connecting the client with the team to ease collaboration

The person responsible for the product or service must collaborate with the team, either directly or through a product owner. Collaboration can happen through different communication and synchronization events and practices, such as sprint planning and sprint review meetings.

Managing variability

Development must be able to adapt to the evolution or change of the product's requirements. Some ways to do this are specifying requirements in user story format, through a product backlog, or a kanban board.

2. Continuous improvement

The aim of this principle is to continuously perfect and improve the efficiency of work methods and practices.

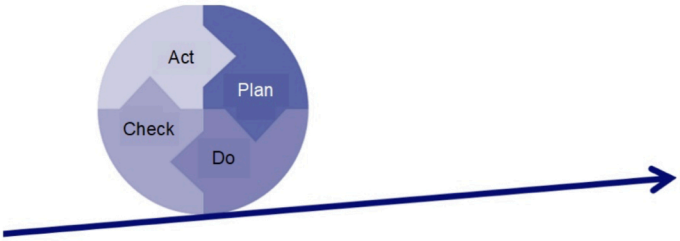


Figure 12: continuous improvement cycle.

This principle requires curiosity and a drive to continually review and upgrade both the product and the efficiency of the team's practices and methods. As stated in the Agile Manifesto:

> *"At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly."*

Agility, in its operational dimension, implies that the team can organize autonomously. It is them, and not quality departments or processes, who carry out the necessary practices to review and improve their working methods. This is how it should work in companies with a fit level of organizational agility.

There are no methods, practices, or models capable of staying efficient indefinitely. Professional knowledge evolves all the time because its context changes all the time. And because everything is susceptible to improvement.

Agility uses inspection and adaptation in a continuous improvement cycle. It does so at two levels: work methods and products. In short, the agile company is always learning.

These are some examples of how teams can institutionalize this principle:

Reviewing work methods and techniques

To identify possible areas of improvement in the way they carry out their jobs. A couple of well-known practices for this purpose are retrospective meetings (either for a team, a department, or the whole organization), and workshops for solving organizational impediments.

Continuously improving the product or service

Short development cycles, as well as product review meetings for each integration, can serve to get valuable feedback and achieve improvements.

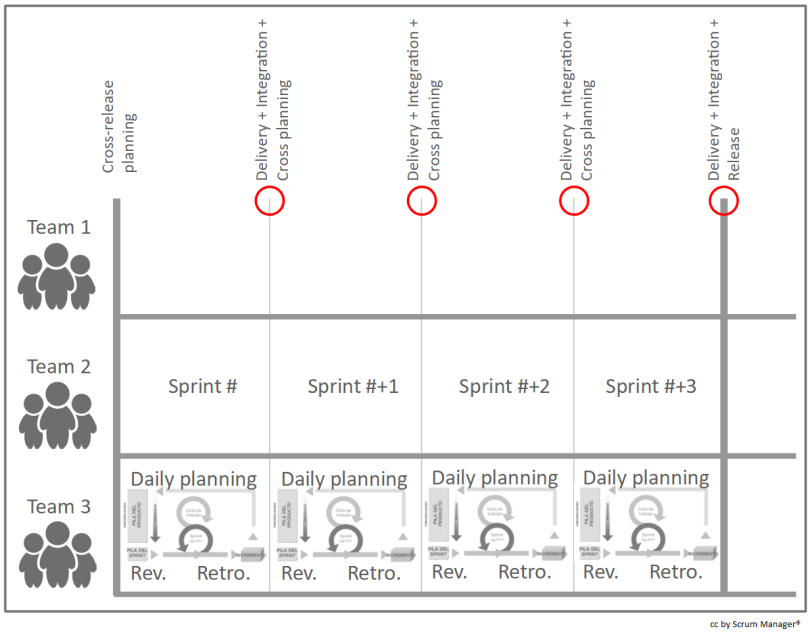


Figure 13: example of continuous improvement through reviews.

3. Iterative and incremental development

Agile projects start by launching a minimum viable product (or service): a min- imum, deliverable part, useful for the client. This first version is then improved over time through frequent increments.

Incremental development doesn't require excellent, thorough planning. It is predisposed to accept variability, and it evolves and improves in parallel with development. Each step provides real and objective feedback. Those who use the product make suggestions to improve its design and functions.

To assess how institutionalized this principle is, one should consider the presence and capacity of practices aimed at:

Starting from a viable minimum

The project management model or framework of the company uses the 'mini- mum viable' approach for launching new products.

Frequent integration points with feedback analysis

These integration points are present both when testing subsystems and the full solution/increment.

Basing milestones on the objective testing of finished parts

Milestones don't match the development phases of an initial plan (e.g., require- ments, design, development, and integration). They reflect the increment cycles typical of agile development.

4. Sustainable working pace

In knowledge companies, projects tend to move forward at a more or less relaxed pace that becomes increasingly stressful as the deadline approaches. Since productivity and creativity decrease in situations of pressure or anxiety, this is problematic.

One can evaluate this principle by observing company practices for:

Keeping an optimal continuous workflow

The organization's development cycle uses short incremental production cycles (sprints), or agile workflow management techniques such as kanban.

