





Beyond Requirements: Analysis with an Agile Mindset











erstanding the Need

Chapter 12. Understanding Context

INTRODUCTION

"It depends" is an often-overused phrase, especially by consultants or those seeking to avoid answering a question (some may say that was a redundant statement). The fact of the matter is that appropriate techniques really are dependent on the context in which work is being done. And one of the biggest contributions to context in IT projects is the characteristics of the organization itself and its strategy. Your team working on an IT project may need some discussions to understand the strategy of their organization if it is not clearly stated. The techniques described in this chapter can also be used to understand the strategy of parts of an organization more directly impacted by your particular IT project.

This chapter provides a set of techniques that are helpful for understanding the team's organizational context:

- The Purpose-Based Alignment Model: used to determine how to approach your project based on the organizational activities you are supporting
- Six questions: useful for identifying an organization's purpose
- The Context Leadership Model: helps you identify key risks your projects face and suggests analysis and documentation approaches to address those risks

These techniques are complementary, and you will often get the best results when you use them together.

PURPOSE-BASED ALIGNMENT MODEL

What It Is

The Purpose-Based Alignment Model (see Figure 12.1), created by Niel Nickolaisen, is a method for aligning business decisions, process, and feature designs around purpose. The purpose of some decisions and designs is to differentiate the organization in the market; the purpose of most other decisions is to achieve and maintain parity with the market. Activities that do not require operational excellence either call for finding a partner to achieve differentiation or do not deserve much attention.

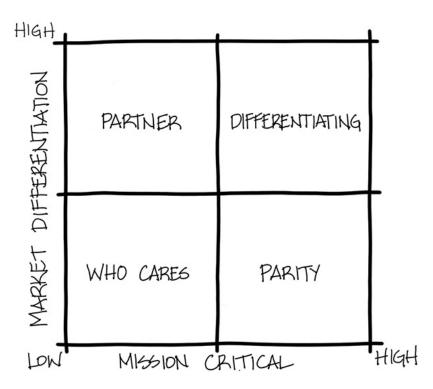


Figure 12.1 The Purpose-Based Alignment Model

In practice, purpose alignment generates immediately usable, pragmatic decision filters that you can cascade through the organization to improve decisions and designs.

The Quadrants Explained

Differentiating

The purpose of differentiating activities is to excel. Because you use these activities to gain market share and to create and maintain a sustainable competitive advantage in the marketplace, you want to perform them better than anyone else. These activities are or should be your organization's claim to fame and should link directly to your strategy. Be careful to not underinvest in these activities, as doing so would weaken your market position. In fact, you should focus your creativity on these processes.

What are the differentiating activities for your organization? It depends. It depends on the specific things you do to create sustainable competitive

advantage.

For example, Deep Thought Academy's differentiators are their small class sizes and personalized lesson plans. Keeping these sustainable competitive advantages should be a strong consideration in all of the school's key decisions.

Parity

The purpose of the parity activities is to achieve and maintain parity with the marketplace. Your organization will not generate any competitive advantage if it performs these activities better than its competitors. However, because these activities are mission critical, you must ensure that you do not underinvest in them or perform them poorly. Parity activities are ideal candidates for simplification and streamlining; complexity in this quadrant implies that you are overinvesting. While there might be value in performing the differentiating activities in a unique way, performing the parity activities in a unique way will not generate value and could actually decrease the organization's value if your overinvestment in parity processes limits the resources you can apply to differentiating processes.

Partner

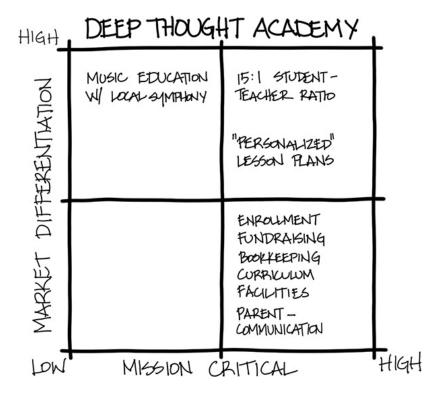
Some activities are not mission critical (for your organization to do) but can nevertheless differentiate your organization in the marketplace. The way to exploit these activities—and generate increased market share—is to find someone who can perform them for you and combine efforts to create differentiation. In the following example for Deep Thought Academy, music education with the local symphony is something that the other schools in the area do not offer, so the partnership could be viewed as a differentiator in terms of attracting students.

