Ch. 12 – Understanding Context

"C**ontext** in IT projects is understanding the characteristics of the organization & its strategy"

Techniques associated with those parts of the organization directly impacted by an IT project:

Purpose-Based Alignment Model

Used to determine how to approach the IT project based on the organizational activities IT is supporting

Six Questions

Useful for identifying the organization's *purpose*

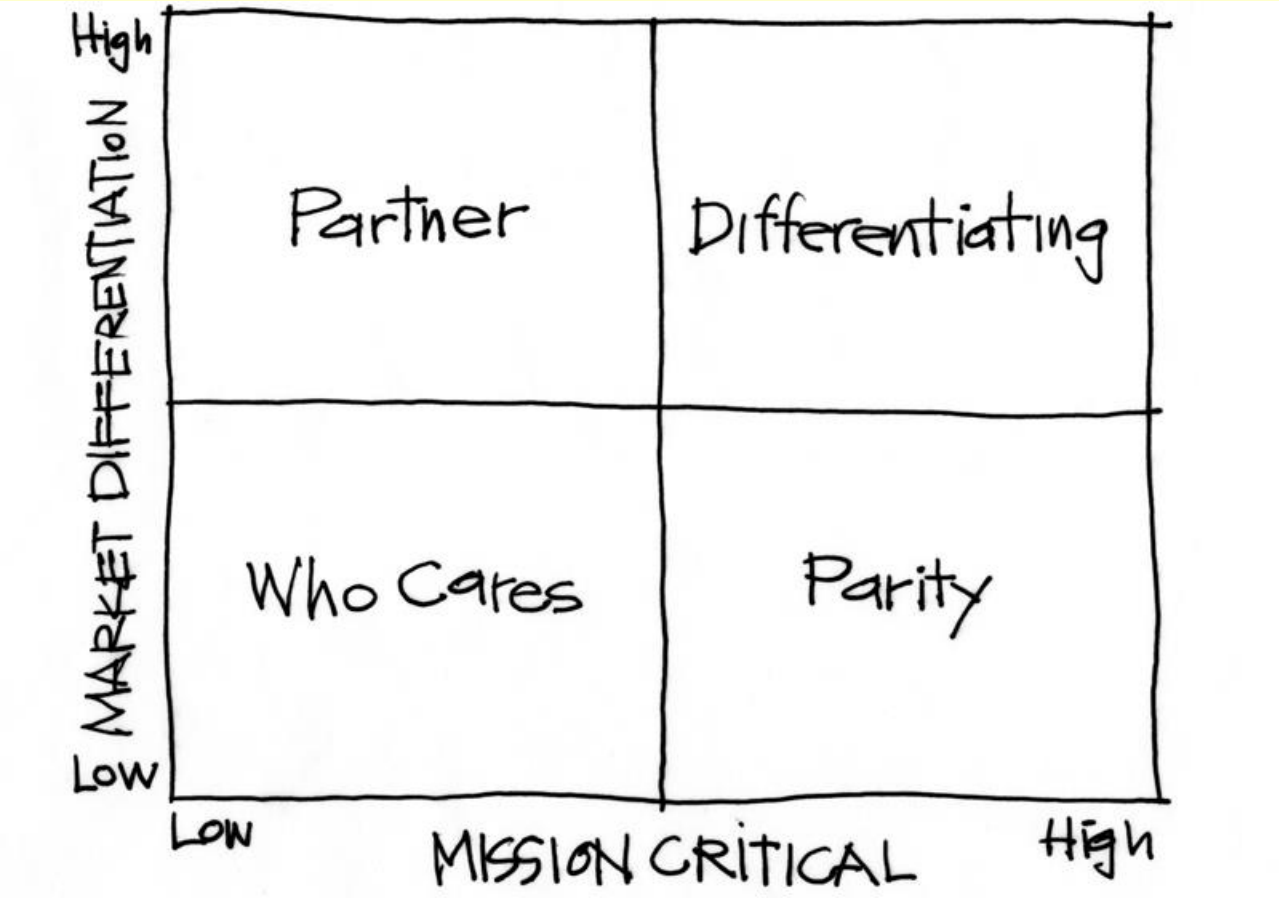
The Context Leadership Model

Helps identify key project risks and suggests analysis and documentation approaches to address the risks

The Purpose-Based Alignment Model

A method for *aligning* business decisions, process and features around a specific purpose

