



AGILE  
**cockpit**

# THE DATA-DRIVEN AGILE TRANSFORMATION

*10 data-driven Agile journeys*

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*By Maarten Kossen*



At this time, in many organizations there is some sort of transformation going on towards enterprise agility. An ever-changing market that changes at a quicker pace every year demands companies to be able to adapt to that to keep delivering value to their customers. In other words, companies want to be agile.

Many transformations (or change initiatives) fail, with John Kotter having researched that well over 50% of transformations fail. The challenge with many agile transformations is, in our experience, that they usually lack a clear goal, followed by a lack of transparency on the progress towards that goal. In agile transformations, agility is never the goal; being able to deliver more value to your customers at a quicker pace usually is, which is in turn linked to more turn-over and increased customer satisfaction. Without a clear goal, actions lose meaning and investments may turn into waste.

Before selecting a goal, however, organizations should start by asking themselves why they are doing a transformation and what their purpose is. As Simon Sinek has said, you should start with 'why' to give the 'how' and 'what' clear direction. Once the 'why' has been discovered, an organization can determine a clear goal for the transformation and start their journey.

Many organizations in an agile transformation also hire agile coaches to help steer their journey. Those coaches may be very, even extremely useful. But how do those organizations measure the effectiveness of those coaches and calculate the return on investment? What does a coach achieve and how does it help the organization?

To have a successful agile transformation, an organization needs to start measuring: before, during and after the transformation. In other words: have a data-driven transformation. With a high failure rate for transformations there is a clear case to do so: having insight into the status of your transformation allows you to keep steering it in the right direction.

In this whitepaper, we put forward 10 journeys (or KPIs) to help organizations achieve enterprise agility and which we, at [Agile Cockpit](#), have used and have experience with. Putting the focus on one of these 10 KPIs will start your journey towards reaching your goal while also providing more insight into your transformation.

1. **Team engagement:** is the agile transformation improving people's engagement and involvement in the organization's goals?
2. **Velocity:** is the agile transformation improving the pace at which your teams deliver software?
3. **Customer engagement:** is the agile transformation improving your customers' involvement?
4. **Time-to-market:** is the agile transformation improving how quickly can you deliver value to your customer?
5. **Alignment:** is the agile transformation improving everyone's alignment to your organization's and department's goals?
6. **Cost of delay:** is the agile transformation improving decision-making related to what it costs not to do something?
7. **Software quality:** is the agile transformation improving the quality of your software?
8. **Value delivery:** is the agile transformation improving the amount of time spent on delivering value and on minimizing time spent on distractions?
9. **Return on investment:** is the agile transformation improving how much money you earn related to an investment?
10. **Enterprise agility:** can an organization quickly respond to (changes in) market and/or customer demand?

One of these journeys should lead your agile transformation. Without focus, the validation of the selected journey is missing as there is no single indicator that will be the ultimate measure of the effect of the transformation. This may result in making tracking the KPIs a mechanical exercise with data giving the wrong insights. Selecting a single journey to focus on works best, while other KPIs could be used for additional insight.

Finally, a key element is to start measuring before an agile transformation (or a new wave of an agile transformation) is started, as this baseline measurement will allow you to quickly and effectively track progress.

## A word on organization structure

Any organizational transformation requires a change in the structure of the organization as well as the operating model. Typically, organizations transform from being application-oriented to product-focused, with:

- product owners getting actual ownership of product;
- teams becoming self-organizing and multi-disciplinary;
- budgeting shifting from yearly budget towards a more investment-based approach.

These factors should be considered with any transformation and will thus also play an essential role in data-driven transformations. More specifically, with a data-driven transformation the effects of these changes may be measured as well, generating more insights into the effects of them.

### How?

## 1. Team engagement

The level to which people are engaged in an organization helps an organization deliver more value. Richard Branson once said “Take care of your employees and they’ll take care of your business”. They will work on improving themselves and the organization. Keeping track of how engaged teams are helps you improve engagement and solve problems, resulting in more engaged teams.

### What is it?

The amount to which people feel engaged, empowered, supported, happy, etc. There’s a lot of variables that can be measured, but it all boils down to how engaged the team is in an organization. This in turn may be linked to how much value the team can delivery. Creating a high-performing team that is close to the customer is the goal.