Who Cares

Finally, some business activities are neither mission critical nor market differentiating. The goal for these activities is to perform them as little as possible. We refer to these activities as the "who cares" activities. Because these activities are neither market differentiating nor mission critical, you should spend as little time and attention on them as possible. Who really cares?

An Example

Figure 12.2 shows the Purpose-Based Alignment Model for Deep Thought Academy.



 $\begin{tabular}{ll} Figure~12.2~Deep~Thought~Academy~Purpose-Based~Alignment\\ Model \end{tabular}$

When to Use It

Purpose alignment works well when you need to do these things:

- Define business and IT strategic and tactical plans
- Align IT with business priorities
- Evaluate, plan, and implement large system projects
- Filter and design features and functionality
- Manage project scope
- Reduce resistance to process improvements
- Reduce waste by improving focus and resource allocation

Why Use It

The Purpose-Based Alignment Model provides a simple way to determine what activities to concentrate on and how to deliver them. Through the characteristics of mission critical and market differentiating, it removes factors that distract from decision making and helps the team focus.

How to Use It

Follow these steps to engage in purpose alignment:

- 1. Present and explain the model.
- Identify the business decisions and activities that differentiate your organization.

- **3.** Once you have identified the differentiating activities, you should be able to write a simple filtering statement or question that you can use to quickly evaluate future decisions and designs. Before moving on, determine whether any of the differentiating activities can best be delivered via a partnership.
- **4.** Once you have defined the differentiating activities, almost all other activities will fall into the parity category.
- **5.** If you are using the Purpose-Based Alignment Model for strategic and tactical planning, you can next perform a gap analysis on the differentiating, parity, and partnering activities. Your plans should fill the gaps.
- **6.** If you are using the Purpose-Based Alignment Model to design projects, features, and functionality, you can now design around purpose. Design differentiating project elements, features, and functionality to help you win in the marketplace. Design parity project elements, features, and functionality to be good enough. Remember that the parity activities are mission critical and therefore cannot be done poorly. Nevertheless, they can be simplified and standardized so long as they deliver operational excellence.

Caveats and Considerations

Remember the mission-critical nature of the parity activities. Culturally, we associate our self-worth and value to the organization with the process and business rules we control and use. This creates a natural tendency to want our process and business rules to be "differentiating." If you don't emphasize and communicate the mission-critical nature of the parity activities, people will resist the use of the model and its associated decision filters. Alternatively, they may attempt to contort their processes so they fall into the differentiating category. This defeats the effective use of the model.

What is a differentiating activity changes over time. As soon as you unleash improvements to your differentiating activities on the market, the market can mimic what you have done. Therefore, you need a focused, working innovation process that constantly updates your roadmap with new improvements to your differentiating processes, business rules, functions, and features.

Parity activity classifications change over time. Good practices for your parity activities can change. As soon as a process improvement becomes the new standard, it creates a parity gap that you need to fill. Of course, to fill the gap, you can then mimic what someone else has already invented rather than invent it yourself. This requires an internal process to find and implement best practices.

Treat parity activities like parity activities. It's important that you do them well, but doing them better than anyone else is essentially a waste of money. Too many organizations overengineer processes or systems because they fail to realize that they are working to support a parity activity. For instance, companies buy COTS timekeeping products, then try to cus-

tomize the products to accommodate their unique process for tracking time. The software already contains industry-wide leading practices for timekeeping, yet the organization is convinced that "we are special and unique." They may in fact have a unique timekeeping process, but chances are there is no good reason for them to have a unique process. It certainly does not earn them any additional business.

Purpose is not priority. Purpose identifies the design goals of a process, business rule, function, or feature. It does not define the sequence in which the work on that process, rule, function, or feature must occur. That being said, purpose can provide a framework for strategic and tactical planning.