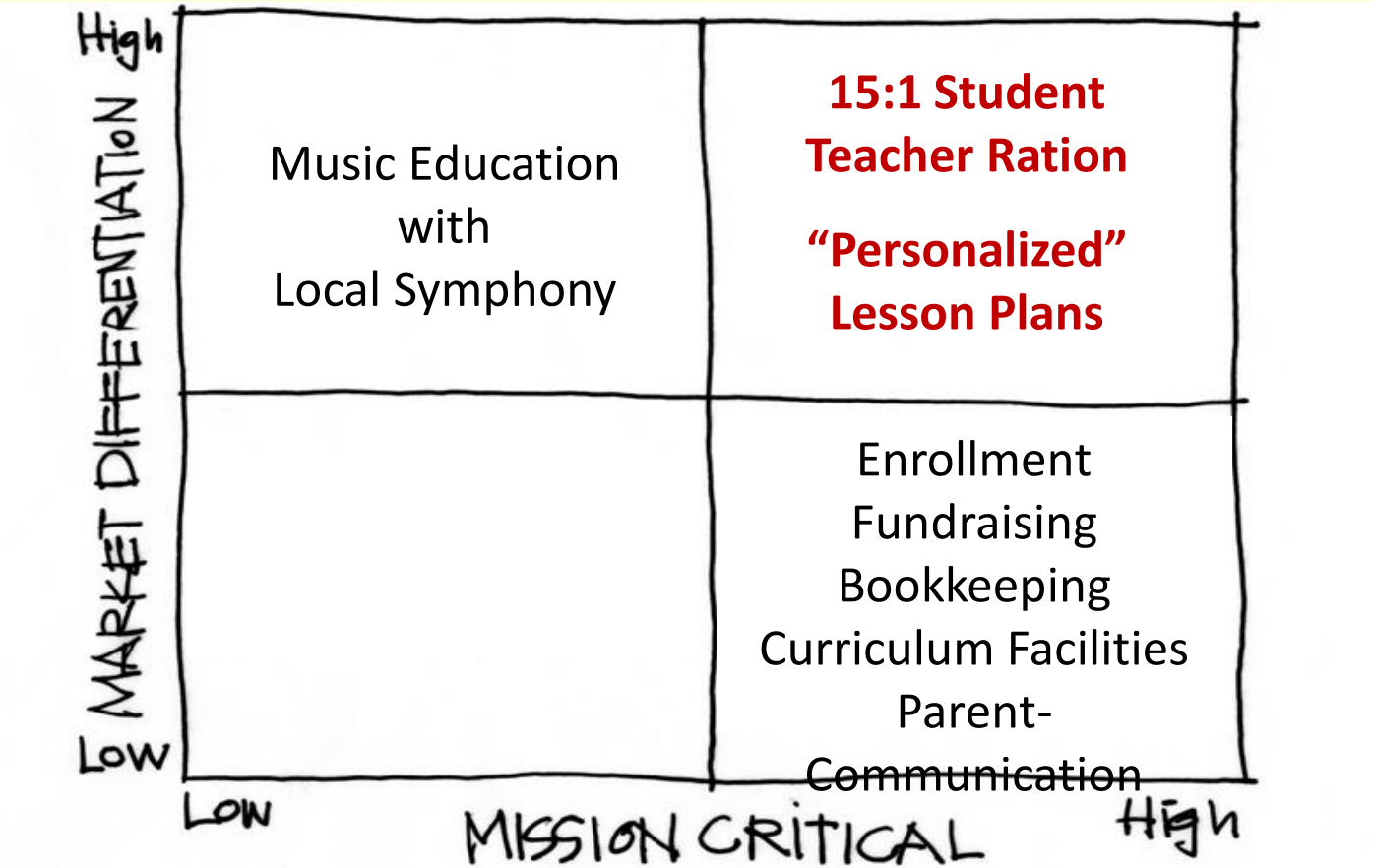
The "Purpose" of *decisions* and *designs* is to differentiate the organization from others in their market



Differentiating for what reasons **The 4 Quadrants**

- to gain market share
- to create a sustainable competitive advantage
- to perform better than your competitors