Focus

Teams should avoid multitasking and focus on a single goal to keep tasks at cruising speed, especially when their mission is to develop complex solutions

5. Constant attention to excellence

The Agile Manifesto states in one of its principles that *"Continuous attention to technical excellence and good design enhances agility."*

This attention to quality operates both in the functional, external aspect and in the internal, technical one. It's critical to satisfy user expectations and to keep improving the product over successive iterations. The ease with which a product adapts to change is directly proportional to the simplicity and quality of its de- sign, and inversely proportional to the technical debt it has acquired.

To evaluate the institutionalization of this principle in a company, one must identify tools and working methods capable of filtering and detecting errors in time. Such practices are often industry-specific. In software development, there's Test-Driven Development (TDD), continuous integration, pair program- ming, code refactoring, collective ownership over the code, or design simplicity.

6. Visibility of operations

This principle facilitates the early detection of problems and impediments. It consists of making all information regarding product functionality and development clearly and directly accessible to the entire team.

Practices to measure and improve transparency:

Early identification of obstacles

Daily stand-up meetings, whiteboards or kanban boards to share development related information, and feedback-rich, short iteration cycles.

Sharing information related to development status

Through kanban boards, product meetings, and assertive, open participation protocols.

7. Global timing and synchronization

Escalating agility to the full company entails making different teams work as one. They share the same vision, road map, and work strategy.

When several teams are working on related products or services, each must participate in cross-functional planning with the others. Techniques such as sprint synchronization allow the integration of each team's increments, ensuring that what has been built can be assembled to work together.

This principle's implementation and potential must be assessed by analyzing whether the company's practices for products and services' life cycles cover:

Cadence and synchronization through crossed planning

Cadence makes meetings predictable and makes it possible to coordinate agendas. It reduces variability as it depends on the size of iterations, providing rhythm to the development.

Predictable delivery dates for increments and integrations

Combining timing, synchronization, and planning is necessary to build effectively in a changing product framework.

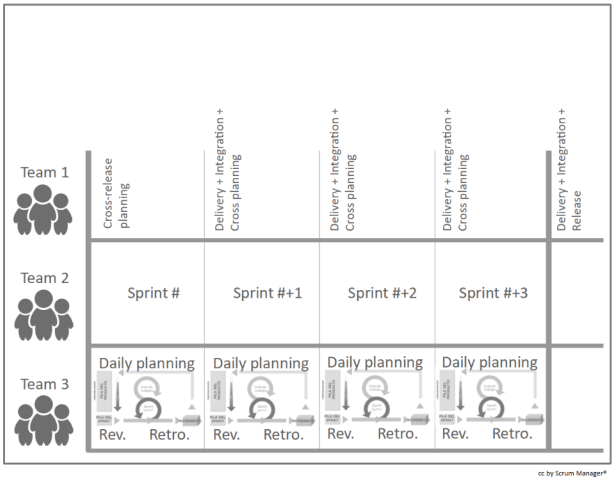


Figure 14: Sprint synchronization..

8. People over processes

The Agile Manifesto, in its first principle, states that it values individuals and their interactions over processes and tools. Agility believes the result's quality depends on the tacit knowledge of those who produce it, and their collective intelligence, rather than the processes and tools they use.

To assess the extent to which people and their interactions add value to the result, one should pay attention to people's professional knowledge and social skills.

This principle is uniquely complex and sensitive to evaluate. In order to do so it's convenient to separate three types of knowledge:

Technical skills

- Technical knowledge about agility.
- Specific knowledge to conduct one's job in the company.

Social skills

Also known as "interpersonal" and "transferable" skills. They aren't linked to a specific job or function in the company. Instead, they refer to a person's general disposition when working with others. They are difficult to measure, and if the evaluator is not familiar with them we recommend not to do it.

In the "evaluation criteria and risks" section we elaborate more on how to approach the evaluation of this principle, keeping this separation between types of knowledge.

Organizational facet

A company can improve its operational agility by adopting evolutionary management practices and concurrent engineering, without making any significant structural or cultural changes.

Conversely, it is also possible to develop organizational agility without adopt- ing any of the aforementioned practices. This is particularly useful if the product or service produced by the company does not require.

The organizational facet shapes the company's personality and consists of a cultural dimension and a structural one. The next tables show the cultural values and organizational principles that are the essence of an agile organization.

Values	Behaviors
1. Assertiveness	1.1. Courage 1.2. Respect
2. Talent appreciation	2.1. Incorporation and development 2.2. Retention 2.3. Professional development
3. Clarity	3.1. Transparency 3.2. Honesty
4. Trust	4.1. Safe environment 4.2. Trust

Table 5: cultural values and behaviors.

Principles	Behaviors
5. Non-hierarchical structure	5.1. Self-organization 5.2. Flat hierarchy
6. Common purpose	6.1. Known and shared purpose 6.2. Value-driven decisions

Table 6: structural principles and behaviors.

1. Assertiveness

In assertive relationships, people feel free to express their opinions naturally while respecting those of others. The presence of this value in an organization can show through some behaviors:

Courage

People participate actively and confidently in daily challenges and situations. They dare to express their criteria and opinions, even when they go against the majority.