Analytics can be differentiating. If you can make better decisions, particularly about your differentiating processes, you improve your ability to compete in the marketplace. Analysis that seeks to better understand your differentiating processes can also be differentiating. Not all analytics are differentiating, however. For example, a large retailer that differentiates itself through its superior supply chain management focuses its unique and differentiating analytics on the supply chain, not necessarily on sales data.

Treat exceptions like exceptions. Automating processes to handle exceptions generally adds nothing but complexity to your organization and very rarely differentiates the organization in a meaningful way. Avoid codifying the handling of exceptions to business rules.

Additional Resource

Pixton, Pollyanna, Niel Nickolaisen, Todd Little, and Kent McDonald. Stand Back and Deliver: Accelerating Business Agility. Addison-Wesley, 2009.

SIX QUESTIONS

What It Is

The <u>six questions</u> listed below help guide your discussion about your organization's differentiating activities. These six questions represent two different perspectives.

You can use the first four questions to identify differentiating activities in your organization:

- 1. Whom do we serve?
- 2. What do they want and need most?
- 3. What do we provide to help them?
- 4. What is the best way to provide this?

The final two questions prompt you to think about the implications of your differentiating activities for your organization.

- 5. How do we know we are succeeding?
- **6.** How should we organize to deliver?

An Example

Table 12.1 shows the six questions applied to Deep Thought Academy.

1. Whom do we serve?	Families located in the metro area where Deep Thought Academy is located with children in grades K through 8
2. What do they want and need most?	A secular school where their children can receive the best possible education
3. What do we provide to help them?	Small class sizes and personalized lesson plans
4. What is the best way to provide this?	A combination of Montessori, a tra- ditional teaching model, and individual guided learning styles combined with experienced faculty
5. How do we know we are succeeding?	Based on average student rank in the Iowa Test of Basic Skills
6. How should we organize to deliver?	Nonprofit school with a board composed of parents; small central staff who also serve as faculty. Target 15:1 student-teacher ratio.

Table 12.1 Six Questions for Deep Thought Academy

When to Use It

These questions are best suited for discussions when an organization is trying to formulate or revise its strategy. Organizations ranging from small nonprofits to Fortune 500 corporations have used these questions as a way to guide strategy discussions. Your IT project team can also use these questions to guide discussions about what your organization's strategy actually is and whether your project aligns with that strategy.

Why Use It

These questions place the focus on the value the organization provides to its customers. They also ensure that the organization structures itself and its efforts around that purpose, rather than getting distracted by activities that don't promote progress toward the end goal of delivering value to customers. The six questions also drive the conversation around how to measure that progress. For IT projects, the value in discussing these questions is so that your team can identify your organization's differentiating activities based on how it actually behaves. This can be especially helpful if your team is not receiving explicit guidance from your organization's leadership. The six questions are helpful because they emphasize the aspects of an organization's sustainable competitive advantage, which ties into its differentiating activities.

How to Use It

Pull a cross section of people together (the composition of the group depends on the purpose of the discussion), and guide them through the six questions. Sticky notes, fine-tipped permanent markers, flip chart paper, and flip chart markers are helpful for these discussions. You may want to identify several ideas individually, then discuss the ideas as a group in order to converge on one response, or just a few. The questions build on one another, so you want to identify the desired answer for the first question before moving on to the second.

Here's a brief description of what each question seeks to identify:

- 1. Whom do we serve? This question encourages a discussion about your organization's target markets and market segments. You'll want to narrow this down to a very small number—preferably three or fewer—so your activities will be focused. Discuss the following questions for each target market you identify.
- **2.** What do they want and need most? This question identifies the needs each target market is seeking to address.
- **3. What do we provide to help them?** This question identifies the products and services the organization provides to satisfy those needs.
- **4. What is the best way to provide this?** The answers to this question can often help identify an organization's differentiators.
- **5.** How do we know we are succeeding? This question helps identify overarching organizational objectives.
- **6. How should we organize to deliver?** This question sparks conversation around how the organization should structure itself to most effectively satisfy the needs of the target market.