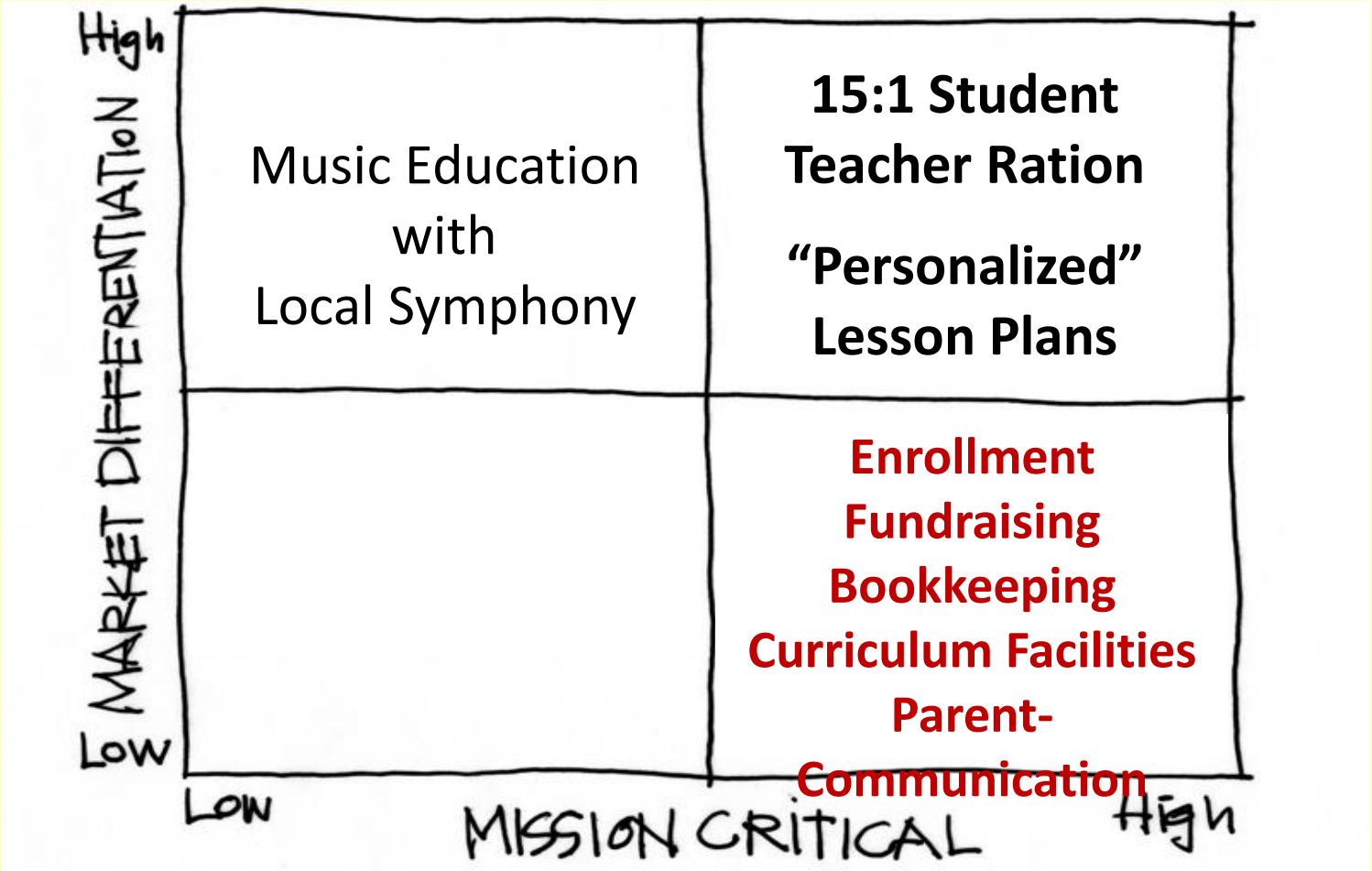
Deep Thought Academy



the 4 Quadrants

Parity

- To achieve and maintain *parity* with competitors
- Competitive edge is possible if the activities perform better than competitors

