REAL TALK

Assessing Feasibility with Collaborative Teams

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At the Monterey Bay Aquarium, a large facility situated on the central California coast, our team has been working on a new exhibition showcasing the animals and stories of the deep sea: *Into the Deep: Exploring Our Undiscovered Ocean*. We create all our exhibitions in-house with a team of brilliant designers, developers, multimedia engineers, animal-care staff, and master craftspeople. Most of our projects are large and complex, and this one is no exception. The exhibition will be more than 10,000 square feet with both interpretive and live animal exhibits.

Our team began development in 2019 and, just as we were beginning the largest, most collaborative phase, the COVID-19 pandemic closed our institution and left our team of more than 20 people working from home. In the midst of this, we began our conceptual development process and realized that decisions around design solutions either came so early in our process that they stifled creativity, or so late that it was almost impossible to alter the idea without significant (and sometimes costly) backtracking. Conversations about design decisions centered on critique and tended to shut down authentic dialogue. And constraints were seen as idea killers. As project managers responsible for the overall health and success of the project, we began asking questions and testing methods to make clear and practical decisions, specifically around design solutions. When and how should we talk about assessing design solutions? Could these conversations be invigorating and informative? Who should be in the room? How do we make the conversation about decisions transparent and fair? Can we redistribute power without stalling into groupthink? Can we create a process around difficult decisions that helps instead of hinders our team? Ultimately, we realized we needed a process to frame conversations around the feasibility of ideas.

Using our Values to Create a Feasibility Framework

Once we named feasibility as our goal, we began to think about how a tool and process could support our team. We know from past experience that processes and tools are for the user, not the creator.

If there's no buy-in from the team, the tools will rarely be used. We value honest and nuanced conversations, so we knew this tool couldn't just be a form the project manager or designer filled out with a "trust-me" stamp on it. We value iteration, so we knew we'd need the ability to revisit the feasibility of an idea more than once during our process. We value collaboration, so we knew designers, developers, project managers, and our interpretive media team all needed to feel the tool worked for them. We value transparency in decision making, so we knew leadership needed to be involved and the results of the conversation would need to be shared with everyone on the team. Out of this came a framework (a tool and supporting process) for discussing and assessing feasibility of design from concept through fabrication, and a meeting that everyone wants to be at.

Our feasibility framework propels us from idea to decision to action, one step at a time.

Our feasibility framework is a series of questions that were influenced by multiple disciplines at the aquarium. It incorporates perspectives from our colleagues who work in content and design, production, maintenance, facilities, project management, animal care, guest experience, and interpretive media. We begin using the tool after a goals/messages/constraints document, the first conceptual iteration of a design sketch, and a short exhibition overview are created. We follow a combined agile/sprint process approach,[1] which includes share-outs and feedback throughout the process up to this point. Our feasibility framework propels us from idea to decision to action, one step at a time. The questions in our framework guide a conversation, and documenting our responses provides transparency to the discussion leading to a decision. We use these questions, the conversation, and documentation to hold ourselves accountable to examining solutions from different perspectives, taking into account the visitor experience and the impact on each of our disciplines.

The questions are as follows:

Content, Design, Constraints

- Does this design solution meet the messages and visitor experience goals? How or how not?
- Does it meet the design intent (look and feel) of the exhibition space? How or how not?
- Does it meet the constraints? If not, is a variance okay? Are there new constraints or changes to consider?
- Does it bring about changes or considerations to other exhibit areas before or after?

Materials and Prototyping

- Where have we used the specified materials or equipment before? Or, what is new or atypical?
- Are there alternative materials, solutions, or equipment to investigate?
- What materials, equipment, or function needs prototyping?

Infrastructure and Installation

- What are the impacts of this design solution on infrastructure, electrical, plumbing?
- What are the needs, methods and approach for installation?
- Does it require alterations to the floor? (Such as trenching for electrical, coring for plumbing, etc.)
- What are any specific considerations to meet code?

How Does This Affect Others?

- How does this design solution affect work already completed or planned by others?
- What materials or light levels need to be reviewed by Animal Care (which oversees our living collections)?
- How does this affect night events, visitor sleepovers, custodial?

Budget, Schedule, Fabrication

- How does this design solution fit in the budget envelope? Include reasoning to support.
- What in-house or out-of-house fabrication, production, or media is required?
- If out-of-house, list known vendors for fabrication, or need for research.
- What are the schedule considerations? Long lead, does or does not fit, known timeline, etc.

Maintenance

- Is this design solution maintainable by our in-house production team?
- Is it maintainable by our in-house audiovisual team?
- Is it maintainable by our in-house Animal Care team?