Caveats and Considerations

These questions help identify differentiating activities in an organization. If you are working on a project that does not address something identified by these questions, that is a good indication that you are working on a parity activity.

These questions focus on how your organization meets the needs of your customers. The answers to these questions are still useful for internal IT projects because they provide a better understanding of how your project relates to your organization's strategy.

The six questions are applicable at multiple levels of your organization. At a company level the answers to the questions are fairly abstract. At a product level the questions focus on your specific product offering. For an IT project, you could ask these questions from the perspective of the business stakeholder that you are representing. If you shift the focus in that way, you could switch the question "What do they want and need most?" to "What problem(s) do they [your stakeholders] have that they would pay

to have removed?" It's an important shift. They may want several things, but what they really need is for a particular problem to go away. Even if they have a problem that they would like to go away, asking if they would pay to have it removed focuses even more on whether the problem is worth solving.

Additional Resource

Pixton, Pollyanna, Paul Gibson, and Niel Nickolaisen. *The Agile Culture:* Leading through Trust and Ownership. Addison-Wesley, 2014.

CONTEXT LEADERSHIP MODEL

What It Is

The Context Leadership Model, created by Todd Little, was introduced in *Stand Back and Deliver* as a tool for determining the appropriate project leadership style given a project's uncertainty and complexity. The Context Leadership Model can also be used to understand the risks inherent in a project and determine how to approach analysis and documentation in a way that will address those risks. (See Figure 12.3.) Todd chose to represent each quadrant with an animal whose characteristics mirror those of the projects that fit into that quadrant.

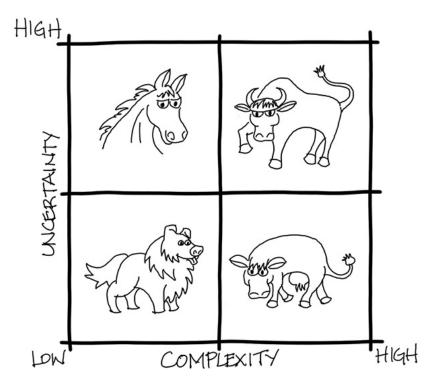


Figure 12.3 The Context Leadership Model

<u>Table 12.2</u> shows a sample set of attributes and scoring model described in *Stand Back and Deliver* that you can use to determine where your project fits on the complexity scale.

Attribute	Low Complexity (1)	Medium Complexity (3)	High Complexity (9)
Team size	2	15	100
Mission critical	Speculative	Established market	Safety critical or signifi- cant monetary exposure
Team location	Same room	Within same building	Multisite, worldwide
Team maturity	Established team of experts	Mixed team of experts and novices	New team of mostly novices
Domain knowledge gaps	Delivery team knows the domain as well as SME.	Delivery team requires some domain assistance.	Delivery team has no idea about the domain.
Dependencies	No dependencies	Some dependencies	Tight integration with several projects

Table 12.2 Complexity Attributes

<u>Table 12.3</u> presents a sample set of attributes and scoring model described in *Stand Back and Deliver* that you can use to determine where your project fits on the uncertainty scale.

Attribute	Low Uncertainty (1)	Medium Uncertainty (3)	High Uncertainty (9)
Market uncertainty	Known deliverable, possibly defined contractual obligation	Initial market target is likely to require steering.	New market that is unknown and untested
Technical uncertainty	Enhancements to existing architecture	We're not quite sure if we know how to build it.	New technology, new architecture, some research may be required
Number of customers	Internal customer or one well-defined customer	Multiple internal or small number of defined customers	Shrink-wrapped software
Project duration	0-3 months	3-12 months	>12 months
Approach to change	Significant change control	Moderate control over change	Embrace or create change

Table 12.3 Uncertainty Attributes

<u>Tables 12.4</u> through <u>12.7</u> provide additional explanations of each quadrant.