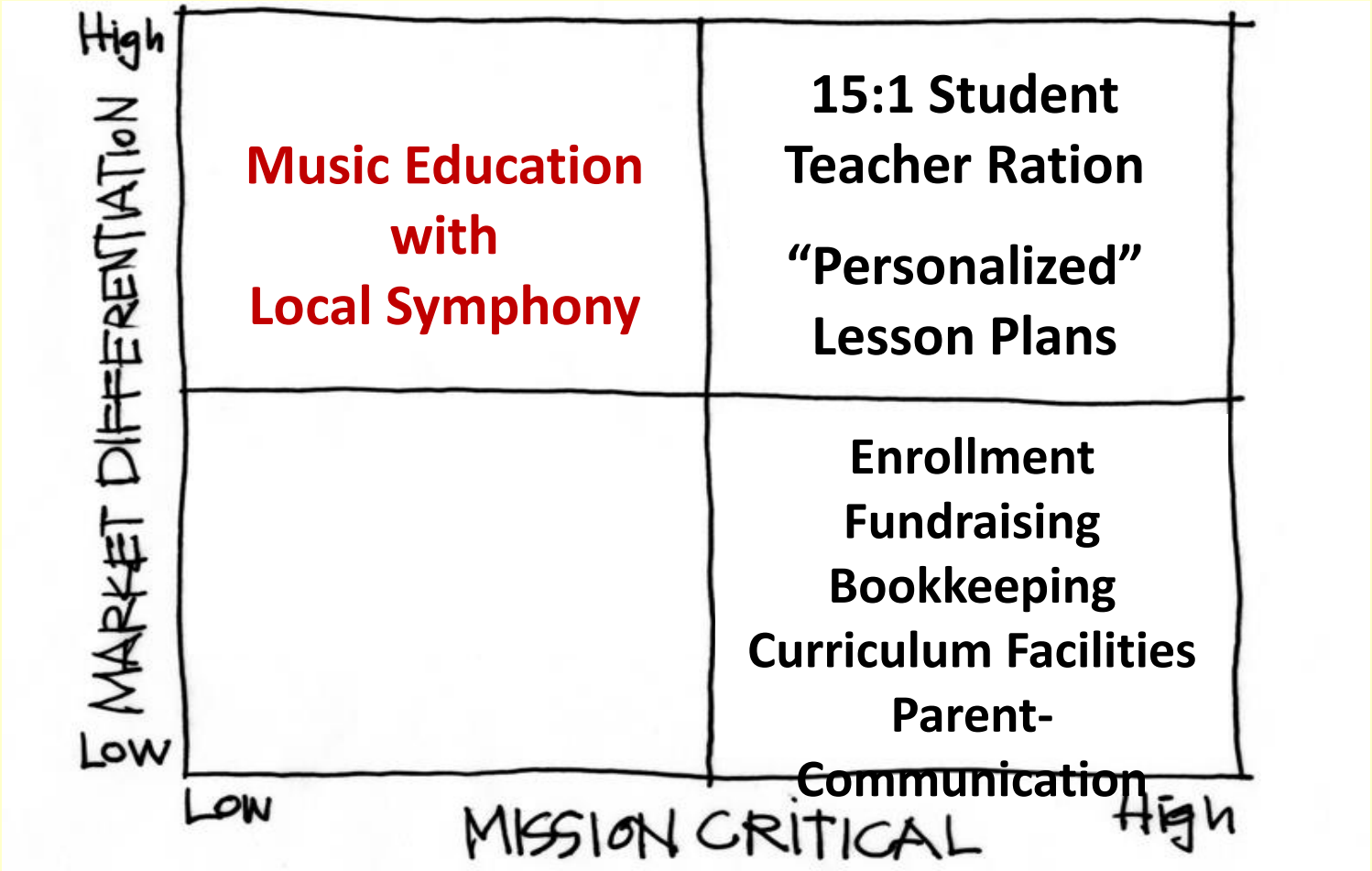


the 4 Quadrants

Partner

- Partner with an outside provider of activities (resources) to create differentiation from competitors

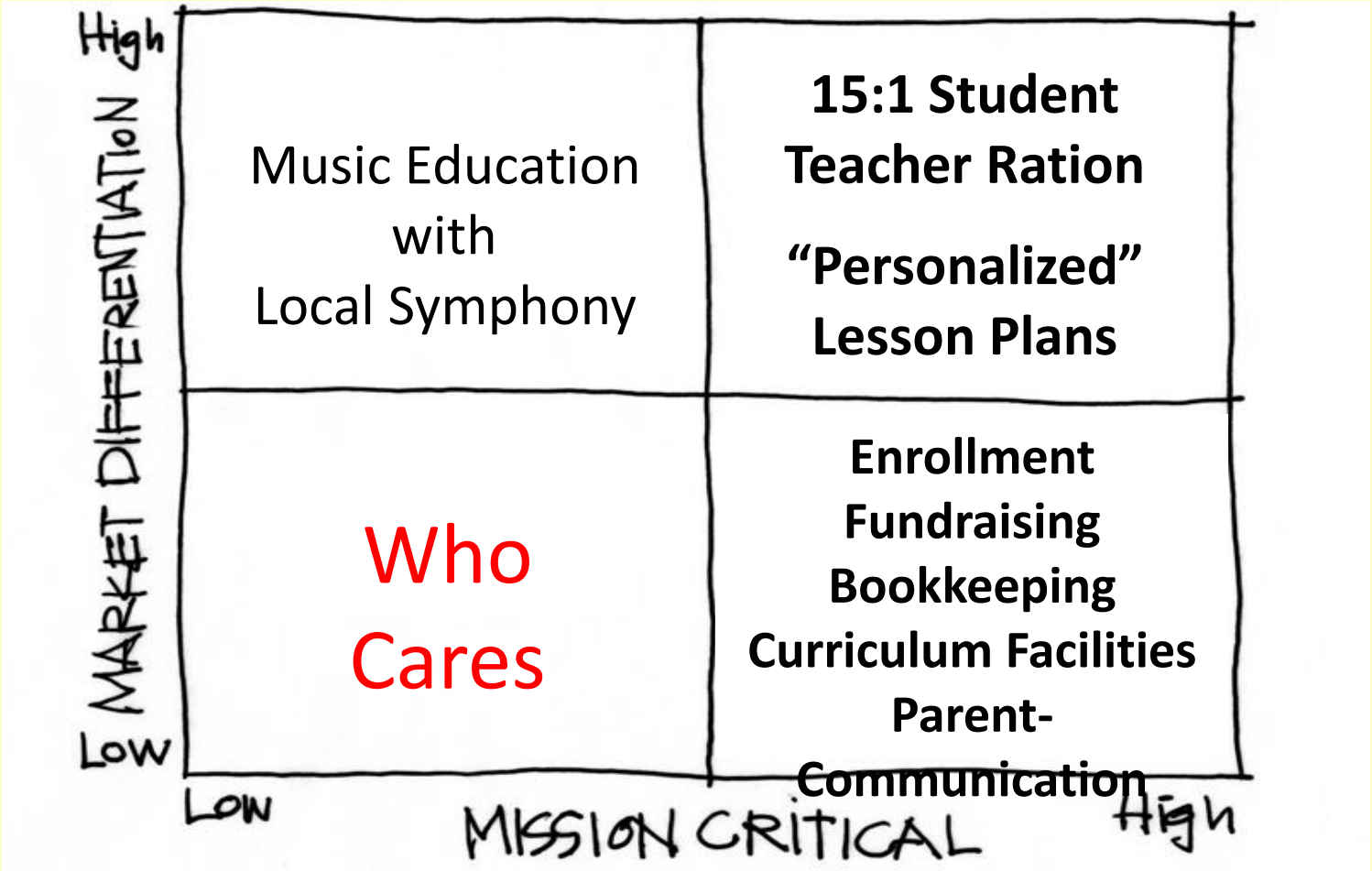
Example: Local Symphony providing Music Education