Respect

People share their opinions in a non-aggressive and considerate way, respecting the dignity of others.

2. Talent appreciation

To the extent that the value of the product is a consequence of the tacit knowledge of people, rather than of the company's processes and technology, agile organizations do not manage people, but talent.

Three organizational behaviors can serve to assess this value:

Incorporation and development of talent

To what extent is attracting talent the primary purpose of recruitment and training activities in the organization?

Talent retention

Is the working environment enriching and socially healthy? Some policies in this line are:

- Intrinsic motivation.
- Empowerment.
- Knowledge and involvement in the project's vision.
- Sustainable work pace.

Professional development

To what extent is people's career development a strategic goal of the organization?

3. Clarity

In agile organizations, the availability and exchange of information between people and teams are honest and without reservations.

Related behaviors that reflect the implementation of this value:

Transparency

Information exchange and communications are clear between people and teams in the company.

Honesty

People feel free to communicate sincerely.

4. Trust

Having open dialogues encourages the involvement of people. They feel they are in a safe environment and can raise their concerns, suggestions, and propose solutions.

Behaviors for assessment:

Safe environment

People know they can express themselves freely and assertively, showing them- selves as they are, without feeling challenged by it.

Trust

People know that the organization trusts them and vice versa.

5. Non-hierarchical structure

Agile organizations develop decentralized organizational structures, empower- ing people so they can work in a self-organized way.

Behaviors to consider:

Self-organization

> *"Knowledge workers have to manage themselves. They have to have autonomy." [Drucker, 1999]*

Team autonomy can happen to different degrees, depending on the scope of responsibilities managed by its members. At a minimum, each person is responsible only for the tasks directly assigned to them. At most, everyone shares all functions of development, task management, and strategy participation equally.

We can identify four levels of self-management in teams:

- Directed teams. Team members only have the authority to execute their assigned tasks. Managers are in charge of the project, monitor progress, design the working framework, and participate in strategic decisions for the organization.
- Self-managed teams. Team members have the authority to carry out tasks and also to manage them within the scope of the project. For exam- ple, teams that decide to use scrum and kanban practices to manage their workflow.
- Self-designed teams. Team members are responsible for executing and managing tasks within the project. They also design the organizational model of the team and the working framework.
- Self-governing teams. Apart from the responsibilities of self-designed teams, self-governing teams also can make decisions in certain areas of the organization's global strategy.

When analyzing the self-organization, one must consider that the second level (self-managed) can be enough to ease operational agility. However, increasing organizational agility requires a level 3 (for green-culture companies) or 4 (for teal- culture companies).

Figure 15:cultural paradigms and team autonomy.

Flat hierarchy

Hierarchical structures develop management and control models to direct workers, so each level designs the instructions and controls those below it.

> *"It is only through enforced standardization of methods, enforced adoption of the best implements and working conditions, and enforced cooperation that this faster work can be assured. And the duty of enforcing the adoption of standards and of enforcing-this cooperation rests with the management alone." [Taylor, 1911]*

Hierarchical control works in stable environments and orange-culture organizations, but it doesn't promote creativity. It also doesn't allow large organizations the continuous and rapid adaptation that complex ecosystems demand.

Another aspect to consider is that when results depend on people's talent, teams need to have autonomy and be able to self-organize, which implies flat hierarchies.

> *"It doesn't make sense to hire smart people and tell them what to do. We hire smart people so they can tell us what to do." Steve Jobs*

Evaluation processes to assess and improve organizational agility must consider the presence of hierarchical levels regulating the information, communication, management, and workflow of inferior levels.

6. Common purpose

Behaviors to consider:

Known and shared purpose

Agile organizations have a defined purpose that their members know and share as the essence of their work, beyond the possible objectives of each team or department.

Value-driven decisions

The actions carried out to reach this purpose are in line with the organization's values.

Support

Agility improvement requires support from the organization in 5 ways. Deficiencies in these points are the leading cause, if not the only one, that explains failed agility implementations and cultural changes.

Management involvement

The degree to which the company's managers are aware of the principles and implications of agile management. Also, whether they actively promote the de- sired model of agility for the organization.

Cultural compatibility

There must be an overlap between the cultural paradigm of the company's ownership and the planned agility goal, in all the dimensions of the organization (operational, cultural, and structural).

Means

The organization provides sufficient resources to develop and improve agility.

Training

The organization provides training for the proper operation of agility in the dimensions, areas, and extent that have been set as objectives.

Coaching

There are sufficient guidance and assistance for the professionals in the organization to face the transformation.

3. EVALUATION AND RISK ASSESSMENT

Evaluation and improvement

Assessing each agile principle and value allows us to develop a prioritized action stack. Then it becomes necessary to consider the expected impact on the overall improvement of the organization and the difficulty or risk of each action.

To this end, Scrum Level proposes some simple criteria, which we will elaborate l in this part of the guide. They help quantify the degree of implementation of principles, values, and the company's support. We'll assign a numerical value to each of these elements as well as to the difficulties and foreseeable risks.