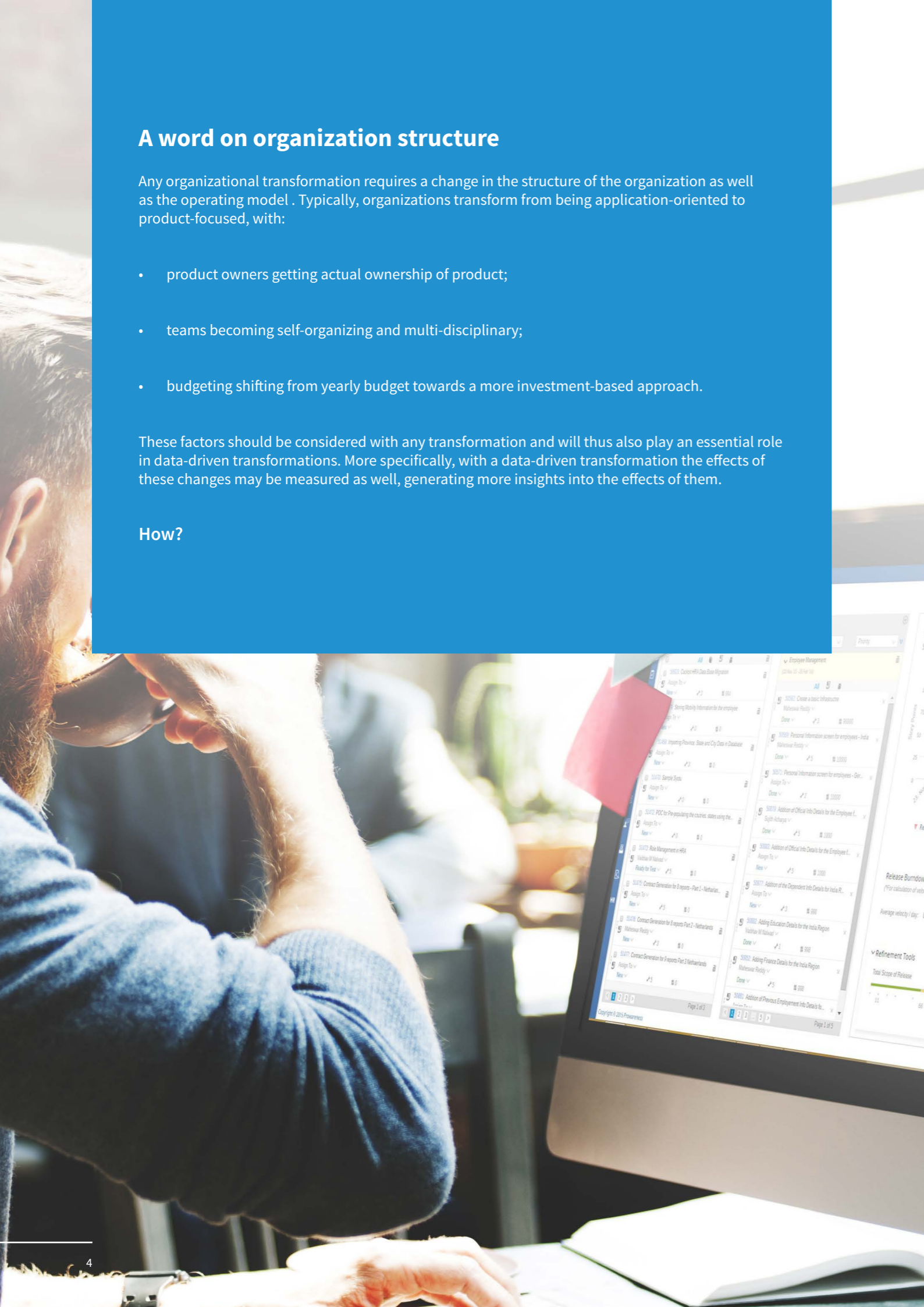
### How do you measure it?

Surveys are a very powerful way to measure team engagement, especially when done very frequently (say every other week or at the end of every iteration). It should be a simple survey with answers that may be translated back to a numeric value which allows you to identify trends. It’s an invitation to a conversation, usually based on trends. Another way to measure team engagement is the High Performing Team assessment, which gives a greater amount of detail about the engagement of your teams.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) has a survey tool that allows you to easily create surveys, send them out and process the results to provide insights every iteration, which allows you to keep track of trends. [Agile Cockpit](#) also has a High Performing Team app which offers an assessment that goes into more detail than a survey but gives even more insights.

