Data-informed management – five points of attention when you use data to make decisions

By Stephanie Semay Bäckström and Sara Westergaard Kjeldsen

"Do you have data on that? You have to act on the basis of data!" said one leader to the other. Data obtained from surveys, evaluations, observations, dialogs, and different types of analyses have a great and often unrealized potential to contribute to value-creating development and improvements in the organization if actively included in the managerial decisions. But what is data-informed leadership and what should you, as a leader and consultant, be particularly aware of when you use data in the decision process?

What is data-informed leadership?

Data-driven leadership, data-controlled leadership, data-informed leadership, knowledge-informed leadership – are all names for the same thing. Generally, it is about how we actively use data to support our choices and decisions in a leadership context. Even though the words are used interchangeably, the choice of words implies something different about the use of data, which is worth considering. This may seem like we are splitting hairs since, for most people, the differences are more or less irrelevant – however, to be thorough, let's do it anyway:

Process for data-informed leadership:

1. Get good at primary questions and design process (specific)
2. Collect data (abstract)
3. Analyze data (specific)
4. Knowledge generation from data (abstract)
5. Make decisions with new knowledge from data (specific)

This process shows a typical process from the time when you ask yourself the first questions you want to learn more about to when you make a decision with knew knowledge obtained from data.

Step 1 is about asking the right questions and discovering what is actually important to answer. Here, one will naturally enter into certain conversations about what this process needs to be used for, what is the purpose, and which results should contribute to creation. Only then will it make sense to discover which types of data and which methods should be used to learn more about the primary questions. If you are not good at the first step you risk making the classic mistake where you talk about method first or collect the data that is most obvious or easiest to collect – and not necessarily the data you actually need (Andersen & Tanggaard, 2016).

Steps 2-4 encompass the whole analysis part, where management must get close to the data and convert it into knowledge that can be used for decisions. Here it will also be clear that we alternate between the abstract and the specific during the process, switching back and forth several times. The somewhat efficiency-consumed consultant or leader would probably try to see if the process can be shortened by only:

1. Collecting data

2. making a decision

By simplifying it in this way, we get close to some of the biases involved in working in a data-driven or data-controlled way. According to the phrasing, it may seem like it the data is responsible for driving or controlling a leader's decisions. This is both misleading and totally incorrect since data cannot control or drive anything on its own – you require interpretation and translation and hence leadership – until a data-informed decision can be made. The direct opposite of what often is involved in data-driven management, where you rely on data and use it uncritically as the basis for decisions, is when you exclude all data and only make managerial decisions on the basis of opinions, interpretations and gut feelings. So, what we have here is two extreme points on a continuum, where neither one nor the other is good on its own:

The outer points of data decisions:

Data-driven leadership vs. leadership without data

At step 5, you are now well-informed on the basis of the knowledge and data that has resulted from the process, so now you can make your decision with this new knowledge in mind.

Data should not dictate – it should inform

We believe that most people want to work from the approach that is implied by the concept of data-informed leadership, where you do not let data dictate – but instead let yourself be informed by it and have a clear process from data to decisions (see figure 1). However, as a leader, you must be very aware of how to act in a data-informed way by realizing all the steps in the process and the changes that occur therein along the way (see also knowledge-informed leadership, Dinesen, 2017; Datnow & Park, 2017). It is about finding a good balance

between the two outer points, where we, as a natural part of the overall decision-making process, incorporate and let ourselves be informed on the basis of our data – and at the same time, we use normal leadership considerations (also gut feelings) to make a decision. Therefore, we do not believe that data in itself drives decisions, but rather, as Datnow & Park (2017) define data-informed leadership: "There are individuals who use data to investigate current practices and who use data as the basis for the actions that must be performed" – and if we take one step further from data (raw and uninterpreted – without having been put into context and without analysis) to knowledge (before knowledge there is data that has been interpreted and analyzed), Dinesen (2017) defines knowledge-informed leadership as follows: "The job of the leader is to ask the right and important questions, interpret knowledge and perform assessments. It is about how a leader can practice leadership in an evaluating, result-oriented, reality-testing and learning way. To let yourself be informed means that you bring knowledge into the equation when decisions are made. To address the knowledge that exists and be critical towards it – based on your overall experience and understanding of the (political) reality you have been hired to administrate."