Characteristics	Simple project with low uncertainty	
Description	Activities the organization does on a regular basis, such as annual updates, maintenance, small revisions to an existing system	
Nature of project team	Small, most likely colocated	
Useful approaches	Build a shared understanding on the team, then stand back and let the team deliver. Kanban can be useful in this setting.	
Nature of analysis	Resolve known unknowns.	
	 Build shared understanding with team and stakeholders. 	
Impact on documentation	As requested by stakeholders	
	 Minimum needed to aid project delivery 	
Analysis expertise helpful	Domain knowledge	

Table 12.4 Sheepdog Explained

Characteristics	Simple project with high uncertainty	
Description	Solutions that introduce new products or services or support new business processes. Little to no impact on existing systems or teams.	
Nature of project team	Small, most likely colocated	
Useful approaches	Customer development techniques as described in Chapter 3 and agile development techniques	
Nature of analysis	Iteratively discover unknown unknowns.	
	Resolve known unknowns.	
	 Build shared understanding with team and stakeholders. 	
Impact on documentation	 As requested by stakeholders 	
	Minimum needed to aid project delivery	
Analysis expertise helpful	Familiarity with area of uncertainty	

Characteristics	Complex project with low uncertainty	
Description	Revisions to existing, often legacy systems that may impact other systems and teams	
Nature of project team	Large, dislocated, may involve multiple teams	
Useful approaches	Agile development techniques combined with additional practices to ensure proper communication among multiple teams and impacted stakeholders	
Nature of analysis	Resolve known unknowns.	
	 Build shared understanding with team and stakeholders. 	
Impact on documentation	As requested by stakeholders	
	• Sufficient to communicate intent to dislocated team members (more detailed specifications)	
	 As needed to aid shared understanding with dependent teams (published interfaces) 	
Analysis expertise helpful • Familiarity with impacted stakeholders		
	Domain knowledge	

Table 12.6 Cow Explained

Characteristics	Complex project with high uncertainty	
Description	Introduction of new product or business process that relies heavily on existing systems or substantial changes to/replacement of systems that support existing products/processes	
Nature of project team	Large, dislocated, may involve multiple teams	
Useful approaches	Approaches that allow for iterative techniques at the team level and coordination among multiple teams. Customer development techniques may be helpful in these situations but you may need longer learning cycles.	
Nature of analysis	Iteratively discover unknown unknowns.	
	Resolve known unknowns.	
	 Build shared understanding with team and stakeholders. 	
Impact on documentation	As requested by stakeholders	
	 Sufficient to communicate intent to dislocated team members (more detailed specifications) 	
	 As needed to aid shared understanding with dependent teams (published interfaces) 	
Analysis expertise helpful	Familiarity with area of uncertainty	
	 Familiarity with impacted stakeholders 	
9	Domain knowledge	

Table 12.7 Bull Explained

An Example

<u>Figure 12.4</u> shows the Context Leadership Model reflecting where the four case study projects fit.

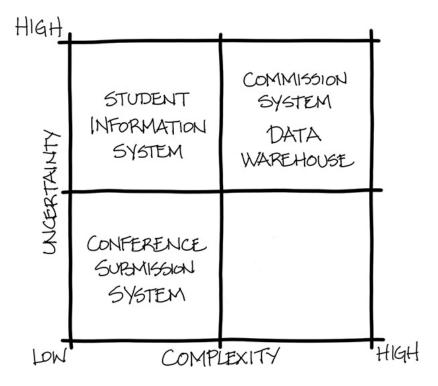


Figure 12.4 Context Leadership Model for case studies

When to Use It

The Context Leadership Model can be helpful for the following:

- Performing an initial risk assessment of a project and determining the best way to approach analysis
- Identifying potential opportunities to restructure a project so as to lower risk
- Examining the entire portfolio to get a sense of the aggregate risks faced by an organization in its portfolio

When starting a project, complexity and uncertainty analysis can help the team determine its initial risk profile. Subsequent reevaluations of the risk profile can be helpful for deciding whether existing risks have been addressed and new ones have arisen.

Why Use It

The Context Leadership Model is a quick way to assess a project in relation to common risks that all projects face and determine appropriate process and analysis approaches to address those risks.

How to Use It

Follow these steps to implement uncertainty and complexity management:

1. Identify the attributes and the scoring that you will use for complexity and for uncertainty. A sample set of attributes and scoring model are summarized in Tables 12.2 and 12.3.