During your journey, you can measure and benchmark your teams’ HPT index frequently.



## 2. Velocity

While velocity is a measure of what has been achieved in the past and has become a very sensitive subject to discuss amongst many as it is often abused. While it cannot be compared across teams, teams themselves should be critical towards their own velocity and discuss it, as the discussions allows them to improve. Besides that, a team's velocity helps them to forecast. Keeping track of velocity is thus necessary during any agile transformation and after.

### What is it?

Velocity is the speed at which a team processes an amount of work. It's typically used to enable a team to forecast a Sprint and/or parts of the Product Backlog. It's an empirical measure of things done in the past.

### How do you measure it?

It is typically measured by counting the number of work items (User Stories, tasks, bugs) a team has completed in an iteration, or the amount of Story Points it has completed. Any way to track it is fine, as long as it is transparent (ie. it measures only fully completed items that deliver value).

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) provides insights into the speed of teams, which enables teams to challenge themselves to optimize that speed, either by taking out delays, hiring new people or coming up with smarter solutions. It provides an invitation to a conversation to get better teams, which deliver more value at a sustainable pace.

## 3. Customer engagement

Customer engagement and involvement in an organization's direction helps an organization deliver more value and the right value. It's the customer you deliver the value for after all, so knowing what the customer wants is essential to any organization. Keeping track of that through automated means with the right measurements in place optimized customer engagement, allowing you to deliver more value.

