Align D&A With Value Streams to Optimize Decision Making and Business Value Creation

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Initiatives: Data and Analytics Strategies

Data and analytics is frequently used to improve specific decisions and outcomes, but cross-functional alignment and collaboration across an organization are often overlooked, limiting value creation. Data and analytics leaders should exploit value stream management to enhance D&A’s value delivery.

Overview

Impacts
- Fragmented and disconnected decision making reduces value creation and limits organizations’ agility to respond to change.
- Decentralized and autonomous D&A offers benefits to the business domains, but without alignment and collaboration, it leads to inconsistent decision making.
- Typical D&A organizational models are structured for function optimization and overlook the cross-functional nature of value creation.

Recommendations
Data and analytics leaders wanting to optimize value delivery to customers need to:

- Prepare for decision-making optimizations by using the Gartner Decision Intelligence (GDI) Model to describe, connect and visualize decisions relevant to the flow of value in the organization's value streams.
- Align D&A users and improve collaboration across business functions within value streams by adopting lean or agile practices. Additionally, leverage those methods’ continuous learning and improvement processes to optimize decision-making networks regularly and to improve value delivery incrementally.
Drive decentralized D&A users to work together by establishing cross-functional agile teams within value streams. Evolve to fusion teams by adding D&A resources from centralized teams, decision makers and IT specialists to gain further autonomy and end-to-end accountability for deliverables in value streams.

**Introduction**

Organizations struggle to get the most out of data and analytics (D&A) even when they make a firm commitment in the form of investment, staffing, processes and technologies. One classic case is decentralized D&A, where insights often are produced locally with little consideration of what’s best for the whole. D&A users working in these business functions respond to local demands and commonly execute analysis, build dashboards or develop models whose results are not integrated or aligned with other units’ insights. Hence, the subsequent decisions are not necessarily those that reflect what would be best globally for the organization.

D&A leaders have historically received advice from Gartner to link their initiatives to business outcomes and value, but the effects of decentralization may have been overlooked or made this even harder to achieve (see *Driving the Business Value of Data and Analytics: A Gartner Trend Insight Report*). With siloed business functions and decentralized D&A, corporatwide D&A approaches may not deliver the level of value optimization expected by organizations.

“Improving the performance of the parts of a system taken separately will not necessarily improve the performance of the whole; in fact, it may harm the whole.”

— Russell Ackoff, author and pioneering systems thinker

D&A leaders face the additional challenge that their (already complex) D&A initiatives support vast business environments of people, decision making, business processes, applications and other resources, working together to deliver value. Given this complexity, organizations have limited visibility of what effectively creates value or what is waste and reduces value. Accordingly, it will be challenging to identify which D&A activities or assets support value delivery and which ones don’t.
With this unclear link to value creation, D&A leaders will likely struggle to get approval or will have difficulties executing their D&A strategies. Investments in D&A to maximize business impact may remain tactically focused on siloed improvements. See Toolkit: How to Optimize Business Value From Data and Analytics Investments ... Finally to learn about a D&A portfolio investment framework that can help avoid this issue.

Value stream management strategies are a targeted solution to avoid this problem — or to address it if it's already impacting the organization. The overall goal is to continually improve the flow of value to customers in everything the organization does — from business operations to decision making, D&A and technology (see Bust Silos, Focus on Customers and Enhance Business Outcomes Through Value Streams). Value streams are at the core of this approach.

**Value stream:** A value stream is a sequence of business processes, people, resources and technology necessary to create and deliver a product, service or experience to a customer or citizen.

Simply put, value streams describe the flow of value “from concept to cash.” Thus, a product development team, marketing, sales and customer service working together to support a product line in an organization, plus the activities and all the resources they use, constitute a value stream (see Note 1: Value Stream Management Bibliography).

A value stream mapping process is the first step to take (see Figure 1). It allows organizations to visualize value streams (from the business to D&A and technology), understand the contributions to the flow of value and identify what requires improvement. See Use Value Streams to Drive Customer Centricity, Design Services and Operating Models, and Technology Platforms.
The optimization of these value streams requires alignment and collaboration between business functions toward the common purpose of delivering value to customers. Thus, to maximize the flow of value, business functions and their decision makers need to strike the right balance between value delivery — focusing on global objectives — and optimizing their local goals. In addition, it’s necessary to align and connect business processes, streamline dependencies, and align and optimize resources, including business applications and other technology. Also critical, is to have the people and teams within the value stream aligned and collaborating to support the common goals. There is ample literature available covering those topics, and we will focus on the D&A domain instead (see Note 1: Value Stream Management Bibliography).