- **2.** Score the project and compute the average scores for complexity and uncertainty.
- **3.** Identify the quadrant in which the project falls. Is it a sheepdog, colt, cow, or bull? Determine appropriate analysis approaches based on the suggestions in Tables 12.4 through 12.7.
- **4.** Look at the individual attributes to determine if any represent a significant risk that you need to address in your project. Use <u>Tables 12.8</u> and <u>12.9</u> for some suggestions for how to address those risks.

Attribute	Ways to Reduce Complexity and Risk	Process Steps to Mitigate Risk
Team size	Split teams into smaller cohesive groups.	Make sure teams have a shared understanding of their purpose and the overall project success criteria. Bring teams together at regular intervals. Define, communicate, test, and manage project interfaces.
Mission critical	Not easy to reduce	Make critical decisions and overall project status visible to all stakeholders. Ensure that stakeholders understand the consequences of key decisions.
Team location	Colocate the team if possible.	Bring team members into face-to- face contact often. Invest in high- bandwidth communication and collaboration tools.
Team maturity	Keep experienced teams whole, and leverage them from one release to the next. Integrate new members into the team early.	Make sure that time is allocated for mentoring of new team members, and invest in training and improvement for the entire team.
Domain gaps	Staff the team with members who have strong domain knowledge and use them to mentor other team members. Ensure that customer needs are constantly represented.	Educate and expose team members to the domain. Have team members sit with users and experience how they use the product.
Dependencies	Eliminate dependencies of work with static versions of dependencies. Build automated tests to check dependencies.	Invest in communication with teams that depend on you. Understand their needs and be clear about your progress.

Table 12.8 Addressing Complexity Risks

Attribute	Ways to Reduce Uncertainty and Risk	Process Steps to Mitigate Risk
Market uncertainty	Target a specific market segment that is better understood.	Deliver iteratively, use prototypes, and elicit customer feedback on a regular basis.
Technical uncertainty	Accept proven technologies. Design flexibility into situations to enable decisions to be made in the future.	Delay decisions where the uncertainty will resolve itself. Conduct experi- ments that will provide information to help resolve the uncertainty.
Number of customers	Target a specific customer segment or group of customers.	Use a product champion to solicit multiple customer voices and move them in a unified direction. Use the Purpose-Based Alignment Model as a filter.
Project duration	Shorten the duration or deliver functionality in incremental releases.	Deliver incrementally and maintain high quality throughout the project.
Change	Exert control over change where it has the biggest impact. Delay decisions so changes can be made without major impact.	Use incremental delivery and feedback to enable change to be absorbed into the project. Avoid committing to too much detail early.

Table 12.9 Addressing Uncertainty Risks

Caveats and Considerations

While colt projects are ideally suited for agile approaches, that should not be taken to mean that agile approaches do not apply elsewhere. Even the lightly prescriptive agile approaches would most often be overkill for sheepdog projects; as long as the team has a clear picture of what they are trying to accomplish and a simple way to stay coordinated, that is probably all the process ceremony needed. Cow projects can use agile approaches, but those approaches need to be supplemented by additional coordination activities between impacted teams and stakeholders. Agile can also be used for bull projects, but since the best way to address those projects is to split them into colts and cows, the thoughts for each of those projects apply.

Sheepdogs can use agile approaches, but many of the agile approaches are too complicated for these types of projects. Use only the techniques that you need to use, and resist the urge to make them any more complicated than necessary. As Todd Little suggests, "Sheepdogs are fine as agile projects, but just feed them dog food. And make sure you empower the dog to bite the project manager if they ever try to make it too complex."

It is possible for projects to move from one quadrant to another based on changes in their risk profile. Colts become bulls when the organization cannot properly control scope and ends up involving other projects and systems in what should have been a fairly isolated effort. Cows become bulls when the product owner cannot make decisions at the appropriate time, thereby adding excessive uncertainty.

Additional Resource

Pixton, Pollyanna, Niel Nickolaisen, Todd Little, and Kent McDonald. Stand Back and Deliver: Accelerating Business Agility. Addison-Wesley, 2009.

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NEXT