### What is it?

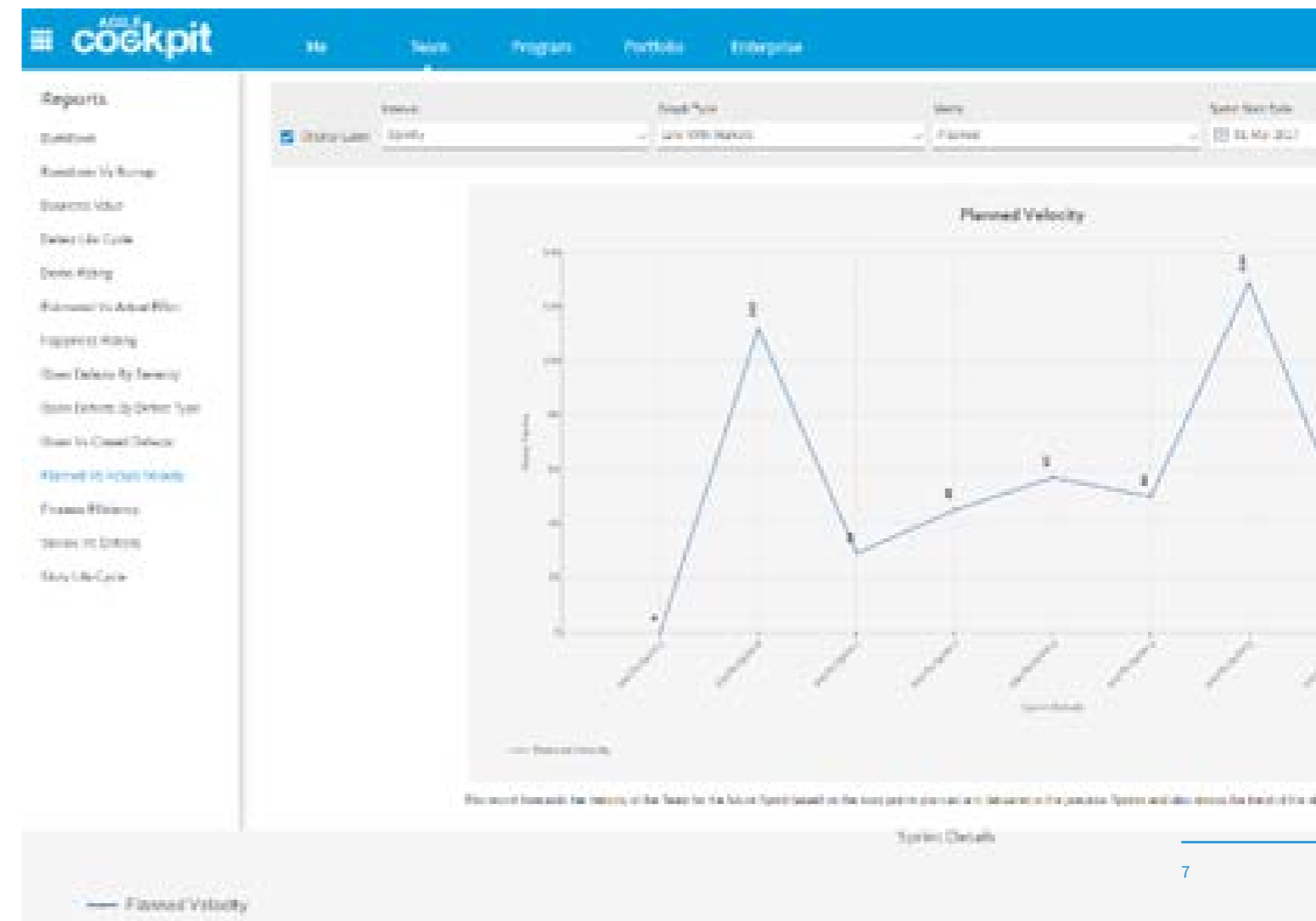
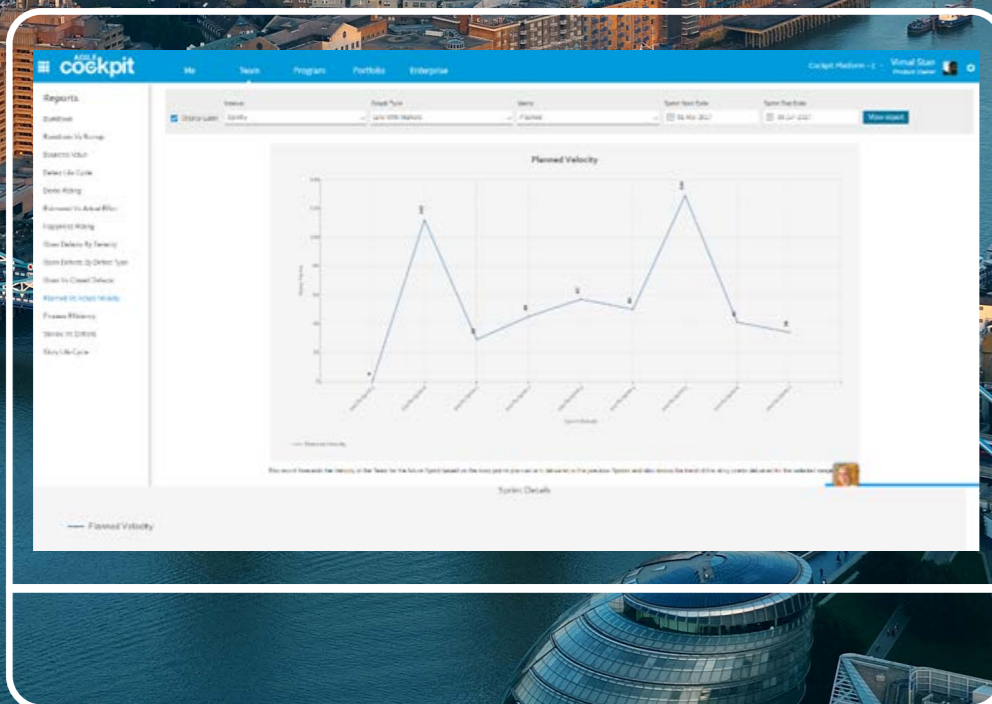
Insights into what your customers want. Customers can come up with ideas and suggestions for improvements and can vote on it as well, giving you a single overview of the wishes of a large group of customers.

### How do you measure it?

By allowing your customers to put forwards suggestions and to vote on them, as well as provide comments. The latter also enables customers to collaborate and improve a suggestion.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) provides a feedback app that allows customers to share suggestions and comment on them. It also provides an app so customers can provide new ideas and vote on them. These apps are not tied only to work within [Agile Cockpit](#) but also within other applications.



## 4. Time-to-market

Time-to-market is usually one of the biggest reasons to begin an agile transformation, as it tends to be longer than most organizations would want. Keeping track of the time-to-market and the changes therein is one of the key indicators of the success of an agile transformation.