One very hypothetical example could be that data shows that people on earth would be capable of feeding half the population of the world with today's cultivation methods and land area. What to do with this is up to the people who analyze, conclude and make decisions. When the decision has been made, it not only includes knowledge and data – but also ethics, morality and relations which influence the outcome of the decision. Here, we need to look at how we can solve future dilemma, both in and outside the realm of leadership, by including data and normal leadership competences. This also applies when it involves employee issues, budget clarifications and practical new solutions for the core task. If we only act on the basis of the first impulse, as shown by data, the risk is that we make hasty decisions. There is a need for skilled, data-informed leaders who can help navigate the complex problems that arise throughout the process.

This imposes requirements that leaders should remain curious, reflective and critical towards the data and knowledge we have – because when can we be certain that our data reflects all aspects of reality? Rarely (well, probably more like never). It is the job of the decision-maker to interpret the knowledge that the data material shows so that assessment can decisions can be made on its basis. This involves being specific about what the data should be used for and making sure that you are inquisitive and ask questions at all times – even about things that are not necessarily easy to talk about. When you work with data, there is always a need that we continuously clarify and test our hypotheses based on the context. This leadership task imposes requirements about maintaining an approach focused on learning and reality-testing, while also being results-oriented and keeping the goal in sight.

Data should not drive decisions – data must be actively and systematically used to investigate and understand the practice we are a part of, so that we can make decisions about what needs to take place. In other words, so that our actions are data-informed.

Five points of attention in the work with data-informed leadership

The work with data-informed leadership requires a number of considerations and points of attention so as to ensure that the body of data is used wisely. Below, we present a number of

points of attention, which we found can be very significant to the quality and outcome of data-informed work:

1. Have a clear understanding of the purpose

A huge quantity of data is collected by habit – typically because there is something that can be counted. If it can be counted, we tend to have the inclination to say that it should be counted. An huge amount of resources are used on registrations, documentation, and collection of data, which is not used for anything at all – or in the worst case scenario, emphasis is placed on what is countable and not on what is important (Andersen & Tanggaard, 2016). Every time we collect data, we must therefore be clear about what the data collection should be used for (see step 1 in figure 1). There can be many reasons for collecting data – for example, is it to learn more about the culture that dominates the organization? Or is it to evaluate an activity or practice in order to learn how we can do it better? Is it to gain insight into or focus on the generation of results in the organization? Do we collect data to ensure a specific type of behavior or do we do it for an entirely different reason? To clarify the goal of the data collection, we can start by asking ourselves:

- What is the body of data supposed to help us learn?
- What is the purpose of collecting the data?
- Which decisions should we be capable of making once the data is ready?

Only when the answers to these questions are clear can we start to consider how data collection should take place to answer the questions (still step 1 in figure 1). If we are not clear about the purpose of collecting and using data, we can consider whether we should even continue with the collection of this type of data. Only when the purpose of the collection and use of the body of data has been determined does it make sense to consider which method and system we should use to collect and analyze it.

2. Adopt a broader perspective on data

For many people "*can you give me some data on that*" is synonymous with "*show me some numbers*". When we work in a data-informed way, the key thing is to remember that data can be more or less anything. Therefore, always make sure to adopt a broader perspective when it comes to data.

Try to think out of the box in relation to which data you already have available and how you can otherwise collect different types of data. What about dialogs in different parts of the organization? Conversations during staff meetings? Internal or external communication? Behavior on social media? Registration or monitoring, e.g. of participation and drop out? Minutes? Sound files? Images? Observations? Other signs?

