

## ORGANIZING AROUND VALUE STREAMS IN PRODUCT AND SERVICE DEVELOPMENT

*Logic, design and implementation*

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### IN A BLINK

One of the key challenges for optimal competitive performance of organizations in the digital age is ensuring high speed of value delivery in product and service development. Faster delivery in development processes not only enables earlier return on investments, but also allows faster validation of the real value of product and service innovation so that investments in unsuccessful initiatives can be minimized. Organizing around 'Value Streams' is a key step to optimal value delivery in the shortest sustainable lead time.

In this BlinkPaper, the logic of organizing around Value Streams is explained, guidelines are given on how to design Value Streams, and a five-step implementation approach is provided.

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## WHY ORGANIZE AROUND VALUE STREAMS?

One of the key challenges for optimal competitive performance of organizations in the digital age is ensuring high speed of value delivery in product and service development. Faster delivery in development processes not only enables earlier return on investments, it also allows faster validation of the real value of product and service innovations so that investments in unsuccessful initiatives can be minimized.

Handovers are one of the biggest causes of delay in value delivery. Moving work from one part of an organization tends to result in waiting, motion, and late discovery of defects. Such handovers and the associated disadvantages are minimized if all the people and capabilities, solution technologies and development resources are brought together, which are needed for end-to-end delivery. Organizing around such 'Value Streams' is a key step to optimal value delivery in the shortest sustainable lead time.

In agile delivery, bringing together the aforementioned ingredients in Value Streams is typically done in stable, autonomous, and cross-functional teams or teams-of-teams (Agile Teams or Agile Release Trains).

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## WHAT IS A VALUE STREAM?

A Value Stream is a concept found in the Lean management philosophy. It is simply a sequence of steps required to produce value for the final consumer of a service or product. A Value Stream begins with a certain trigger, which is usually the identification of demand for the value that the Value Stream produces. After going through all of the steps necessary as part of the Value Stream, it ends with the actual value being consumed by whomever requested it (i.e. the customer). In most instances Value Streams are long-living. That is, an organization produces the associated type of value many times, for longer periods of time, and through more or less the same sequence of steps.

### Development Value Streams

There are different types of Value Streams in organizations. For example, the most vital Value Streams to most organizations are 'Operational Value Streams'. Operational Value Streams are associated with the key operational processes of the organizations like selling and delivering different products and services to customers. However, the value delivered through Operational Development Streams tends to deteriorate over time, as alternatives or improvements to the particular value propositions emerge. In the digital age, this deterioration of value has accelerated, as the majority of products of services have been digitized and can be changed easier and with fewer barriers. This puts increasing importance on another type of Value Streams in organizations; 'Development Value Streams'. Development Value Streams are associated with developing product or service improvements and innovations that keep the organization competitive in the long run. The value from Development Value Streams are solutions that are consumed by the part of the organizations that runs the Operational Value Streams to increase or sustain value there.

The prototypical Value Stream is depicted below. Like any Value Stream it is triggered by the demand for the associated value. In the case of Development Streams this is usually a development need from a customer or other part of the organization. For example, the sales department wants to develop a new digital sales channel. The steps to deliver the demanded value are typically as follows:

1. The demand is analyzed to make sure the requested value and the associated requirements are properly understood.
2. The solution that generates the demanded value is designed.
3. The solution is developed, which often involves multiple teams and technical components.
4. The different components are integrated into one working solution.
5. The solution is validated, to ensure it meets the defined requirements and it delivers the intended value.



6. The validated solution is deployed to the environment where it can be made available to the consumer(s) of the solution value.
7. When deemed appropriate, the solution is released to the consumer(s) and the value is delivered and being consumed.



### Essential ingredients of Development Value Streams

To address the original challenge of this whitepaper we focus on how to organize around Development Value Streams, rather than Operational Value Streams. Organizing around how value is delivered in this type of Value Streams requires bringing together three essential ingredients; the people that have the capabilities to complete the entire sequence of steps, the technologies that constitute the solutions that generate the intended value, and the resources that people need to develop those solutions technologies accordingly. These ingredients are fused into cross-functional teams and all the demand associated with the particular Development Value Stream is funneled towards these teams.