The business decision-making processes and the underlying D&A ecosystem enabling decisions that are essential for value delivery should be the focus for D&A leaders. As part of their D&A strategy and operating model, they can help optimize these two areas to improve the flow of value to customers and establish a clear connection between D&A and business value creation (see How to Craft a Modern, Actionable Data and Analytics Strategy That Delivers Business Outcomes).
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Source: Gartner (September 2021)
Fragmented and Disconnected Decision Making Reduces Value Creation and Limits the Organization’s Agility

A typical value stream mapping process will describe business processes, including a high-level overview of the key decision points. D&A leaders must go beyond this and deliver a thorough description of the existing decision-making processes because they will likely find ample opportunities for value delivery optimization (see The Future of Data and Analytics: Reengineering the Decision, 2025). Several factors contribute to the inefficiencies that are candidates for optimization.

For example, decision makers from different business functions within a value stream tackle disparate processes and have the autonomy to make decisions within the boundaries of their team. In addition, they often receive disparate inputs for decision making provided by different sources and are unaware of relevant decisions and events happening in other business functions. Combined, this leads to fragmented decision making in value streams because decisions occur in silos without alignment with the flow of value.

Here is a common scenario:

- **A sales team develops a customer segmentation model to build intimacy with high-value customers.** Meanwhile, within the same value stream, the customer service team wants to reduce costs by forwarding more customer calls to automated response systems, regardless of their value. The decisions of these two business functions should be aligned; otherwise, it will reduce the flow of value. A simple solution is to have the customer service team use the customer segmentation model to decide with whom it spends more time on calls and who is handled by automated systems. With this approach, the decisions of the two business functions will be connected and optimized for value delivery and aligned with the value stream they both support, instead of being siloed and reducing value.

Moreover, some decisions have hidden dependencies and impact beyond the silo where they are made, triggering, in reaction, connected decisions elsewhere. This happens because decision makers often don’t realize the potential impact of decisions on other business functions and don’t offer a preemptive alert to the recipients. Accordingly, they also suffer unintended consequences from decisions made elsewhere within the value stream and react with unplanned decisions of their own.
Finally, fragmented decision making also limits the agility to react to fast business context changes, typical of a digital business. Problems and opportunities discovered by a business function that lead to local decision making to adapt and thrive under the new circumstances may not propagate adequately within the value stream. Other business functions may be slow to adjust or miss it all together, and can suffer unintended consequences or miss opportunities in the interim, while their decision-making focus is elsewhere.

The decision making that forms as a result of the behaviors above is fragmented and operates in silos. Hence, many related decisions within the value stream will be disconnected, limiting the flow of value.

“A system is not the sum of the behaviors of its parts. It’s the product of their interaction. The performance of a system depends on how the parts fit, not how they act separately.”

— Russell Ackoff, author and pioneering systems thinker

A value stream approach to describe contributions to value and outcomes will help identify the connected decisions and their dependencies — the decision-making networks. D&A leaders need to drive organizations to identify and map decision-making networks within value streams. With it, instead of managing isolated decisions with local impact, decision makers will know where decisions are connected and optimized for cross-functional value delivery. More importantly, they will create awareness of which decisions should be connected, but aren’t. To deliver this, D&A leaders should use frameworks such as the GDI Model (see Figure 2) that will provide structure and transparency while connecting, automating or optimizing decision making (see Decision Intelligence Is the Near Future of Decision Making).
Figure 2: Gartner Decision Intelligence Model

The GDI Model will initially help visualize the existing value stream's decision-making processes and later be used by D&A teams and decision makers to regularly describe, connect and optimize decisions. The target outcomes of the GDI Model will be the overall value stream's flow of value and its ability to adapt to fast changes in the business context. Thus, the decision optimization models will be devised to work together, connecting and streamlining decision-making networks across business functions.

**Recommendations:**

- Use the Gartner Decision Intelligence Model as part of the value stream mapping process to describe the decision making activities that impact value delivery.