However, quantifying agile principles and values is not done to set a score over a standard of agility. The goal is to pick a strategy and mechanics of analysis that allow:

- To collect information from the organization.
- To structure and select a focus for the improvement analysis.
- To determine and prioritize improvement activities for each cycle.
- To have a series of relative data to determine the transformation's progress.

The purpose of evaluations

With Scrum Level, you can identify and quantify the strengths and weaknesses of agile management in companies. Still, if you want to conduct a non-objective analysis to obtain a high "agility" score, you can try to rig the data. Depending on how well you do it and who you present it to, it might slip through. It is a common reason to use certifications of all sorts. Some people are more interest- ed in getting a selfie than an x-ray.

Scrum Level's evaluation model allows us to conduct expert evaluations. That is, led by a professional who can make informed choices to collect and ponder data —someone who understands the organization.

It is also possible to use Scrum Level to carry out technical evaluations, based on a ready-made protocol.3 It can be your own, or you can repurpose a protocol made by someone else. It sets a procedure to sample, formulate, and

weigh results.

Scrum Manager keeps developing this model to facilitate a structured, useful plan of action to analyze and improve agile management. The purpose of these models, standards, and certifications, is to serve as a guide in improvement processes and to measure progress. A dishonest use, with the aim not to improve, but only to pretend, is contrary to the principles of Scrum Manager and the purpose of Scrum Level.

Operational agility assessment

An operational evaluation observes the working practices linked to agile principles. The following table shows the principles of agile operations and the methods that make their implementation possible.

1-7. Criteria to assess practices

The parameters to quantify the implementation of the seven principles' practices are:

Value	Criteria
0	Not implemented. There's little or no evidence of practices for this purpose.
1	Partially implemented. Sometimes appropriate practices are used, but not often in the projects that are part of the evaluation's scope, or not homogeneously.
2	Widely implemented. The practices are often employed, although they aren't institutionalized. Thus, there is no guarantee of homogeneity and continuous improvement.
3	Fully implemented. The practices are always in use, they are institutionalized through training and continuously improved.

Table 7: Criteria to assess the practices of operational agility.

8. Criteria to assess “People over processes”

As introduced in the chapter about the operational facet, we can separate people’s knowledge in three areas:

- Technical knowledge about agility.
- Specific technical knowledge for each person’s job.
- Social skills.

Assessing the proficiency of people’s specific technical skills goes beyond Scrum Level’s scope. This guide only specifies how to assess the level of knowledge about agility (see the table ahead).

Professional excellence is very relevant in agile companies. People’s technical skills, experience, and emotional intelligence should be considered, but doing so is a daunting task, often beyond the set of tools of agile consultants. Not only is it complex to measure, but also any attempts to do so risk to alienate the evaluation team and cause tensions.

Considerations

We recommend the following for expert protocols and evaluations that decide to evaluate this principle:

- Assess the level of the team, instead of individually.
- Collaborate with the person or department in charge of Human Resources to obtain the necessary information.

Criteria to asses technical knowledge

- 0: insufficient.
- 1: sufficient or adequate.
- 2: good.
- 3: excellent.

Criteria to assess social skills

In this sense we need to consider, on one hand, the correct combination of personalities or roles within teams. The Belbin model is an example of a framework to do this.

On the other hand there are specific social skills that every person should have and train to perform their work appropriately. These are some of the most notable soft skills:

- Communication.
- Adaptability.
- Work ethic.
- Time management.
- Conflict management.
- Creativity.
- Critical thinking.
- Interpersonal skills.
- Leadership.

In order to assess them, use the same criteria as for the technical knowledge: from 0 (insufficient) to 3 (excellent).

Criteria to assess knowledge about agile practices

Value	Criteria
0	Insufficient: the person doesn't have enough knowledge to carry out the tasks of their job using agile practices. Reference for evaluation: the person wouldn't be able to pass a technical-level Scrum Manager exam, or a standard scrum master exam.*
1	Technical level: the person has sufficient knowledge to carry out the tasks of their job using agile practices. Reference for evaluation: the person would be able to pass a technical-level Scrum Manager exam, or a standard scrum master exam.
2	Expert level: the person has ample knowledge to carry out the tasks of their job using agile practices References: • The person would be able to pass an expert-level Scrum Manager exam. • The person could pass a technical-level Scrum Manager exam, or a standard scrum master exam and has at least 12 months of experience working in teams that use agile practices.
3	Authority level: the person has expert knowledge about agile management of projects and organizations, and about scrum. References: • The person has a Scrum Manager certificate with over 200 AP. • The person could pass a technical-level Scrum Manager exam, or a standard scrum master exam and has at least 24 months of experience working in teams that use agile practices.

Table 8: criteria to assess knowledge about agile practices.

Calculating the company's operational agility

We can determine the operational agility of the organization by assigning a 0-3 score to each practice. These are the guidelines to follow in doing so:

1. Average values

Obtained by averaging the scores of the operational agility components: agile practices and people's knowledge.

Calculate the arithmetic average, not the median.