Risk

- What level of risk do we associate with this design solution? High, medium, low (very subjective) with reasoning (related to animals, budget, schedule, visitor experience, outdated replacement items).
- Are there safety concerns?

Moving Forward

- Can this exhibition idea move forward?

The first set of questions in the framework – shown on the final form that we developed for the team to use (fig. 1, p. 44) – focuses on content, design, and constraints. This is very intentional. As an informal learning environment and attraction, our top priority is the visitor experience. If we are not meeting goals related to content, design, or constraints, there is no need to proceed with the other questions. As Kirby Jones, our Director of Design put it, "The alignment of the project feasibility document with the project goals and constraints allows us to navigate the complexities of the project while maintaining a focus on what we originally set forth to do."[2]

We did not design the feasibility framework to encourage mediocre ideas that are easy to implement over compelling or challenging ideas that are difficult to implement. Instead, we designed the framework to allow the team to take risks when necessary because

Monterey Bay Aquarium

Feasibility Report

Project Name:		Dates updated:	
PM & people present:			

	Concept	Schematic	DD Final	Next Steps/Recommendations
Content, Design, Constraints				
Does this design solution meet the messages and visitor experience goals? How or how not?				
Does it meet the design intent (look and feel) of the exhibition space? How or how not?				
Does it meet the constraints? If not, is a variance okay? Are there new constraints or changes to consider?				
Does it bring about changes or considerations to other exhibit areas before or after?				
Materials and Prototyping				
Where have we used the specified materials or equipment before? Or, what is new or atypical?				
Are there alternative materials, solutions, or equipment to investigate?				

Fig. 1. This first page of our feasibility tool shows some of the questions we discuss and the format that allows for a visual record of how our answers have changed over time.

A complete Feasilibity Report template may be downloaded at https://mbayaq.co/37Lvrrq.

the risks we are taking are focused, clear, well-considered, and agreed upon. In theory, this will also allow us to support each other and learn from any resulting failures – and discourage finger-pointing.

For example, as we began to imagine the final gallery of our upcoming exhibition on the deep sea, our brainstorming sessions brought a number of interesting ideas to light. We began with a suite of mechanical interactives with corresponding videos to share content around some future deep-sea research topics. Through our feasibility conversations, we were able to collectively consider whether those interactives met our goals as well as how they might impact the existing infrastructure. If we had monitors on a wall opposite windows, we'd need to block those windows – closing off a beautiful view of the ocean. If we installed interactive stations, it might require disrupting the tile floors – removing tiles that have significance to the aquarium's design and history. The feasibility tool allowed us to talk about all of these factors and gave more equitable weight to the diverse perspectives in the room. Eventually, we decided that we could impart a feeling of hope and exploration through an exhibition that is an artistic, graphic installation of questions rather than answers. This would benefit our goals, would allow us to keep the windows open, and wouldn't disrupt the distinctive tile floor. Inviting infrastructure considerations to the table early in our process helped us design a great visitor experience that worked on all levels – the structured feasibility tool supported that journey.

As we've utilized this tool, we've learned more about how it works best. These are four key points to keep in mind:

If we base our decisions solely on one budget-line item, one individual's vision, one unforeseen impact, or even visitor evaluation alone, we are missing an opportunity to utilize our full suite of knowledge and experience to develop holistic solutions.

Embracing subjectivity. In order for this process to be successful, it's important that we acknowledge that most content and design decisions are very subjective. Stating this up front is critical for making sound decisions. If we pretend these decisions can be made objectively, we are shutting down honesty and room for growth. As such, we designed the feasibility framework to invite conversation and nuance. A yes/no solution would not work for us because in reality, this work is more complex than that. If we base our decisions solely on one budget-line item, one individual's vision, one unforeseen impact, or even visitor evaluation alone, we are missing an opportunity to utilize our full suite of knowledge and experience to develop holistic solutions. Our framework helps us ground a conversation in critical information, and we use that knowledge to make decisions we can all learn from. Embracing that these decisions are subjective allows us to focus our energy on gathering supporting information and ultimately championing solutions as a team.

It's the discussion, not the tool. When assessing the feasibility of an exhibition component, we first have a brief general discussion about our current plan for that particular component. Then we discuss each one of the feasibility questions from top to bottom and we document our responses as we discuss. If we don't agree on something, that usually results in further conversation until we have heard each other's perspectives

and found a way to align, or it results in documenting a next step or question to resolve before the next feasibility meeting. This allows and encourages us to hear each other.