- Drive D&A teams and decision makers to regularly optimize the decision-making networks in value streams by combining GDI Models targeting a shared outcome of improving the flow of value to customers.
Decentralized and Autonomous D&A, Without Alignment and Collaboration, Leads to Inconsistent Decision Making

Adopting value stream management approaches, complemented with decision intelligence models, helps organizations identify the teams and people contributing to decision making and the flow of value across business functions. But the D&A leader will quickly realize that, in the D&A domain, due to pervasive decentralization, most teams and the business users they enable aren’t aligned and collaborating toward that common purpose of value delivery.

For example, many business users explore self-service analytics capabilities while departmental teams may develop more complex analyses or run local data science initiatives. Even within a single value stream, they’re working in silos in multiple business functions, addressing demands from decision makers. They often do not collaborate with peers outside their unit but still produce insights in parallel to describe the same value stream. Thus, the data-driven business context they provide to support decision makers is often ridden with misalignment, overlaps and gaps. The resulting decision making will likely be inconsistent across business functions.

Furthermore, there are missed opportunities due to the lack of collaboration. Often, decentralized D&A users and teams have skills, D&A assets, business knowledge, and awareness of decisions and events occurring in their business functions that are potentially relevant to other areas of the value stream. But, these valuable assets remain within the boundaries of their siloed teams, largely inaccessible to others within the value stream that would benefit from them.

D&A leaders must drive the business to embrace new work methods to enhance alignment and collaboration while preserving autonomy in the use of D&A. They can achieve this goal by adopting lean or agile practices. Although often new for D&A, these practices are commonplace for application development in many organizations, making their adoption easier in D&A. The Kanban Method, for example, is tightly connected with value stream management and is a well-known practice in the market. It will offer a seamless evolution without a relevant impact on the organization or the team members’ work (see Guidance Framework for Adopting Kanban).
With these practices, decentralized D&A users continue to execute their analytics work as before, making it easy and quick to adopt. Still, they all share the status of current and pending activities with peers from other business functions in the value stream. As a result, they gain visibility of the insights produced or requested for development within the value stream. It will be possible to help solve potential problems in someone else's D&A work, suggest improvements, and learn with or reuse what others are developing. Over time, they will align goals and work methods even more, collaborate and share better, and have fast and incremental deliveries of D&A assets. Building a more complete and consistent data-driven view of the value stream to better support decision making will also become viable.

Moreover, lean and agile methods include continuous learning and improvement processes (the Kaizen culture often seen in value streams management strategies). As a result, D&A users will naturally and proactively discover, understand and share new insights and events — such as decisions — that are relevant to the value stream. This behavior is a key enabler of the incremental optimization of decision-making networks to continuously improve value delivery.

Additionally, centralized and departmental D&A teams can adopt agile-related approaches such as DataOps or MLOps (XOps in general) for rapid iterative development. Using similar work methods in decentralized and centralized D&A teams will improve work handover processes and foster further collaboration. For example, the centralized D&A organization can more easily operationalize a dashboard or automate a decision process with a GDI Model following work initiated by an agile, decentralized D&A team (see Apply Foundational DevOps Principles to Accelerate Data, Analytics and AI Delivery).

Recommendations:

- Align D&A users and improve collaboration across business functions within value streams by adopting lean or agile practices. Additionally, leverage those methods’ continuous learning and improvement processes to optimize decision-making networks regularly and to improve value delivery incrementally.
- Adopt agile-related methods such as DataOps or MLOps (XOps in general) in departmental and centralized D&A teams to bridge the gaps with decentralized D&A teams, improve work handover processes and foster collaboration.
Typical D&A Organizational Models Overlook the Cross-functional Nature of Value Creation

The adoption of lean and agile practices allows organizations to align people from multiple business functions and drive significant collaboration toward common goals — higher-value delivery in this case. Those teams’ work methods and routine activities change their behaviors with an impact that other collaboration methods currently don’t achieve. The structure and composition of those teams are also essential factors in successfully delivering results.

The major challenge is that we have very siloed organizational landscapes at several levels and have been optimizing for it for a long time. For example, stakeholders of the same value stream in the business, decentralized and centralized D&A, and IT have disparate missions and constraints to overcome. Even if the ultimate goal is the same — that is, value delivery — there are requests and responses from different areas, with potentially inefficient work handover between layers of the value stream, due to disparate work methods.