2. Homogeneity

A lack of uniformity between the partial values is a symptom of tensions or frictions in the organization. They can diminish and even neutralize the benefits of agility that one could expect from the arithmetic average. When this happens, one needs to analyze the causes and consider its effect on the resulting average value.

3. Weighing

The analysis can weigh the average values considering:

Technical evaluations (see "Glossary"): we recommend that you use formulation criteria to acknowledge the mitigating impact of a lack of homogeneity.

Expert evaluations: in these, the evaluator's perspective prevails. It is ultimately them who decide, not the arithmetic result. The assessment must include their reasoning and argumentation for any adjustments to the average results.

Formulation

The value of operational agility can be obtained by averaging the scores of its principles. Each of these scores is the arithmetic average of the principle's practices.

Here's an example of a possible assessment of the practices of the "value delivery" principle:

Practices aimed at	0	1	2	3
1.1. Sharing and understanding the client's vision	x	x	x	
1.2. Connecting client and team to ease collaboration	x	x		
1.3. Managing variability	x	x		

Value delivery: 1,3.

Knowledge about agility

The analysis should consider applying weighing criteria if more than 20% of the evaluated people score 0.

Example of a possible result verifying technical knowledge of agility:

Knowledge about agility	0	1	2	3
Person's name	x	x	x	
Person's name	x	x		
Person's name	x	x	x	
Person's name	x			
Person's name	x	x	x	

Knowledge about agility: 1,4.

Result

The level of agility of this dimension is the average of all its principles. Here's a possible result:

Principle	Result
Value delivery	1,3
Continuous improvement	2
Iterative and incremental development	1,5
Sustainable workflow	2
Constant attention to excellence	1,1
Visibility of operations	1,3
Global timing and synchronization	1
People over processes	2

Operational dimension agility, final result: 1,52.

Organizational agility assessment

Agility in the organizational facet of the company is the result of two dimensions:

- Cultural dimension.
- Structural dimension.

1-4. Criteria to asses the cultural dimension

These are the criteria to assess the presence of each behavior:

Value	Criteria
0	Unusual behavior. It hardly ever happens.
1	Possible behavior. It rarely happens..
2	Habitual behavior. It occurs frequently.
3	Institutionalized, formalized behavior. It occurs all the time.

Table 9: criteria to assess the behaviors linked to cultural values.

5-6. Structural dimension assessment

5. Non-hierarchical structure

5.1. Self-organization

Value	Criteria
0	Managed teams.
1	Self-managed teams.
2	Self-designed teams.
3	Self-governing teams.

Table 10: criteria to assess self-organization.

5.2. Flat hierarchy

This depends on the number of hierarchical levels present in the company's structure:

Value	Criteria
0	Over three levels (such as advisers, directors, managers, and technicians).
1	Three levels (a division such as strategy, tactics, and operation).
2	Two levels (for example strategy and operations).
3	Operates without a hierarchy.

Table 11: criteria to assess the organization's hierarchical structure.

6. Common purpose

The criteria to assess the behaviors connected to the shared purpose of the company are the same ones we used for the cultural dimension. From 0 (unusual behavior) to 3 (institutionalized, formalized behavior).

Calculating the company's organizational agility

The value of the behaviors in the cultural and structural dimensions determine the organizational agility of the company. These are the guidelines to calculate them:

1. Average values

The final value of each dimension (cultural and structural) is obtained by averaging the scores of the behaviors that make them up. That is the arithmetic average, not the median. Finally, the value of the organizational facet is the average of the two dimensions.

2. Homogeneity

A lack of uniformity between partial values is a symptom of tensions or frictions in the organization. These tensions can diminish and even neutralize the agility benefits that one could expect from the arithmetic value alone.

When this happens, it is necessary to analyze the causes and consider how this should affect the average value.

3. Weighing

The analysis can weigh the numbers considering:

Technical evaluations8: when there is a lack of homogeneity, they should use formulation criteria that reflect its mitigating impact.

Expert evaluations*: in these, the evaluator's perspective prevails. It is ultimately them who decide, not the arithmetic result. The assessment must include their reasoning and argumentation for any adjustments to the average results.

Formulation

Agile culture

The level of agility of each cultural value is the average of the results obtained in its behaviors.

Example for the “assertiveness” value:

Behaviors	0	1	2	3
1.1. Courage	x	x	x	
1.2. Respect	x	x		

Assertiveness: 1,5

The agility level of the cultural dimension is the average of all the cultural values:

Example:

Value	Result
Assertiveness	1,5
Talent appreciation	2
Clarity	1,5
Trust	2

Level of agility of the company’s culture: 1,75

Agile structure

We follow the same procedure. First, we calculate each value (non-hierarchical structure and shared purpose) based on their associated behaviors. Using the average of those results we can obtain the level of agility of the structural dimension.