It is important to be able to identify and use all possible types of data, so that you are not limited to the "easy" and easily comparable numbers when making decisions. All organizations have lots of easily accessible quantities and types of data just waiting to be collected, placed in a system, and used. Therefore, it is critical to be retrospective and proactive in data collection. Always make sure that data is collected systematically when it

needs to be used to make decisions – regardless of the type of data you have chosen to collect.

3. Be curious and critical

When you let yourself be informed by both data and knowledge, it is important to remain curious and critical to what you are presented. For example, who collected the data or the results that you are being presented? What was the purpose of the collection? Is there something that is also important beyond what you have available here and now in order to form a complete picture? What conclusions have we chosen to make on the basis of data that is now regarded as knowledge? Can one draw these conclusions and hypotheses? There is rarely a simple causal link between A and B. It is also about having a curious and investigative approach in relation to data collection (which is not necessarily just numbers), and similarly, it is to a large extent about being able to analyze, reflect over and assess a given issue. This analysis must draw on the trends in the body of data, on previous experience, and it must be incorporated into the context of the organization.

Therefore, it is important to be aware of the classic pitfalls when using data. For example, how do you remain critical towards your data before it is turned into knowledge? This is difficult, and there are many biases that can impede our judgment. For example we are prone to be less critical if the body of data supports a hypothesis we already have or establishes a pattern we agree with or like (e.g. see Kahnemann, 2011). We therefore need to work systematically (as mentioned in point of attention 1) and force ourselves to be critical because, unfortunately, the brain is quite lazy and does not necessarily do it on its own. For example, if a leader has an opinion that two teams should be merged into one, and you are now in the process of investigating if this is the best solution, your brain will automatically try to find data that supports your hypothesis. For instance, it will try to find examples of times when the collaboration between the two teams went very well, and it will focus less on finding examples where it did not go so well. Or budget figures that show that there is a financial benefit rather than a disadvantage in merging the teams. All this takes place more or less subconsciously, where the brain's natural response is to use less energy to try to find data that contradicts your own hypothesis. Here, we need to force ourselves to be systematic – and force the brain into areas that it does not normally go to initially – and which do not point to what we may have wanted.

4. Put your conflict-avoidance away

When leaders have been through the whole data-informed leadership process from step 1 to 5 in figure 1, and they have now made the necessary informed decisions via a well-thought-out process, they are ready to go from decision to action. Unfortunately, when we get to this stage, things often grind to a halt when things should really be quite straightforward. This is most often because it is a difficult decision (e.g. terminations, talking to employees that do not live up to expectations, cutbacks) which need to be made, which could mean that leaders experience a touch of reluctance (Bäckström & Kjeldsen, 2018). A survey of 858 Scandinavian leaders shows that many leaders have the tendency to be more supportive than managing in their leadership style. 59 percent of leaders are deemed as being "to little" direct when they

are unsatisfied with someone's efforts, and 57 percent are deemed to hold people "too little" responsible and thus – perhaps in a misunderstood attempt to be decent or a bit conflict-averse – risk being too nice (Data extraction from LVI360, LEAD & Kaiser Leadership, 2018). This tendency can manifest itself in hesitant and conflict-averse behavior with respect to engaging in challenging conversations or making difficult decisions which the new data, and subsequently knowledge, can help shed light on. It is therefore about actively working with how you can and should react to the decisions being made – even if it risks being unpleasant. It is management's responsibility to act on it, and sometimes it requires a good dose of courage.

As the above survey implies, Scandinavian managers have a tendency to be too "nice" and to be afraid to enter into conversations or decisions that are unpleasant. Therefore, as a manager, you should consider the following when facing such a situation: "How can I engage in this talk/collect this data/assign importance to data/make this decision in a way that does not compromise my values of decency?" The underlying point here is that the value of decency should never be an excuse for not doing something. In such cases it also makes sense that leaders seek feedback from their network in order to learn more about how they can act in this (in some cases) new landscape. We can say with near certainty that this is a development arena for most leaders, where there is lots to learn if you consider it as a constructive development arena that simultaneously ensures better performance of the core task because some of the necessary decisions will be implemented.