### What is it?

The time it takes from a customer request (either internal or external) to the moment when value is delivered.

### How do you measure it?

By making your process flow/timeline visible and transparent. Visualize every step that needs to be taken from customer request to value delivery. For each step, measure how much time it takes to take that specific step. Also measure the time between steps, as those are delays and often provide room for improvement.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) provides mini business case functionality in the backlog management app to help you visualize your process flow and time both the steps taken and the time in between steps. Based on that information it generates insights which will help you make the right decisions to optimize/improve time-to-market.

## 5. Alignment

In many organizations, most people (as many as 86%) in the lower trenches don't know the vision of an organization, or direction it is taking. This could also be the case in any middle layers that may exist. If your workforce doesn't know which way you're going as an organization, how can they contribute to going that direction? Alignment throughout the organization is key to any agile transformation as it gives focus on value.

### What is it?

Alignment between organization vision, product vision and functionality being delivered. If a piece of functionality doesn't contribute to the product vision, or if a product vision doesn't contribute to the organization vision, where is the value in that piece of functionality? Are you doing the right thing?

### How do you measure it?

Everything you do, be it creating a piece of functionality, removing technical debt or creating a piece of architecture should ultimately be tied to a product vision. That product vision in turn should be tied to the organization vision. By making these visions transparent, including the links between them, you create insights into when the things you do add to your organization vision and when they don't. In the latter case, it allows you to make the appropriate decisions.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) has a tool that allows you to link product visions to the organization vision, and link individual work items to product visions (either via [Agile Cockpit](#) or via links to external tools). This will give teams the insights they need to know that what they do matter and that what they do has a purpose and delivers value.

## 6. Cost of delay

Whereas return on investment is something you measure after having done an investment, cost of delay is measured before doing an investment. It is a tool to help you make the right investment. The cost of delay is one of the most forgotten measures in agile transformations, while it is a key element is backlog ordering and making the right decisions.

### What is it?

The amount of money it costs you not to do something right now, so to deliberately delay implementing a piece of functionality or fixing a bug. For example, not implementing a certain feature may not yet bring the cost savings to the Customer Service department you had anticipated, resulting in a certain cost for that delay.

### How do you measure it?

Cost of delay for bugs can be measured through what the loss in turnover is for either the customer or your organization compared to the costs of fixing the bug. Cost of delay for new features may be measured by calculating the potential loss in either additional turnover or potential cost because of not adding that new feature. In the latter case, it's usually about the ballpark figure rather than the exact number.

### How can Agile Cockpit help to measure it and improve it?

In [Agile Cockpit](#) you can both keep track of the potential cost of something and the (expected) monetary result via the backlog app. [Agile Cockpit](#) does the math for you, allowing you to make decisions based on the cost of delay. It even enables this variable to be used as a factor for Product Backlog ordering.

## 7. Software quality

In a traditional environment where time, budget and scope are all fixed up-front the only variable up for flexibility is software quality. While this is unacceptable, many organizations face legacy code and technical debt as well as lot of bugs. During an agile transformation software quality becomes fixed and quality will increase, as will application and data security. Even more so, 43% organizations have increasing software quality listed as one of their reasons for starting an agile transformation. To know what to focus on though, and to measure the results of the transformation, software quality and security needs to be tracked.

### What is it?

Software quality in the broadest sense of the word: code quality (readability, cyclomatic complexity, simplicity, maintainability, etc.), test coverage, test results, technical debt, number of bugs, software security, data security. Basically, anything that has a relation to the quality of software.

### How do you measure it?

Software quality can be measure through things like static code analysis, test tools, test analysis tools, bug trackers, technical debt trackers, security tools; any tool that provides you with insights in an automated manner. Even team happiness with the quality of the code could be a measure of the state of your code quality.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) provides you with a technical health app that provides an overview of data from tools like SonarQube, Jenkins, and TFS with regards to the quality of your software. It even integrates with your Continuous Delivery pipeline. This allows you to make the right decisions based on the right data. It enables you to tackle the biggest problem first and show progress over time. Trends provide you with even more insights.