Values	0	1	2	3
1.1. Non-hierarchical structure	x	x		
1.2. Shared purpose	x	x		

Structural agility: 1

Result

The final score of organizational agility is the average of its two dimensions:

Dimension	Result
Cultural dimension	1,2
Structural dimension	1

Organizational agility, final result: 1,1

Criteria to assess support

The success of an improvement plan depends mostly on the support provided by the organization. That is the involvement of its managers, culture compatibility, and resources provided to undertake the required changes. To summarize, these are the sensitive factors:

- Management involvement.
- Compatibility of the desired agility level in the organizational dimension with the company's culture.
- Available resources.
- Training.
- Coaching.

The first two are decisive. If the company's management does not believe in agility, or if its culture is not compatible with the results of an agile transformation and is not likely to change, any attempts will be pointless. It is better to stop and reconsider the situation.

The improvement process can work if the management is convinced and involved, and the expected cultural change is desirable. What is necessary then is to provide people the means, through training and coaching.

A lack of support can hinder or ruin improvement efforts, so this is a crucial factor to consider from the beginning. Analyze the situation in which the company finds itself, the willingness to change, and, consequently, assess the risk that each factor can bring.

Next, we are going to explore now some criteria and a range of four values that can help estimate the predisposition to change to map these risks.

Current situation

Management involvement

Value	Criteria
0	The company's executives do not know or promote the agile principles and values necessary for change.
1	The company's executives have a superficial understanding of agile principles and values, and a questionable supporting attitude.
2	The company's executives' knowledge and support of agile principles and values may not be enough.
3	The company's executives know and support the necessary principles and values with commitment

Table 12: criteria to assess management involvement.

Cultural compatibility

Value	Criteria
0	The company's cultural model is incompatible with the necessary actions for change.
1	The company's cultural model needs a significant shift to be compatible with the necessary actions for change.
2	The company's cultural model is relatively compatible with the necessary actions, although it needs some adjustments.
3	The company's cultural model is fully compatible and aligned with the necessary actions for the transformation.

Table 13: criteria to assess cultural compatibility.

Resources, training, and coaching

Does the company provide people with the necessary means for the desired transformation?

Value	Criteria
0	No.
1	Yes, but scarcely.
2	Yes, but not always or not enough.
3	Yes, sufficiently.

Table 14: criteria to assess resources, training, and coaching.

Willingness to change

Value	Criteria
0	The current situation is deeply rooted, and there is not a strong drive to change.
1	The current situation can be challenged to implement appropriate changes.
2	The current situation is open and prone to change to facilitate improvement.
1	The willingness to change is unknown.

Table 15: criteria to assess willingness to change.

Risk calculation

We can consider the level of support as the sum of the current situation and predisposition to change. Illustration 18 shows possible levels of risk based on this:

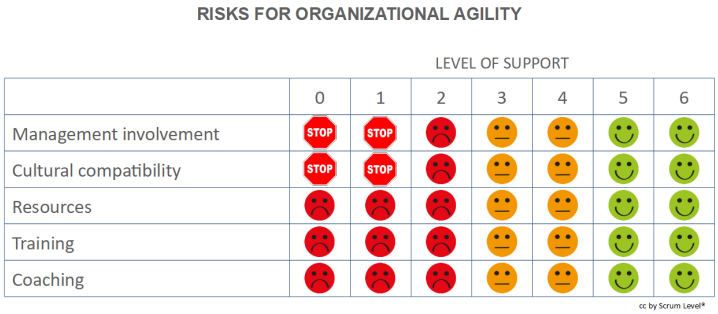
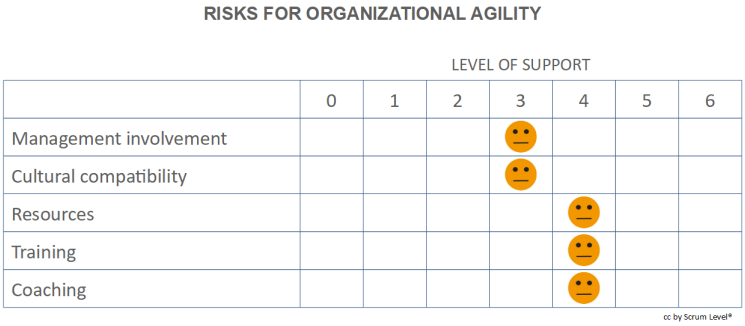


Figure 16: mapping risks according to the level of support.

Example:

Factors	Current situation	Willingness	Support
Management involvement	1	2	3
Cultural compatibility	1	2	3
Resources	2	2	4
Training	2	2	**4**
Coaching	2	**2**	4



4. ANNEXES

1. Protocols

Scrum Level defines what factors one must consider in agile processes and company cultural changes: what values, principles, and supports have to be analyzed, along with the criteria to determine the agility level of each one.

It sets guidelines, but without a specific script or dynamic. That is the purpose of protocols. They establish how to assess a company's agility, what dynamics or artifacts to use, and how to adapt them to different circumstances.

Scrum Level's copyrights as a framework of reference are free. Other people can develop their own protocols as long as they credit that they are basing them on Scrum Level.

Protocol validation

Independently developed protocols can be officially approved to guarantee that Scrum Level has reviewed them and that they comply with its guidelines for agility assessment and improvement.

Protocol components

- Protocol guide (compulsory)
- Questionnaires or verification lists (optional).
- Formulation tools (optional).
- Documentation formats (optional).