#### *People and capabilities*

For fast and effective product and service development the capabilities that need to be brought together in the Value Stream are mainly:

1. Demand management / value optimization
2. Design, including architecture
3. Build / development
4. Testing
5. Deployment and release
6. Operations
7. Team and process improvement

These capabilities are typically represented by people in specific roles, like those of Product Management, Product Owners, System Architect, Agile Development Teams, System Teams, Release Train Engineer and Scrum Masters.



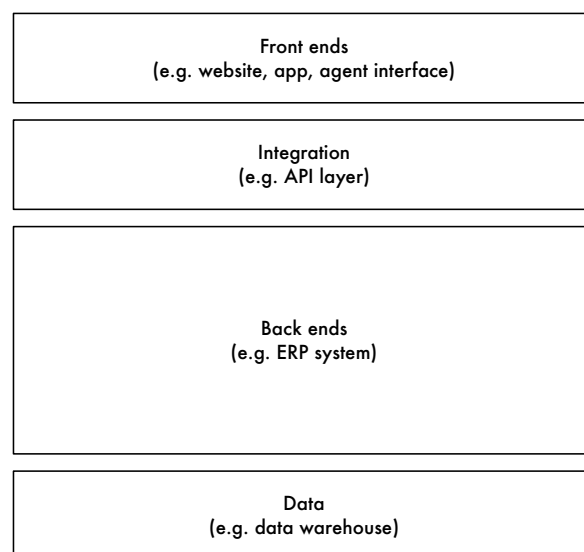
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### *Solution technologies*

Most enterprises have a prototypical system architecture, consisting of the following solution technologies:

1. One or multiple user interaction channels ('front ends')
2. Back-office systems ('back ends')
3. Integration solutions (e.g. API's) that allow the different solutions within the architecture to communicate with one another according to a certain convention and logic
4. Data platforms

This prototypical system architecture is visually depicted below. As many development needs will impact more than one of these solution technologies, organizing around Value Streams means having all the capabilities in the teams to work on all required solutions technologies. Some organizations not only have software development as part of their product and service development, but also develop physical solutions (hardware) and embedded software in such solutions (firmware). In these cases, required capabilities also need to be taken into account for the Value Stream organization.



### *Development resources*

Teams need facilities and tools to develop their products and services. If such resources are not to their disposal, delivering value will be hampered or delayed by handovers. The resources required in the Value Stream typically include:

1. Solution environments (development, test, staging / acceptance and production environment)
2. Tooling for collaboration, documentation, and automation of certain repetitive activities (e.g. test automation tooling)
3. Licenses for use of solution technologies and tooling
4. Workspace, such as office space for co-located team work, work stations and visualization facilities



## VALUE STREAM DESIGN LOGIC

As said, when organizing around Value Streams, the essential ingredients described in the previous paragraph are fused into cross-functional teams and all the demand associated with the particular Development Value Stream is funneled towards these teams. Value Streams design follows the logic of differentiating demand based one or more of the following dimensions:

