

# Lesson 1 Summary & Reading: Visualization Project Management

As we learned in the lectures, Visualization projects can be quite different to manage than software development projects. This checklist will provide you with some guideposts to properly scope, time and deliver your projects.

Projects can be divided into two broad phases:

1. Project Development
2. Project Planning

## Project Development

During this initial step, analysts primarily get familiar with the task at hand, prepare concrete requirement and gets consensus among stakeholders.

### 1. Right Perspective

Approach the project with an outside-in perspective. Assess the current process and workflow and find places you can add value or efficiency. It goes without saying that you should keep an open mind at this stage rather than jumping to "solution-ing".

In addition, you should focus on the broad business question from a 32,000 feed view. An example here could be a need from management - "How is our business going in Japan?" If you were working on this project, you should be thinking about how you could build a scalable visualization tool (usually called a Dashboard) that can show country relevant insights that show the health of the business in that country. You will then be able to use this dashboard to deliver insights for any country.

### 2. Right People

1. **Leverage your Manager:** Your manager will be the best resource to understand who the direct and indirect stakeholders and users could be. My manager will also be able to give you some tentative deadlines or target release dates. Your teammates and your manager could be your first stop at understanding the current process, the current reports, the things that are working properly and those that are not.
2. **Connect with Infrastructure (IT):** Connecting early with Database Admins (DBA) is usually a very good move as they can guide you to the right schemas and tables to get the relevant data from. They could also point you to the frequent users of those tables and some sample queries to get a head start
3. **Kick-off Meeting:** Once you have a basic idea of the current process and its stakeholders, it a good idea to host a kick-off meeting with all the stakeholders and potential end users. The goal of this kick-off meeting is to generate an interest among the stakeholders and users while understanding some of the overarching problems or pain points of the current process. The broad insights that you gather at this meeting will allow you to form effective questions to ask the stakeholders when you later meet with them individually.

### 3. Right Questions

Scoping involves understanding the needs of the stakeholders involved the following:

1. **Roles and Responsibilities:** Understand the roles & responsibilities of the stakeholders, their day to day operational focus, and the long-term goals of their team(s). This discussion will also allow you to assess their comfort level with data. Once you have discussed these points, you will have a clearer idea about their business process, and the level of complexity of you metrics and visualizations that are appropriate for the audience of your project.
2. **Current Metrics and KPIs:** Once you learn about the stakeholders' needs, priorities and the business questions that they are trying to answer, you should focus on understanding the currently used Key Performance Indicators (KPIs). It is important to discuss the current usage of these metrics - e.g. whether they are used in daily workflow or in monthly reporting?
3. **Current Pain Points:** Understand the shortcomings of the current system, metrics and visualizations. Try to assess if the metrics and visuals are objective in nature and straightforward to understand.
4. **Operational or Strategic:** Determine if the product you are developing (i.e. the dashboard) is intended to be used for daily workflow of the teams (Operational dashboard) or for guidance and executive reporting (Strategic dashboard). Operational dashboards need to be fast loading, comprehensive and very simple to understand. On the other hand, Strategic dashboards could present complex KPIs that summarize the large areas of business in 1 number or measurement.
5. **Current Data Sources:** What are the current databases, schemas and tables that are being used for the current system? Having an established relationship with the DBA or the Infrastructure (or "IT dept.") could prove very useful here as they could point you to the frequent users and/or give you some sample queries to get started quickly.

### 4. Right KPIs

KPIs usually measure a business outcome per unit of time or production or "effort". Some simple examples:

1. Defect Rate = Avg. Number of Defects per item manufactured
2. Conversion Rate = Number of successful checkouts per hour / Number of visitors per hour
3. System Load = Avg. Number of API queries received per hour
4. Network Speed = Avg. bytes transferred per sec

After you have asked the right questions, you will need to determine what type of KPIs make the most sense for what you are trying to accomplish. A few things to keep in mind here are:

1. Frequently used KPIs : Determine if there are any informal metrics that are being used currently
2. Industry specific KPIs : Research if there are any industry specific KPIs that are commonly used.
3. Develop/Select KPIs : Be sure to develop KPIs as need and give them a distinct name (e.g. Conversion Rate). Depending on the sophistication of your audience, ensure that the KPIs are not too complex to get lost in translation. Count, Mean, median, mode, variance are some of the commonly used types of KPIs but, in general, any relevant metric can be called a KPIs. Example: For a video streaming company - it is important to track the "similarity" of the suggested videos that appear based on the watch history. This similarity is a complex math calculation (Jaccardian similarity index). Tracking this daily, weekly,

monthly could allow them to identify when the quality of the recommendations degrade.

## Project Planning

Once you have gathered enough information to guide you towards building the product, don't just start building! A part of project planning means just that - planning your deliverables. The major part is actually developing the project i.e. the metrics, the visuals, organizing the visuals on a screen etc.

### 1. Versioning

Good analysts always make a Deliverable Plan i.e. a list of deliverables with due dates. Dashboard projects often take a while to develop and go through many iterations - so it is essential that you keep your audience engaged with delivering smaller pieces of incremental work in versions. Delivering incremental functionality/features in versions allows you to stay focused with smaller goals while allowing your audience to continuously give you feedback. Once you have a deliverable plan ready - even if do not have concrete dates - make sure to send that plan to all the concerned stakeholders and end users.

Some tips and tricks here:

1. **Email List:** Create an email list of stakeholders and end users in Outlook (or whatever email client you use). This will make communication easy for you and will also facilitate communication among the audience.
2. **Email Shortcut for Feedback:** Make sure that all the dashboard or visuals you create have a "Mailto:emailaddress@domain.com" shortcut build into them. Your audience can click on this shortcut to open a new message with your email address already populated in the recipient field. This makes it super quick and easy for the audience to send you feedback.
3. **Plan Time for Feedback:** When you plan your deliverable deadlines, ensure that you have enough time baked in to incorporate audience feedback (which can come in at any time). If a feedback comes in too late, you can always accommodate it in the next deliverable. And, if things fall behind, make sure to update the Deliverable Plan and send it to the email list.
4. **Version Number:** Since most analysts are not software developers, the concept of versioning isn't a practice for us. Make sure each of your deliverable has a version number (e.g. V1.5 could be the fifth deliverable of phase 1)

### 2. Designing

As you start working on the product you are trying to build, keep in mind to develop metrics and visuals in a way that it's easy to "follow the trail and grasp the insight". I can't stress enough on the importance of the first visual being a system level view - a chart or number or map that shows the health of the system using a metric that is very easy to understand. The visuals that follow (left to right OR top to bottom) should show insights at increasingly deeper levels. This allows the users to remain oriented with the bigger picture while they drill down into narrower scope. Often, I make it a point not to include more than 3 levels of information in one screen.