Protocol approval

Independent protocols can be reviewed and approved. This guarantees that the protocol has been checked by Scrum Level and it follows the assessment and improvement guidelines from this book.

Protocol components

- Guide (compulsory).
- Questionnaires (optional).
- Formulation tools (optional).
- Format of reports and diplomas (optional).

Protocol guide

It includes:

- Data sheet:
  - Protocol name.
  - Scrum Level version for which it has been developed.
  - Protocol version.
  - Validity.
  - Rights or license.
  - Intended evaluation category/s.
  - Intended evaluation type/s.
  - Rights and/or license.
  - Category or categories of evaluation it’s apt for.
  - Type/s of evaluation it’s apt for.
- Briefing of the method, with a sufficient explanation of its working and formulation.

Questionnaires or verification lists

Necessary if it's a protocol for technical evaluations.

They must include user instructions to execute the protocol and administration and formulation instructions for the evaluator.

Formulation tools

Protocols that include technical verification can provide calculation tools, such as spreadsheets or similar software apps.

Report formats

Formats or models for the final summary, diploma, and report of the evaluation.

Protocol rules and restrictions

The Scrum Level model is free to use as a reference in consultancy and evaluation processes. It is also free to use to develop specific protocols for Scum Level evaluations. However, these must comply with the following rules and restrictions.

Validity

The validity of the protocol has to be specified, and it can be:

- Self-checked: the organization or author who developed the protocol is responsible for formal and functional conformity with the Scrum Level model.
- Officially approved: Scrum Level has confirmed formal and functional compliance.

This validity indicator must include the Scrum Level version for which it has been checked. To mark the protocol as officially approved, please send your re- quest to Scrum Level.

Number of projects

The number of projects included in the evaluation should be at least 33% of those in its scope.

Number of people

The people included in the evaluation team should be at least 20% of those in the evaluated group* and include all the company's responsibility areas.

Selection of projects and people

The range of the projects within the evaluation's scope and its team* must be random or determined by the criteria of an evaluator.

Selections made by the evaluated organization are not acceptable.

2. Evaluation documents

Evaluation report

The use of Scrum Level as a guide to assess the agility of an organization is free. However, its use for evaluation documents with the Scrum Level trademark ® is subject to the following conditions.

The evaluation's documentation must include a summary or diploma, as well as an assessment report containing:

Information	In the summary/diploma	In the report
Evaluation rank	X	X
Type of evaluation	X	X
Organization conducting evaluation (if applicable)	x (optional)	XX (full details)
Responsible evaluator (if applicable)	X	X
Level of independence (if applicable)	X	X
Protocol		X
Assessed organization	X	XX (full details)
Evaluation category	X	X
Scope (if applicable)		X
Dimension/s	X	X
Evaluation result	X	XX (full details)
Partial results		X
Special attention		X

Table 16: elements that should be included in evaluation documents.

Evaluation's rank

Evaluator in charge	Rank
Not certified by Scrum Manager	Independent evaluation
Certified by Scrum Manager	Official evaluation
No evaluator (technical evaluation)	Self-evaluation

Type of evaluation

The evaluation can be either "expert" or "technical," depending on whether a responsible evaluator is in charge of weighing the scores.

Organization conducting evaluation

Not necessary for self-evaluations. Official evaluations must be conducted by Scrum Manager or an authorized organization.

In the summary or diploma:

- Commercial name of the evaluating organization and company name (if different).

In the evaluation report:

- Commercial name of the assessing organization and company name (if different).
- Full address: street, city, country, postcode.
- Telephone and email address for contact person related to Scrum Level evaluations.
- Contact person for questions related to the evaluation.

The full name of the evaluator is necessary in case of official and independent evaluations.

Level of independence

Required when the evaluation is part of a consultancy or improvement process, or when the organization has gone through one of these processes in the previous six months.

- Level 1. Some evaluator (the responsible one or an assistant) has been part of the consultancy process as well.
- Level 2. Neither the responsible evaluator nor the assistants the previous consultancy process
- Level 3. A different, independent organization conducts the evaluation process.

Protocol used

In the case of public use protocols: name and version of the evaluation protocol. Otherwise, note that it's a custom-made protocol and whether it's officially approved.

Evaluated organization

In the summary or diploma:

- Commercial name of the evaluated organization and company name (if different).

In the evaluation report:

- Commercial name of the evaluated organization and company name (if different).
- Full address: street, city, country, and postcode.
- Phone or email address of the contact person for matters related to the Scrum Level evaluations.
- Contact person for matters related to the evaluation.

Evaluation category

Indicate the category to which it belongs:

- Category 1. Team evaluation: the system consists of a single team, and either one or several projects.
- Category 2. Department evaluation: the system consists of several teams and projects. All of them belong to the same organizational unit (area, department, or branch).
- Category 3. Company or corporation evaluation: the system includes more than one organizational unit (area, department, or branch) and each one of them can include one or several teams and projects

Evaluation scope

Optional for category 1 evaluations.

Category 2 evaluations: relation between the evaluated projects and teams.