1. Customer segments
2. Customer journeys
3. Product categories

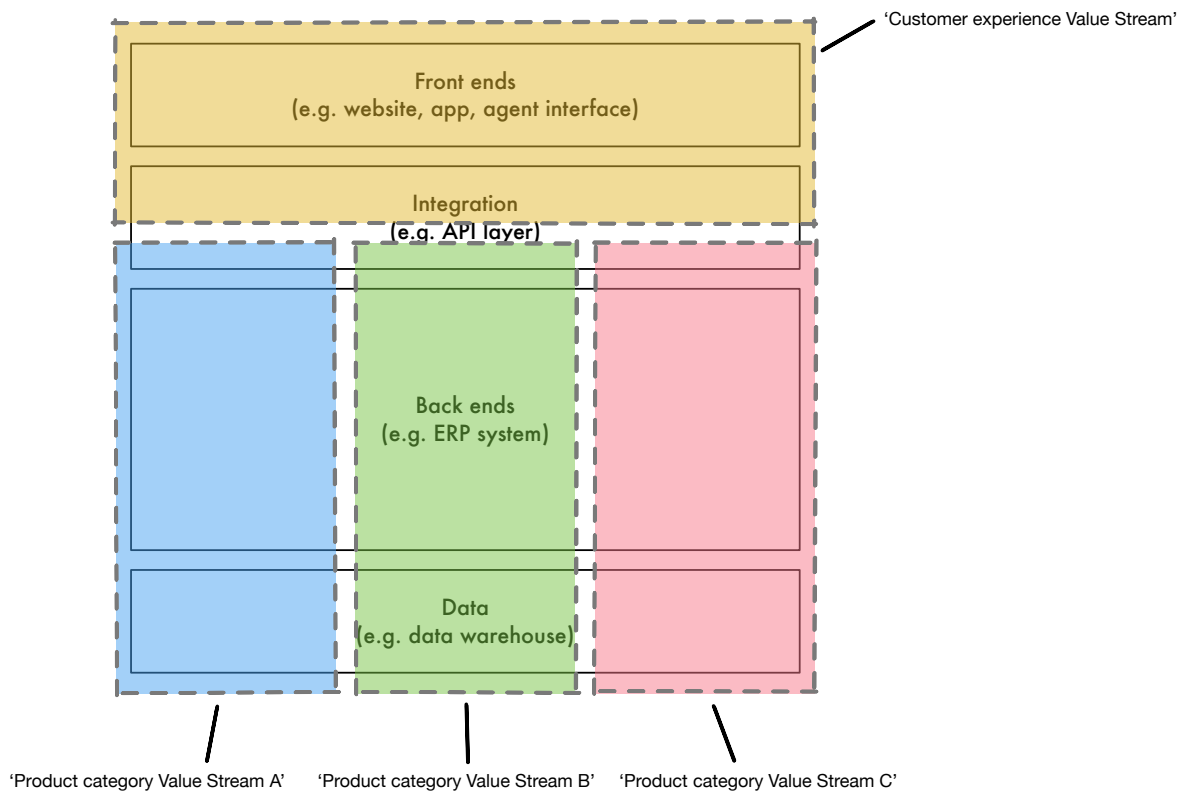
When Value Stream design is based on differentiation of demand according to customers segments, there will be teams, technologies and resources grouped to handle all development needs for a specific customer segment, such as one for the consumer market and another for the business market. The same can be done based on customer journeys, where you could have one Value Stream to handle all development needs associated with onboarding new clients, and another for servicing existing clients. Finally, this differentiation can also be done by product category, such as one Value Stream for mortgages and another for savings products in case of bank. In very large enterprises, it is not uncommon to make combinations of these dimensions for differentiating Value Streams (e.g. consumer loans and business loans).

**“ The prototypical Value Stream design is ‘horizontal’ for development needs that are associated with improving customer experience, and ‘vertical’ for developing new or enhanced product and service offerings**

The extent of differentiation is dependent on the underlying solution technologies and the ability to have autonomous development on these technologies per Value Stream. In most enterprises, different customer segments, customer journeys and product categories are serviced by the same systems. Having different Value Streams differentiated on the logic above then requires duplication of certain capabilities for each Value Stream and architectural coordination across Value Streams to avoid unintentional technical interferences. Smart use of integration solutions and tooling can mitigate the latter issue to some extent. In most cases, these trade-offs lead to the following prototypical design of Value Streams when mapped to the system architecture:







When applying customer journey logic most enterprises strive to have a consistent customer experience in those journeys, independent of the interface that the customer chooses. For example, when an enhancement is made in the journey of becoming a customer, this enhancement should be available both on the website as well as in the app. On the other hand, people with front end development capabilities are often not available in such an abundance that several Value Streams can be staffed with teams for all front end applications. As a result, many organizations choose to combine these capabilities in one or a few 'Customer Experience Value Stream(s)'. Organizing them together ensures that all front ends enable consistent customer journeys and making best use of the scarce capabilities.