## 8. Value delivery

Knowing whether teams are delivering value is essential for a changing organization. For 53% of organizations, value delivery, or productivity, is one of the reasons to become agile. According to research by Forrester, on average only \$0.29 out of every \$1 invested goes to adding new functionality. Of that \$0.29, only \$0.06 makes it to adding actual value (\$0.23 is lost dealing with other factors). Value delivery is thus one of the key points in any agile transformation.

### What is it?

Value delivery or productivity is both what teams spend their time on (creating new functionality, fighting bugs, removing technical debt, or working on architecture) and how they spend that time (are they fixing bugs or are they creating sustainable long-term solutions).

### How do you measure it?

Teams can provide insights into what they spend their time on. Not as an accountability of what their time was spent on, but rather to provide those insights that will both help them and the organization do what matters, which is delivering value. They can also indicate when, due to whatever circumstances, they made the decision not to go for the long-term solution but a quick fix, giving insights on how to improve on that in the future as well.

### How can Agile Cockpit help to measure it and improve it?

[Agile Cockpit](#) provides a time tracking app that will transform time tracking into tracking value delivery. This app should help teams track what amount of time is spent on delivering value and which amount is not. These insights help organization optimize productivity and the delivery of value by using this data to help a team decide what they should put their focus on.

## 9. Return on Investment

The larger an organization, the harder it usually is to keep track on which investment leads to which result, or to lose sight on how much is being invested in what part of your value chain. But even in smaller organizations keeping track of investments is either a challenge or doesn't happen. When undergoing an agile transformation, things will become more transparent, allowing you to start tracking return on investment.

### What is it?

The amount of money you earn based on an investment you do focused on software you build. Say you invest \$12,500 on the development of a piece of software, but you only get \$3,750 turnover as a result of that? Or you invest \$12,500 and get \$37,500 turnover as a result of that. This is something every organization and every team should be aware of, as it is an indicator of value delivered.

### How do you measure it?

By measuring how much it costs to develop a piece of functionality and measuring how much (additional) turnover that piece of functionality generates. When direct measuring of turnover isn't feasible, it may be calculated from, for example, increased customer value or cost savings (either internal or external).

### How can Agile Cockpit help to measure it and improve it?

In [Agile Cockpit](#) you can keep track of your investments in the backlog management app, either via a mini business case or individual items. [Agile Cockpit](#) also provides Cost VS Budget Actuals functionality that helps you track your investments and generate insights on the returns on those investments, either monetary or otherwise. This enables you to do more experiments but also track value.

## 10. Enterprise agility

Any organization wants to be responsive or agile to most effectively delivery value and have impact at their customers. The degree to which an organization is responsive is an essential measure for an organization in an agile transformation.

### What is it?

Enterprise agility is a combination of factors which determine the level to which an organization can respond to both external and internal changes in a lean and agile way:

1. Autonomous teams (mini-companies)
2. An ambitious higher goal
3. Extreme transparency
4. Client(s) in the driver's seat
5. Lots of experimentation
6. Individual entrepreneurship and mastery
7. A self-scaling culture
8. Supporting rhythm
9. Software and data

### How do you measure it?

Enterprise agility may be measured by performing the enterprise agility self-test, which allows an organization to be graded on several factors per category with a red-amber-green grading system.

### How can Agile Cockpit help to measure and improve it?

[Agile Cockpit](#) contains the enterprise agility self-test allowing you to easily and frequently do the self-test. The self-test can also be sent out as a survey to large groups of people. Based on the answers provided in the self-test an advice will be given on how to improve in that category.



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## About the author



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Hi, my name is Maarten. I work as an Agile consultant for Agile Cockpit. In the past I used to be a software developer followed by DevOps Engineer. I also have a history with both Scrum and other Agile techniques, having had the role of Scrum Master for several years. At Agile Cockpit I assist teams and organizations with adopting Agile practices and/or Scrum, and occasionally do Definition of "done" and test automation workshops.

Beside my consultancy work, I also teach Scrum courses. As a Professional Scrum Trainer for Scrom.org I am licensed to teach the Professional Scrum Foundations, Professional Scrum Master and Professional Scrum Product Owner courses. Occasionally I also teach generic Scrum courses.

In my spare time, I love travelling, spending time online and rowing (on an ergometer). I am addicted to Starbucks coffee (and a collector of City Mugs), love watching The Grand Tour (preferably while rowing) and am a fan of the Seattle Seahawks.

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