the 4 Quadrants

Who Cares

- Activities that **do not** create market differentiation and **are not** mission critical



Why have a "Purpose-Based Alignment Model"

To provide a simple way to determine what *activities* to **focus** on *and* how to **deliver** on the results of these *activities*…

The 6 Steps on how to use this model:

1. Present and Explain the model
2. Identify the business decisions and activities that differentiate the organization
3. … write a simple filtering statement *or* set of questions that can be used to quickly evaluate future decisions & designs

   Determine if "partnering" can be used to create differentiating activities

Why have a "Purpose-Based Alignment Model"

To provide a simple way to determine what activities to **focus** on *and* how to **deliver** on the results of these activities…

6 Steps on how to use this model:

4. Given the defined differentiating activities, all additional activities fall into the parity category
5. Perform a ***gap analysis*** on the differentiating, parity and partnering activities (that is, the *gap* between what currently exists and what needs to be added)
6. The goal being to design projects, features and functionality around a ***purpose***

Purpose Alignment…

To provide for an understanding of the following:

- A definition of business and IT strategic *and* tactical plans
- Alignment of IT with business priorities
- Evaluation, planning for implementation of large system projects
- Filtering and designing features and functionality
- Management of the project scope
- Reduction of resistance to process improvements
- Reduction of waste by improving focus and resource allocation

“How to differentiate <u>your</u> organization…”

Six questions representing different perspectives

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?

Implications of your differentiating activities for your organization?

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

The Six Questions…

1. Facilitates the discussions when an organization is formulating or revising its strategic plan (i.e. strategy)
2. Focuses on the value the organization provides to its customers … and its purpose
3. Helps facilitate the conversations around the organization's "purpose"
4. … and how to measure progress in delivering value to customers
5. … and how to ensure the organization is addressing its "differentiating activities"
6. … and continues to maintain the organizations "competitive advantage"

Table 12.1: Six Questions… and **answers**
For ***Deep Thought Academy***

1. Whom do we serve?	Families with children in grades K through 8
2. What do they want & need most?	A secular school where 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 teaching models and individual guided learning styles combined with experienced faculty
5. How do we know we are succeeding?	Based on average student rank in 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

How to best use the **Six Questions**

Involve the entire "team" in the process… all those that depend and/or are affected by the answers

Team

Using a flip chart … or white board

For each of the **six** questions…

- Identify and list several ideas
- Discuss ideas as a group… to converge on one response or just a "few"
- Finish "answers" to each question before moving onto the next

How to use the **Six Questions**

What each question seeks to identify:

1. **Whom do we serve**? … target markets and market segments?
2. What do they **want** and/or **need** most?
3. What do **we provide** to help them?
4. What is the **best way** to help?
5. **How do we know** we are succeeding?
6. **How should we be organized** to deliver value?

Caveats & Considerations relating to the Six Questions

The “questions” should be applicable to multiple levels of the organization … each with a different focus on the organization’s strategy

At the ***Company level*** … questions are introspective

At the ***Product level***… the focus relates to specific product offerings

Six Questions for **Internal** *IT* projects

… the ***QandA*** can provide a better understanding of how a project relates to the organization’s strategy and their business stakeholders

What do they want and need most?

What problem(s) do they have that they would *pay* to have removed?

…is the problem worth solving?

The Context Leadership Model

"a tool for determining the appropriate project leadership style given the project's uncertainty and complexity."

… the model can be used to understand and deal with the risks associated with a project and determine how to represent and address the risks.