In contrast, product and services offerings are mainly defined in back end systems. It is not uncommon that there are different back end systems involved for different product categories. Therefore, behind the integration layer there are Value Streams per product category in most cases. These Value Streams handle all development needs that are associated with developing new or enhanced product or service offerings. For delivering value, the consistency with solution technologies of other product categories is less important.

As a result, the prototypical Value Stream design is 'horizontal' for development needs that are associated with improving customer experience, and 'vertical' for developing new or enhanced product and service offerings. These two worlds meet in the integration layer of the system architecture, which is intended to make them interact while still having relative high degree of autonomous development at both ends.



## TRANSITIONING TOWARDS VALUE STREAM ORGANIZATION OF PRODUCT AND SERVICE DEVELOPMENT

Moving from your current context towards product and service development organized around Value Streams is no easy task. It requires breaking many silos that the organization may have for the capabilities, solution technologies and resources mentioned before. Moreover, development needs are traditionally organized in projects, as part of project portfolios. In project portfolios, the work is normally not funneled towards stable, long-living teams, organized around Value Streams. Rather, budget is allocated to a project stakeholder, who subsequently tries to organize the right people and resources around the project. This can lead to severe competition within organizations for scarce capabilities and resources, and seldomly results in teams that can deliver end-to-end value. Delays are abundant in this context.

Moving from a project portfolio context to organizing around Value Stream can be done however, using the following steps and logic:

1. **Identify the Development Value Streams** for your organization, by means of a Value Stream Workshop<sup>1</sup>. Also identify what people and capabilities, solution technologies and development resources would be needed within each Value Stream using a Value Stream Canvas<sup>2</sup>.
2. Take an incremental approach; **select a first Value Stream for implementation**. A good starting point is a Value Streams where there is a combination of multiple development initiatives with high priority, significant delivery challenges in the current speed of delivery, and existing teams or opportunities to set up cross-functional teams.
3. Engage with the stakeholders of high priority development initiatives in the portfolio that can be delivered through to the Value Stream, and get them to **pool their budgets for funding the Value Stream**. Their initiatives will be funneled towards the Value Stream organization ('guiding initiatives'), based on the promise of faster and more effective delivery in this way.
4. **Organize and launch the teams** in accordance with the Value Stream Canvas and **start delivering value**. Existing best practices for organizing teams around Value Stream, like Scaled Agile Framework (SAFe), can be leveraged here.
5. **Sustain, improve, and launch more Value Streams**, using the same logic.

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<sup>1</sup> <https://www.scaledagileframework.com/identify-value-streams-and-arts/>

<sup>2</sup> The Value Stream Canvas is a visual tool developed by BlinkLane Consulting



## CONCLUSION

Organizing around Value Streams is a key step to ensure high speed of value delivery in product and service development. These Value Streams combine the people, technology and resources needed for end-2-end solution development. The design of Value Streams follows the logic of differentiating demand based on customer segments, customer journeys or product categories. A combination of these dimensions for differentiating Value Streams is required in most organizations, due to the underlying solution technologies and scarce capabilities. As such, resulting in a prototypical Value Stream design, where Value Streams that are associated with improving customer experience are combined with Value Streams for developing new or enhanced product and service offerings. Implementing this approach requires transforming from a project portfolio way of working towards stable, long-living teams and team-of-teams, organized around Value Streams. Going through the five-step approach will help you to set up successful Value Streams, and start harvesting the real benefits of agile delivery.

## ABOUT BLINKLANE CONSULTING

BlinkLane Consulting is an advisory firm founded in 2007. In our 12-year lifespan, we have evolved together with our clients. We continuously innovate our services to keep delivering the value our clients need in order to deal with today's challenges. We help our clients increasing business value from IT investments, achieve higher enterprise agility and innovative and transform their organizations for the future. We currently focus on the following themes:

- Strategic Flow
- Scaling Agile
- Innovation and Growth

## ABOUT THE AUTHORS

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