Because returning to a holistic conversation around feasibility is baked into the process, redirections are less often seen as setbacks.

As our colleague, Erica Kelly, Director of Exhibition Content, put it, our feasibility process "makes it more difficult to barrel forward with unvoiced reservations."[3] This discussion leads to a final question about how to move forward. In our old process, what came out of a decision-making meeting would have been just the answer to that final question. In our new process, the outcome is an agreement to champion a solution to move forward, along with clear thoughts, direction, and recommendations on how to take the next step. The document is visible for anyone on the team to view, even if they are not included in the discussion itself, and there is opportunity for anyone on the team to ask questions or seek clarification.

A focus on redirections instead of setbacks. Another important feature of the framework is that it requires this feasibility conversation to be held more than once. We hold it at the concept phase, after any major changes, and before fabrication. This keeps everyone informed, involved, and active in the progression of the exhibition plans. It also allows for the group to change their mind given new information. For example, recently, the idea of a high-tech interactive topographic map passed the first two rounds of feasibility, but more information from our software development team about the functionality for visitors, formative evaluation, and impacts to infrastructure led to a redirection during a later feasibility discussion. Because returning to a holistic conversation around feasibility is baked into the process, redirections are less often seen as setbacks. Instead, the framework helps normalize iteration, agility, and progress toward our ultimate solutions. The framework encourages redirection sooner than later, which also results in less value engineering and fewer surprises during fabrication. We would notice, for example, if we were struggling with the same question on all three rounds of feasibility. This process also provides motivation to take responsibility for and resolve unknowns rather than passing them down the line to the fabricator or installer.

Iterate everything, even the tool. Our first attempts at assessing feasibility were very clunky. We started with just the project manager and designer considering feasibility and quickly realized we were missing important perspectives. We were also missing questions or tended to spend the majority of our discussion on just a few of the questions. We carefully recrafted our questions with each attempt until we felt it was a series of questions that represented our most challenging and critical items. We then recrafted our questions again to reduce the number of yes/no questions that formed our discussion. This forced us to document an answer that shed light on our thinking for others and our future selves. Now our feasibility discussions are common and are typically lighthearted, fun, positively

anticipated, and always under one hour. Within our framework, constraints, critical thinking, and challenging assumptions are welcomed and viewed with positive intent.

How to Use this Tool at Your Own Institution

If you're hoping to try and institute a feasibility process like this one, we recommend you start with selecting members of your team who have accountability for the work and ask them to participate in this process. Our magic number is five people (vice president, project lead, content lead, design lead, media lead) because it is enough to offer diverse perspectives but not so many that the work becomes unfocused. State that the goal is to identify sticking points early so they can be resolved and so that exhibition design can move closer to reality with every step. Review the questions and make sure they apply to your institution. If they don't, change them to work for you. For example, art museums may have particular constraints around installation requirements that may need to be added.

Once ideas begin to form in conceptual design, take time to answer these questions with your team on each exhibit. **Don't belabor it.** You likely have the expertise in the room to identify an answer or at least identify an action that will lead to an answer. Each person should be able to say whether they can champion this idea moving forward, given what is known at that moment. This means acknowledging and accepting unknowns or redirecting if needed. **Be transparent.** Share the results quickly with the rest of your team and allow them to ask questions about how your answers affect next steps. **Embrace constraints.** Identify real limitations and new opportunities that allow your team to advance design while taking responsibility for the ideas on the table. Clear constraints will help your team focus design solutions and put their creative energy in the right place. **Document responses.** Record your feedback to the questions at each moment in the design process and repeat at each phase (concept, schematic, design development, pre-construction) until you're confident this will be a successful exhibition experience for your visitors, your project parameters, and your long-term care and maintenance abilities.

Next Steps

Our consistent, cross-departmental, authentic conversations that examine exhibition ideas holistically have developed a shared value of feasibility within our team. It isn't just the project manager or the designer that is carrying the mental load of feasibility – everyone is consciously active in supporting it. We are committed to iterating and refining this process as our projects and teams change and grow. We know that the best processes and tools are the ones that adapt to the needs of the group. We're excited to hear about how others use this framework to have deeper conversations around feasibility – and to learn and grow from each other. ▮

1 Joey Scott and Emily Saich, "5 Ways to Keep Your Exhibit Project Moving...Remotely," May 15, 2020, American Alliance of Museums, accessed October 1, 2020, www.aam-us.org/2020/05/15/5-ways-to-keep-your-exhibit-project-movingremotely/.

2 Kirby Jones, email to authors, October 2020.

3 Erica Kelly, conversation with authors, September 2020.