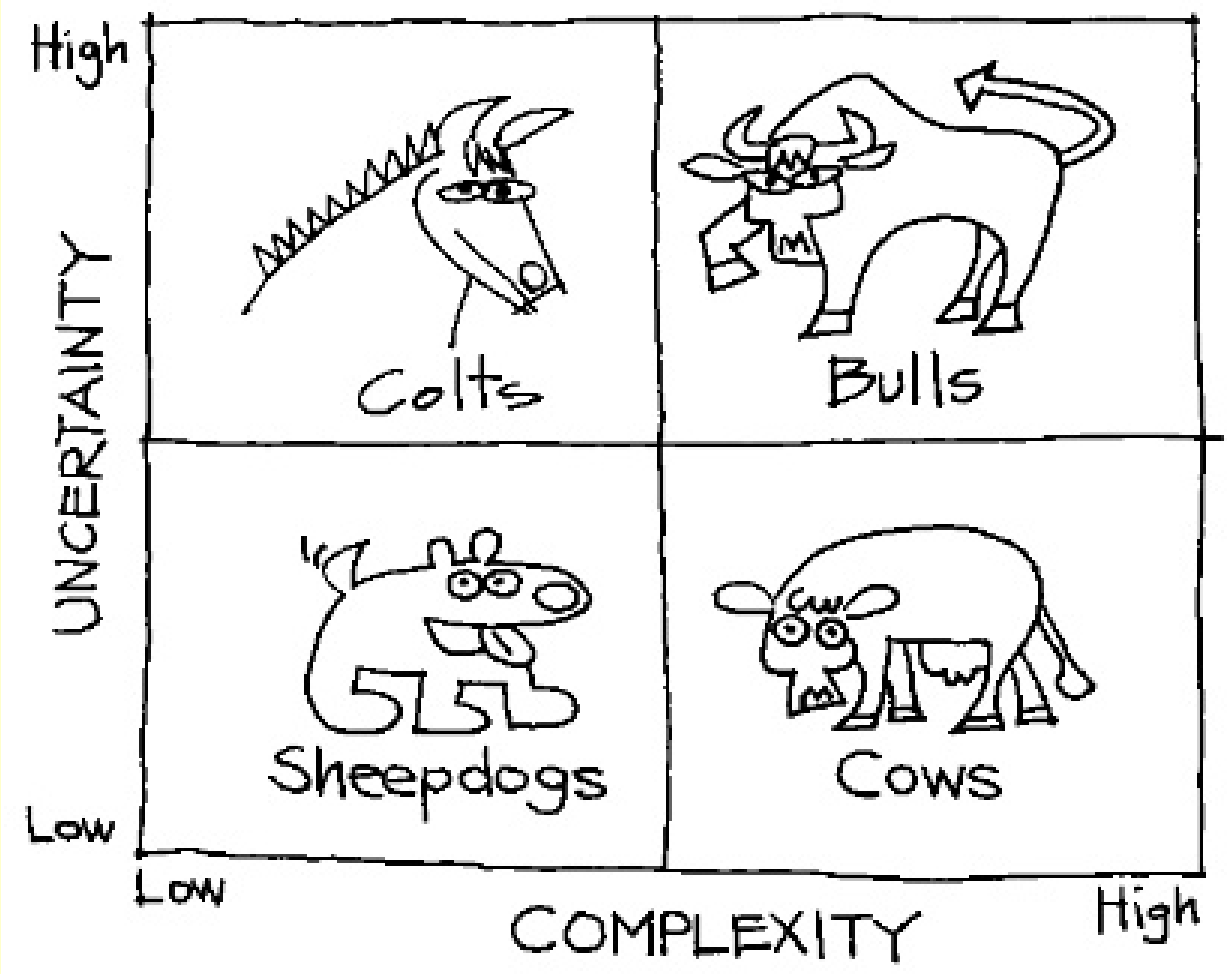


Table 12.2 Complexity Attributes

Attribute	Low Complexity (1)	Med. Complexity (3)	High Complexity (9)
Team size	2	15	100
Mission critical	Speculative	Established Market	Multisite, worldwide
Team location	Same Room	Within same building	Multisite, worldwide
Team maturity	Established team of experts	Mixed of experts and novices	New team of mostly novices
Domain knowledge gaps	Delivery team knows the domain as well as a Subject Matter Expert (SME)	Delivery team requires some domain assistance	Delivery team has no idea about the domain
Dependencies	None	Some	Tight integration with several projects

Table 12.3 Uncertainty Attributes

Attribute	Low Complexity (1)	Med. Complexity (3)	High Complexity (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	Not quite sure if we know how to build it	New technology, new architecture, some research needed
Number of customers	Internal customer or one well-defined customer	Multiple intercanal or small number of defined customers	Shrink-wrapped software
Project duration	0-3 months	1-12 months	> 12 months
Approach to change	Significant change control	Moderate control over change	Embrace or create change

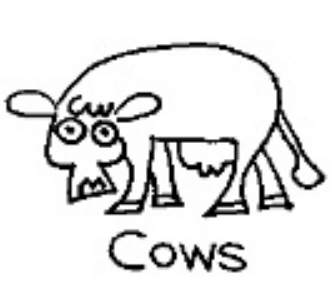
Table 12.4 Sheepdog Explained
(Low Uncertainty & Low Complexity)

Sheepdog explained	Simple project with low uncertainty
Characteristics	Activities occur on regular basis, e.g. annual updates, maintenance, small revisions to an existing system
Nature of project team	Small, most likely collocated
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

Table 12.5 Colt Explained
(High Uncertainty & Low Complexity)

Colt Explained	Low Complexity
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	Small, most likely collocated
Useful approaches	Customer development techniques as described in Ch. 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 impacted stakeholders • Domain knowledge