Category 3 evaluations: relation between the units of the evaluated organization, indicating the projects and teams in each one.

Facet

Indicate if the evaluation covers just the operational facet of the organization, the organizational facet, or both.

Result of the evaluation

In the summary or diploma:

- Indicate the level of agility achieved in the evaluation dimension/s: insufficient, apt, or high.

In the evaluation report:

- The level reached in each evaluated facet: low or insufficient, medium, or high, based on the assessment criterial.
- The numerical value of the level reached in the evaluated facet(s, with a precision of 2 decimals.

If both operational and organizational facet are being evaluated:

- Position of the value in each facet, on a coordinate graph.

Partial results

The evaluation report includes the partial results of the practices and, if applicable, the values that have been analyzed.

Special attention

The evaluation report shall include this section if at least one of the following circumstances occurs, explaining them and the weighing measures they required:

- Lack of homogeneity (standard deviation > 1) among the flexibility values of the practices.
- Lack of homogeneity (standard deviation > 1) among the fluidity value of organizational behaviors.

Glossary

Agility

Characteristic that allows management methods (for projects, people, and organizations) to adapt to changes and continuously deliver results. A working or management method can be described as "agile" when it develops principles and values in the organization's operation, structure, or culture, that enable agility.

Evaluation category

It defines the scale of a Scrum Level analysis or evaluation. The categories are:

- Category 1. Team evaluation: the system consists of a single team, and either one or several projects.
- Category 2. Department evaluation: the system consists of sever- al teams and projects. All of them belong to the same organizational unit (area, department, or branch).
- Category 3. Company or corporation evaluation: the system in- cludes more than one organizational unit (area, department, or branch), and e

Evaluated group

All the people belonging to the evaluated organization who are involved in the management or development of projects that are part of the evaluation scope. Unlike the evaluation team, this includes everyone, whether they participate in the evaluation or not.

Evaluation's level of independence

This parameter is applicable when the evaluated organization has gone through consultancy or training processes related and before the evaluation.

- Level 1. Some evaluator (the responsible one or an assistant) has been part of the consultancy process as well.
- Level 2. Neither the responsible evaluator nor the assistants have been part of the previous consultancy process.
- Level 3. A different, independent organization conducts the evaluation process.

Evaluation rank

It serves to define an evaluation generally, and it can be either official or independent. Official ones are only those approved by Scrum Level and conducted by a certified evaluator.

Evaluation subjectivity

An indicator to detect whether the information provided through a form or interview is unreliable or distorted. Distortion may be intentional when the interviewee is trying to pretend or fake a situation that is not real, or unintentional when the questions are not correctly understood or misinterpreted.

Evaluation type

The type describes whether a responsible evaluator is conducting the evaluation or not. (See “Expert evaluation” and “Technical evaluation”.)

Evaluation scope

In category-2 evaluations: relation of the evaluated projects and teams.

In category-3 evaluations: relation of the units of the evaluated organization, indicating the projects and teams included in each one.

Evaluation team

People belonging to the evaluated organization who are involved in the projects within its scope. It refers only to the members of the evaluated group who are involved in the evaluation.

See “evaluated group” to differentiate.

Expert evaluation

Evaluation conducted by a person who has the role and responsibilities of an evaluator.

Flexibility

Scrum Level index that reflects the level of technical agility resulting from an evaluation.

Fluidity

Scrum Level index that reflects the level of organizational agility resulting

from an evaluation.

Fundamental agility

Agility in the operation, structure, and culture of the organization.

Independent evaluation

See “Evaluation rank.”

Minimum viable product

A term frequently used in the field of agile development to define a product with sufficient features to satisfy the customer’s initial needs. It then provides feed- back to guide the evolution of the product’s development.

Official evaluation

See “Evaluation rank.”

Operational agility

See “Technical agility.”

Organizational agility

Agility in the structure and culture of the organization.

Protocol

A set of specific procedural instructions and resources designed to guide Scrum Level evaluations in a particular area or areas, depending on the size of the organization and type of evaluation.

Protocol validity

The protocol’s validity can be either self-checked or official.

- Self-checked protocols: the organization or author who creates the protocol is responsible for its formal validity and functional compatibility with Scrum Level’s model.
- Official protocols: Scrum Level reviews and approves their formal validity and functional compatibility with the model.

Retrospective

A recurring type of meeting in which a team analyzes its working methods to improve them.

Responsible evaluator / evaluator in charge

The person who runs the evaluation. Depending on its scope, they may require the help of an assistant evaluator.

Scrum

In its broadest sense, scrum encompasses the set of principles and values of self- organization and agile development.

Technical agility

Agility in the operational facet of the organization.

Technical evaluation

Evaluation without an evaluator, conducted through scripted procedures and verified through evaluation forms.

See “Evaluation type.”

Verification

Checking the value of a specific parameter. It can be expert, technical, or mixed:

- Technical verification: based on the results of a questionnaire or checklist.
- Expert verification: a consultant or evaluator verifies according to her expertise and knowledge.
- Mixed verification: a consultant or evaluator weighs the results of a prior technical verification.

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