5. Data-informed leadership is not just for the leader – but for the culture as a whole.

Data-informed leadership is not just about being able to make wise decisions based on data, from a leadership perspective – it is also about creating a culture in the rest of the organization that focuses on collective, evaluating, and using data (see, among others, Bäckström & Kjeldsen, 2018). It is therefore also the leader's task to stimulate curiosity, reflection, and critical thinking within the entire organization, so that everyone gets better at identifying data as well as using it actively in task resolution and day-to-day practice. Such an evaluating learning culture can contribute towards a better basis for decision-making and ensures that we are working with or developing the elements that are relevant and generate value in a given situation. So, what are the signs that you can see and hear in departments that already work with a data-informed culture?

What you might hear is:

- How do we know X?
- Where could we have made a mistake?
- What data/evidence do we have for X?
- What is the idea behind the way we do X?
- How can we do X better? How does X contribute to the results we want to create?

What you might see is:

- More knowledge gathering and knowledge sharing
- More feedback (including up, down, across, and externally)
- Reflecting conversations between employees and leaders

- Greater motivation to perform systematic data collection (because you can see the value)

In order to create this culture, a leader should be aware of the following (among other things):

1. **Clarify that learning is in focus** – not just by saying it but by showing it through action every day, both in yourself and your team. It is OK to trip up along the way – we are in the process of learning and getting smarter together by being informed by data. Everything starts with you – so, as a manager, start asking the right questions, e.g. as described above.

2. **One step at a time.** You need to determine the current level (with respect to competences and security towards the potentially new way of thinking) with respect to working in a data-informed manner. In so doing, you must also provide feedback for each other, which is an implicit part of the data-informed culture. Start work from this level – one step at a time. You do not need to be able to do everything right from the beginning.

3. **Get the employees on board**, for example by shifting the power-balance slightly in their favor. For example, involving employees to a greater degree in providing input for decisions and collecting data (see more in Bäckström and Kjeldsen, 2018; Bäckström and Pugholm, 2019)

4. **Focus on roles and ownership** – where is responsibility placed? Who owns the data/evaluation/knowledge/feedback? In which context can it be used – and not used?

5. **Part of the working day**: Establish a culture where collecting data systematically is part of day-to-day and proper practice.

6. **Ensure a good follow-up**, in part by making sure that leaders and employees act on what is needed – even if it is difficult to navigate in it. The worst thing you can do is nothing since that, in itself, plays a part in lowering satisfaction with employees (Storch et al., 2010).

Data-informed leadership – the new leadership competence

Data-informed leadership is therefore about leadership insisting on actively using knowledge that stems from data (generated in a thorough and well-considered process) to make good decisions that support the direction in which the organization wants to move. It is about being critical, curious, and capable of prioritizing which data we need and how it should be used. The act of collecting data is therefore not in itself enough – the entire leadership toolbox is essential for the success of data-informed leadership. For example, you cannot assume that just because you work in a data-informed way that everyone will pull in the same direction: "because, after all, our data shows that's the best decision". You need a large dose of data-informed leadership (figure 1) and then change management for implementing knowledge and

developing or changing the behavior and practice that may need adjustment. In the same way, process management skills, the ability to handle paradoxes, strategic competencies, and a lot more are needed. Data-informed leadership is therefore never alone as a leadership competency in the toolbox.

The work with data is a key leadership competency, which must be reflected in the way you think and act as a leader. Increasingly, we see that machines are made to collect, analyze, and interpret data on the basis of pre-programed algorithms (machine learning), which in itself generates a big risk of alienating us even further from the process of turning data into knowledge. Our advice is to not distance yourself too much from the process since insight into it is critical for establishing a sound basis for decision-making. Data-informed leadership can actually be one of your most important and strongest leadership tools in the future.

Fact

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