Table 12.6 Cow Explained
Low uncertainty and High complexity



Cow Explained	Complex Project with low uncertainty
Characteristics	Complex project with low uncertainty
Description	Revisions to existing, often legacy systems that may impact other systems and teams
Nature of Project	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 area of uncertainty

Table 12.7 Bull Explained
High uncertainty and High complexity

Bull Explained	Complex Project with low uncertainty
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	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 – with a need for 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 *and* with impacted stakeholders • Domain knowledge

Fig. 12.4 Context Leadership Model for Case Studies

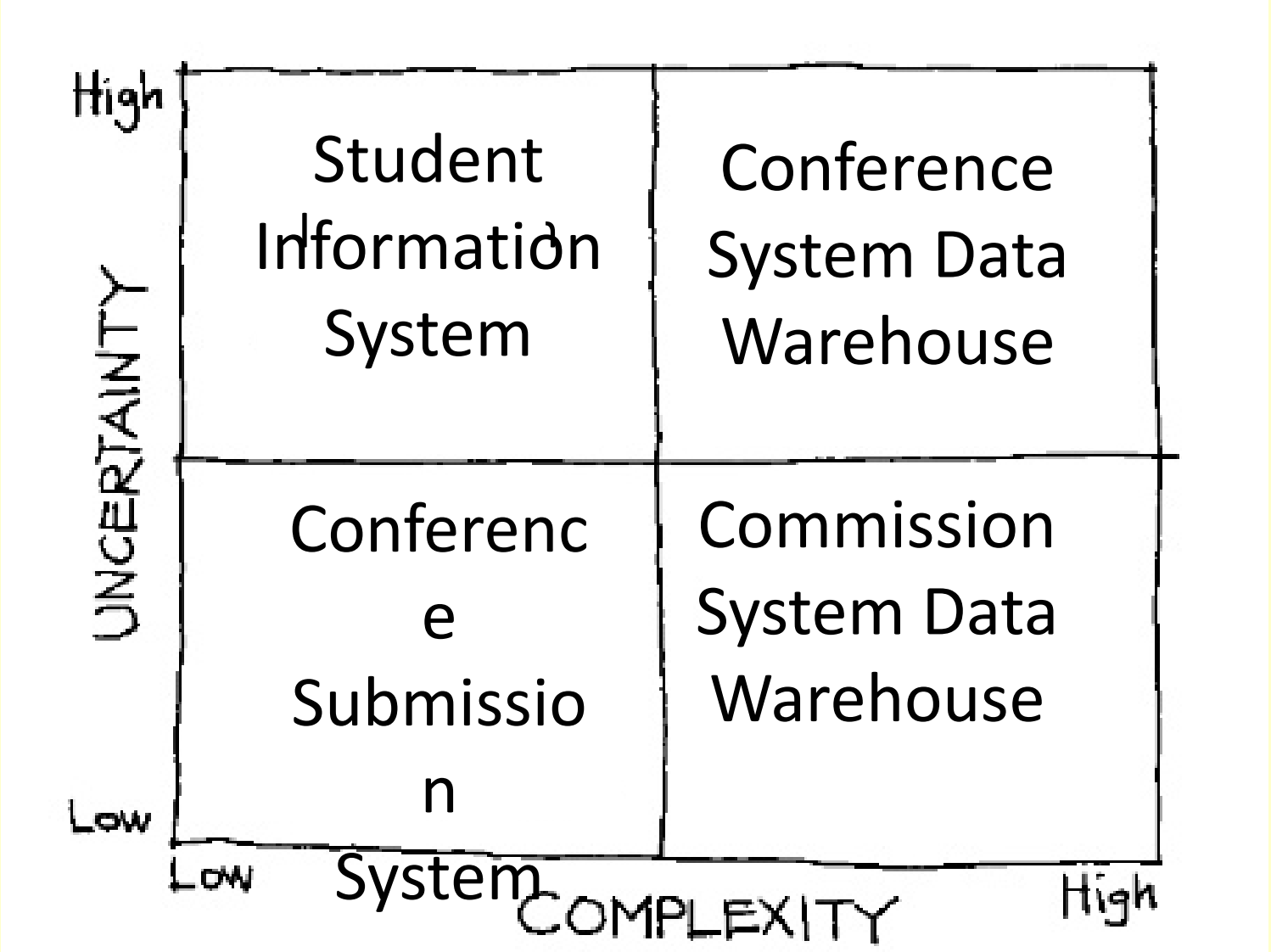


Fig. 12.4 Context Leadership Model for Case Studies

When the model is 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

Note: At the start of a project, complexity and uncertainty analysis can help in estimating the risk

Ongoing risk evaluations can help in deciding whether existing risks have been addressed and whether new ones have appeared

Using the Context Leadership Model

To manage the uncertainty and complexity!