Furthermore, it’s possible that, even if D&A fully aligns with value streams, business decision makers will want to continue working in business function silos and focus on achieving their local goals. Under this scenario, organizations won’t realize all the potential benefits of value stream management. A change in organizational alignment — even virtually — can help mitigate this issue.

To address these issues, D&A leaders need to drive organizational changes, in D&A and beyond, to support agile practices and optimize for the cross-functional nature of value creation. Two main organizational models can achieve this, with the agile teams in decentralized D&A potentially being the learning stage and starting point for fusion teams:

- **Agile teams in decentralized D&A**: Teams of decentralized D&A users following lean or agile practices
- **Fusion teams**: Agile teams with broader autonomy, ownership and accountability for deliverables

**Agile Teams in Decentralized D&A**
Agile teams in decentralized D&A are teams of D&A users from multiple business functions of a value stream. Their initial goal is to adopt agile practices and develop strong alignment and collaboration between their members. Additionally, they need to maintain a reasonable level of synchronization and communication with those in other value streams. If the proper lean/agile method is selected, this transformation can happen without changing management hierarchies, organizational structures, responsibilities or expected deliverables. The organization may also decide to accept the impact of alternative agile methods if that helps to align with other agile teams in the organization (see Market Guide for Enterprise Agile Frameworks).

These decentralized user communities will bring together analysts from multiple business functions and leverage their diverse business knowledge, D&A skills, data assets and perspectives to solve more-complex business problems. It will also positively impact decision makers’ work because they will receive better insights, and it will reduce the burden for centralized D&A and IT when they support the business.

**Fusion Teams**

Fusion teams are multidisciplinary digital business teams with end-to-end accountability for the outcomes of a value stream, including autonomy and authority to make business- and technology-related decisions. Hence, a typical fusion team may include business, D&A and technology responsibilities and blurs the boundaries between those areas to optimize agility (see Fusion Teams: A New Model for Digital Delivery).

They often start as an agile team and gradually adopt product management approaches to oversee a product or service end to end, from strategy to delivery and continuous enhancements. Agile teams in decentralized D&A are a good starting point for that progression due to the agile practices they already follow and their alignment with value streams. D&A leaders can evolve them by adding people, roles, responsibilities and management authority migrated from departmental and centralized D&A. The resulting fusion teams will gain broader autonomy and end-to-end accountability for the D&A deliverables within the value stream.

Subsequently, D&A leaders should extend the D&A fusion teams to include the business and IT in the most favorable order for the organization:

- Business decision makers will add the ability to define and steer the product or service supported by the team (see Fusion Teams: Cross-Functional Collaboration for the Digital Era).
IT experts or citizen developers will provide the software development capabilities relevant for the value stream's deliverables and a good interface with IT operations (see Democratize and Distribute Technology Work Across the Entire Enterprise to Accelerate Digital Business).

The multidisciplinary fusion team's combined experience and roles allow it to make quick and optimized business decisions focused on value creation — frequently within the team itself. It also permits it to collect and analyze data to support the team's decision making and, in some cases, even to develop the applications and autonomously evolve and deliver the business capability it manages.

**Recommendations:**

- Drive decentralized D&A users to work together by establishing cross-functional agile teams within value streams.

- Gain further autonomy and end-to-end accountability for deliverables in value streams by evolving agile teams in decentralized D&A into fusion teams with additional resources and responsibilities from centralized D&A teams, business decision makers and IT specialists. With this configuration, have the team adopt a product delivery approach as their standard work method.

**Note 1: Value Stream Management Bibliography**

- “Value Stream Mapping: How to Visualize Work and Align Leadership for Organizational Transformation” by Karen Martin and Mike Osterling

- “Value Stream Mapping for the Process Industries: Creating a Roadmap for Lean Transformation” by Peter L. King

- “Value Stream Management for the Lean Office: Eight Steps to Planning, Mapping, & Sustaining Lean Improvements in Administrative Areas” by Don Tapping and Tom Shuker


- “Learning to See: Value Stream Mapping to Add Value and Eliminate MUDA” by Mike Rother and John Shook
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Five Fundamental Truths of Agile Methods in Data Science
Guidance Framework for Adopting Kanban
Fusion Teams: A New Model for Digital Delivery
Fusion Teams: Cross-Functional Collaboration for the Digital Era
**Table 1: Top Impacts and Recommendations for Data and Analytics Leaders**

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