Identify the attributes and the scoring needed to assess complexity and uncertainty

Score the project and compute the average scores for complexity and uncertainty

Identify the quadrant in which the project fails (i.e. **Sheepdog**, **Colt**, **Cow**, *or* **Bull**… see Tables 12.4 and 12.7 for the appropriate analysis approach)

Look at individual attributes to determine if any represent a significant risk… see Tables 12.8 and 12.9 for suggestions on how to address the risks

Table 12.8 Addressing Complexity Risks

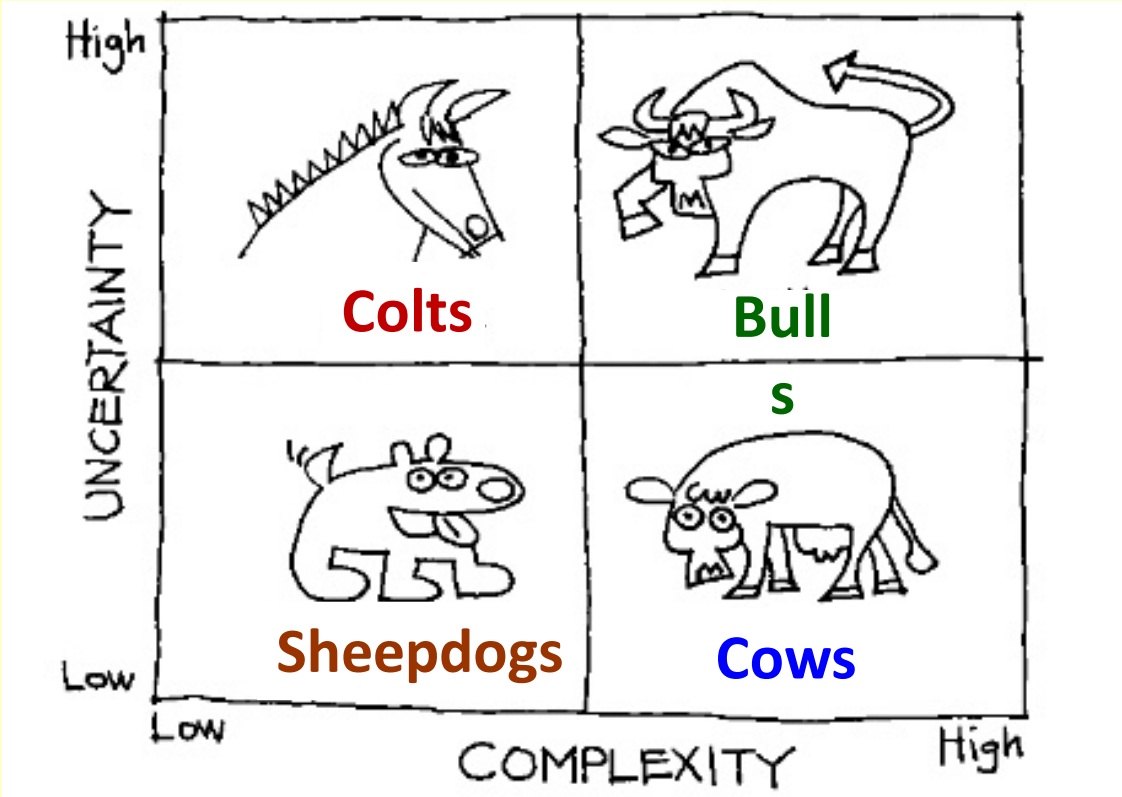
Attribute	Ways to Reduce Complexity and Risk	Process Steps to
Team size	Split teams into smaller cohesive groups	Make sure teams have a shared understanding of their purpose & overall project success criteria. Bring teams together at regular intervals. Define, communicate, test and manage project interfaces
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	Collocate the team if possible	Bring team members into face-to-face contact often. Invest in high-bandwidth communication and collaboration tools.

Table 12.8 Addressing Complexity Risks (continued)

Attribute	Ways to Reduce Complexity & Risk	Process Steps to mitigate Risk
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.
Dependences	Eliminate dependencies of work with static versions of dependencies. Build automated tests to check dependencies.	Invest in communication with teams that depend n you. Understand their needs and be clear about your progress.

Table 12.9 Addressing Uncertainty and Risks

Attribute	Ways to Reduce Uncertainty & Risk	Process Steps to mitigate Risk
Market uncertainty	Target a specific market segment that is better understood	Make sure that time is allocated for mentoring of new team members, and invest in training and improvement for the entire team.
Technical uncertainty	Accept proven technologies. Design flexibility into situations to enable decisions to be made in the future.	Educate and expose team members to the domain. Have team members sit with users and experience how they use the product.
Number of Customers	Target a specific customer segment or group of customers	Invest in communication with teams that depend n you. Understand their needs and be clear about your progress.
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 & feedback to enable change to be absorbed into the project. Avoid committing to too much detail early.



"**Colt** projects are ideally suited for *agile methods*…

"Using *agile methods* in **Sheepdog** projects would probably be overkill"

"**Cow** projects can use *agile methods*, but would need to be supplemented by additional coordination activities between teams & stakeholders"

"*Agile methods* can be used for **Bull** projects … although the best approach is to split these projects into colts and cows"